

The future in our hands

Integrated
Annual Report 2022

Performance indicators of the EnBW Group

Financial and strategic performance indicators

in € million	2022	2021	Change in %
External revenue	56,002.6	32,147.9	74.2
TOP Adjusted EBITDA	3,285.7	2,959.3	11.0
TOP Share of adjusted EBITDA accounted for by Smart Infrastructure for Customers in € million/in %	510.2/15.5	344.0/11.6	48.3/-
TOP Share of adjusted EBITDA accounted for by System Critical Infrastructure in € million/in %	1,046.0/31.8	1,263.0/42.7	-17.2/-
TOP Share of adjusted EBITDA accounted for by Sustainable Generation Infrastructure in € million/in %	1,934.8/58.9	1,539.7/52.0	25.7/-
Share of adjusted EBITDA accounted for by Other/Consolidation in € million/in %	-205.3/-6.2	-187.4/-6.3	9.6/-
EBITDA	4,473.2	2,803.5	59.6
Adjusted EBIT	1,670.5	1,402.9	19.1
EBIT	2,141.2	158.8	-
Adjusted Group net profit ¹	972.6	1,203.2	-19.2
Group net profit ¹	1,738	363.2	-
EnBW share price as of 31/12	87.00	76.00	14.5
Earnings per share from Group net profit (€) ¹	6.42	1.34	-
Dividend per share / dividend payout ratio in % ^{2,3}	1.10/31	1.10/36	-/-
Retained cash flow	2,534.9	1,783.8	42.1
TOP Debt repayment potential in % ⁴	23.4	17.2	-
Net cash investment	2,767.7	2,471.2	12.0
Net debt ⁴	10,847.0	10,351.3	4.8
Net financial debt ⁴	7,214.2	4,466.3	61.5
Return on capital employed (ROCE) in %	7.9	6.9	-
Weighted average cost of capital before tax in %	6.8	4.9	-
Average capital employed	22,690.5	22,249.9	2.0
TOP Value spread in %	1.1	2.0	-

Non-financial performance indicators

	2022	2021	Change in %
Customers and society goal dimension			
TOP Reputation Index	58	55	5.5
TOP EnBW/Yello Customer Satisfaction Index	139/166	127/159	9.4/4.4
TOP SAIDI electricity in min./year	16.6	15.8	5.1
Environment goal dimension			
TOP Installed output of renewable energies (RE) in GW and the share of the generation capacity accounted for by RE in %	5.4/41.7	5.1/40.1	5.9/4.0
TOP CO ₂ intensity in g/kWh ⁵	491	478	2.6
Employees goal dimension			
TOP People Engagement Index (PEI) ⁶	81	82	-1.2
TOP LTIF for companies controlled by the Group ^{7,8} / LTIF overall ⁷	2.6/4.1	2.3/3.3	13.0/24.2

Employees ⁹

	31/12/2022	31/12/2021	Change in %
Employees	26,980	26,064	3.5
Employee equivalents ¹⁰	25,339	24,519	3.3

1 In relation to the profit/loss attributable to the shareholders of EnBW AG.

2 For 2022, subject to approval from the ordinary Annual General Meeting on 03/05/2023.

3 Adjusted for the valuation effects of IFRS 9 in 2021.

4 For the calculation of the net debt and debt repayment potential, please refer to the section "The EnBW Group" of the management report.

5 The calculation for this performance indicator does not include nuclear generation and the share of positive redispatch that cannot be controlled by EnBW. If the share of positive redispatch that cannot be controlled by EnBW is taken into account, CO₂ intensity would be 508 g/kWh for the reporting year (previous year: 492 g/kWh). CO₂ intensity including nuclear generation for the reporting year was 401 g/kWh (previous year: 386 g/kWh). We publish a five-year comparison of the performance indicators in our "Multi-year overview" on p. 305 ⁷.

6 Variations in the group of consolidated companies (all companies with more than 100 employees are considered [except ITOs]). Companies that were fully consolidated for the first time in the fourth quarter of 2022 were not included in the employee surveys for the PEI.

7 Variations in the group of consolidated companies (all companies with more than 100 employees, excluding external agency workers and contractors, are considered).

8 Companies that were fully consolidated for the first time during the 2022 financial year were not included in the calculations for the LTIF performance indicators. Except for companies in the area of waste management.

9 Number of employees excluding apprentices/trainees and inactive employees.

10 Converted into full-time equivalents.

EnBW at a glance

You can find more details and the latest information on our climate protection goals on our website.

[Online ↗](#)

€3.3 billion

adjusted EBITDA in 2022.

Around

€14 billion

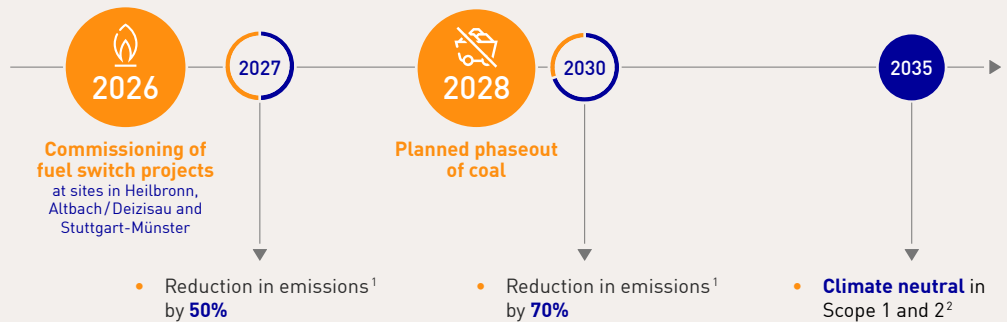
net investment planned for the period of 2021 to 2025.

Around

27,000

employees are working to achieve the energy transition.

Our climate protection goals

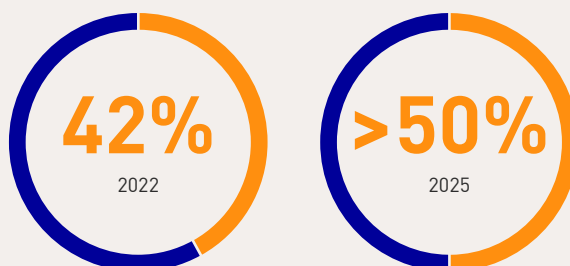


1 Reduction in Scope 1 and 2 emissions compared to the reference year 2018.
 2 Achievement of our climate protection targets in line with the 1.5 degree path of the Paris Agreement.

The energy transition is what drives us

- Economically stable even in difficult times because as a company we are integrated along the entire value added chain of the energy industry
- Accelerated realization of energy transition projects through increased investment
- Bringing forward our planned phaseout of coal by 2028 underscores our goal of becoming climate neutral

Share of the generation capacity accounted for by renewable energies constantly increasing in line with our plans

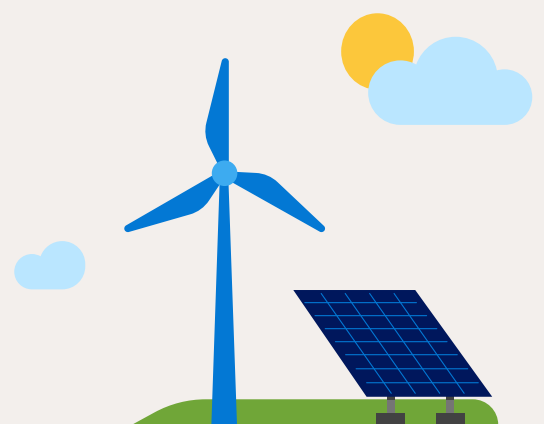
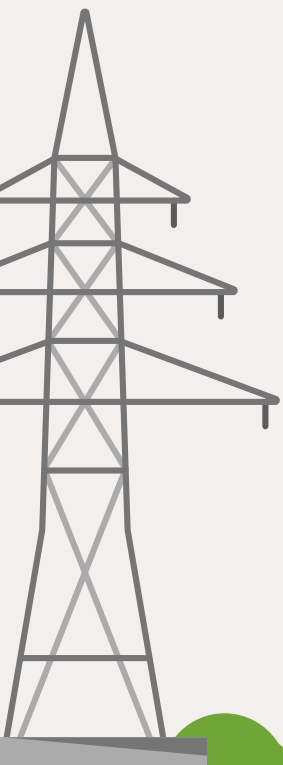


in MW	2022
● Thermal power plants	7,622
● Renewable energies	5,444
Installed output	13,066

Overall assessment of the economic situation of the Group p. 126²

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About this report

Integrated reporting

Further information on **integrated reporting** at EnBW can be found on our website.

[Online ↗](#)

Further information on our **experiences with applying the EU sustainable finance taxonomy** can be found here.

[Online ↗](#)

We have been publishing an Integrated Annual Report based on the recommendations of the “International Reporting Framework” since 2014, which combines the traditional contents of a financial report with a sustainability report. We do this in order to provide a holistic representation of the performance of the company. The dimensions of ecology, economy and social aspects are firmly embedded in the EnBW 2025 strategy, reflecting the highly integrated nature of our corporate management system. An important element is measuring the achievement of our goals using key performance indicators.

Important aspects of reporting

EnBW started reporting on the EU taxonomy [🌱](#) on a voluntary basis in the 2020 financial year when it already reported on selected taxonomy-aligned economic activities. In the 2021 financial year, we published the information required for all of the final taxonomy criteria that were available at the time the annual report was prepared – as well as voluntarily reporting on taxonomy-aligned key performance indicators. Alongside the information on revenue, capex and opex required by the Taxonomy Regulation, we also reported on the taxonomy KPIs adjusted EBITDA [🌱](#) and capex including the proportion for entities accounted for using the equity method (expanded capex). In contrast to the previous year’s reporting, we are now able to report the substantial contribution to climate protection made by district heating and gas grids. Furthermore, the publication of the complementary delegated act on 9 March 2022 now means we are able to expand our reporting to include information on our gas and nuclear power activities.

The reporting period comprises the 2022 financial year. We took into account all relevant information up to 13 March 2023. The identification of key themes for our reporting is anchored in the materiality analysis process [\[p. 47f. ↗\]](#).

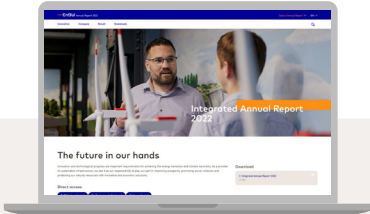
Our reporting is based on the “International Reporting Framework” and the recommendations issued by the Task Force on Climate-related Financial Disclosures (TCFD) [🌱](#) [\[p. 150 ↗\]](#). The reporting of sustainability issues is based on the GRI Standards, including the Electric Utilities Sector Supplement. EnBW has reported for the period from 1 January 2022 to 31 December 2022 in compliance with the GRI Standards. An audit will be carried out in the second quarter of 2023 as part of the GRI content index service. Our sustainability reporting also complies with the Communication on Progress (COP) requirements for the UN Global Compact and is based to an increasing extent on the UN Sustainable Development Goals.

Presentation and auditing

The information about the net assets, financial position and results of operations of the EnBW Group is based on the requirements of the International Financial Reporting Standards (IFRS), and, where applicable, the German Commercial Code (HGB) and German Accounting Standards (GAS). On the basis of our integrated reporting, the non-financial declaration [\[p. 149f. ↗\]](#) pursuant to sections 315b and 289b HGB is fully integrated into the combined management report of the EnBW Group and EnBW AG and was audited with reasonable assurance by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft. Any differences between statements made for the EnBW Group and for EnBW AG are clearly identified in the text.

Further information on the **GRI content index** can be found here.

[Online ↗](#)



Visit our Integrated Annual Report online. There you will find further information such as key figure comparisons, our highlights of the reporting year and exciting insights into the topic of innovation at EnBW.

[Online ↗](#)

A brief explanation of our Integrated Annual Report

How to read this report:

Link? Jump marks are linked to content within the PDF.

Online ↗ The "Online" button links you to additional content on the Internet.

? The interactive glossary provides you with an immediate explanation for a term as you read.

TDP Key performance indicators

🌱 We have labeled all activities that made a contribution to the implementation of the EnBW Sustainability Agenda in the reporting period with this symbol.

Cross-references and Internet links do not form part of the audited management report.

The business model

EnBW is split into three segments with a focus on infrastructure:



Smart Infrastructure for Customers



System Critical Infrastructure



Sustainable Generation Infrastructure

The target dimensions used for corporate management

The integrated corporate management of EnBW comprises financial and non-financial key performance indicators in the target dimensions:



Finance



Strategy



Customers and society



Environment



Employees

Overview of the 2022 financial publications



Integrated Annual Report 2022
The report includes the combined management report of the EnBW Group and EnBW AG, the declaration of corporate management and the financial statements of the EnBW Group.



Declaration of corporate management 2022
This document is included in the Integrated Annual Report and is also available as a separate publication.



These and other documents such as tables and graphics can be found in our download center.



Financial statements of EnBW AG 2022



Remuneration report of EnBW AG 2022

[Online ↗](#)

All publications are exclusively available online.

“The energy transition must happen much faster if we are to meet our energy needs and achieve our climate targets.”

Andreas Schell has been the CEO of EnBW since 15 November 2022. After his first months at the company, the editorial team interviewed him to find out what insights he has gained and talk about EnBW's plans.



Mr. Schell, shortly before the announcement that you would take over as CEO of EnBW, a new political and economic era dawned with the war in Ukraine. What are the consequences for the energy industry in Germany?

The war between Russia and Ukraine marks a historic turning point – for all of us, but above all for the Ukrainians, who are defending their freedom and ours in Europe with their lives.

The war has also had a lasting impact on politics and the global economy. The energy industry in particular has fundamentally changed within a very short space of time. We may have eliminated dependencies at an unimagined pace, but in order to maintain this situation and keep costs under control, the domestic energy industry must diversify and increase capacity. And it must do so as quickly and sustainably as possible. There is no way around the rapid expansion of renewable energy capacity.

What does this mean for EnBW?

With our transformation, we have a very good starting position – and as the last integrated energy company, we also have a particular responsibility. Because we can and will be an important part of the solution. Our high level of technical expertise and our positioning along the entire value chain are strengths that we are now using to good advantage.

**Does this mean that the crisis also represents an opportunity?**

With regard to the energy industry, definitely. The era of reliable and affordable energy supplies from Russia came to an abrupt end with the war in Ukraine. In this situation, security of supply and affordability initially took precedence. We have made sure of both for our 5.5 million customers – with expanded sources of supply and an increased commitment to LNG, but also with a great deal of flexibility, such as the extended operation of Neckarwestheim nuclear power plant. For our customers, we have absorbed prices to the best of our ability and have always remained below the market average when making adjustments.

In conjunction with politicians, we have thus played a major part in averting an energy crisis. However, the past year has also clearly shown us that the energy transition must happen much faster if we are to meet our energy needs and achieve our climate targets.

How exactly can a faster transition happen?

Germany has shown that a faster pace is possible with the construction of the LNG terminals. At EnBW, we are helping to maintain the momentum by consistently investing our profits in the energy transition. Our prudent planning, risks that have not materialized and our integrated setup have stabilized our earnings in the past year beyond expectations. This bolsters our investment power and therefore also our ambitions.

At the same time, the regulatory reorganization of the energy market must not be allowed to slow this momentum. Europe and Germany need a market-oriented energy market structure. We must be attractive to investors because it is the only way we can pull off the major feat of decarbonization.

What form is the financing set to take?

Further restructuring measures will cost the energy industry a lot of money. We are therefore pleased that we as a company have the right financial strength as a basis. Partnerships are also an important aspect. Together with bp, for example, we are developing two offshore wind farms in the Irish Sea and recently secured the contract for a further 2.9 GW wind farm off the coast of Scotland.

Do you already have a precise plan?

Yes. EnBW is already a driving force behind the energy transition. And we will remain so by taking an even more consistent approach to phasing out coal and expanding renewable capacity. In concrete terms, we are planning a future without coal from 2028. Three fuel switch projects are paving the way here. This involves switching our coal power plants to run on more climate friendly natural gas for a while and eventually on climate-neutral gases and hydrogen. Using such flexible power plants allows us to ensure that power remains instantly available in the future. We are no longer planning to remove the remaining four coal power plants from the grid or transfer them to the grid reserve by 2035 as initially intended, but by 2028. This will ensure that we maintain security of supply. Our path toward climate neutrality in 2035 is being scientifically certified by the Science Based Targets initiative (SBTi). We can thus make sure that we play a major part in achieving the 1.5 °C target set out in the Paris Agreement across all three scopes with concrete and reliable reduction targets. At the same time, we are ramping up our investment in renewables. In 2022, we made investment decisions for important large-scale projects. The He Dreiht offshore wind farm in the North Sea – one of Europe's largest energy transition projects – will commence operations in 2025. We have expanded our offshore wind project pipeline to a total of around 6 GW. With an output of 500 MW, the new solar cluster in Brandenburg will cut annual carbon emissions by around 325,000 metric tons. In the field of e-mobility, we have considerably bolstered our position as Germany's largest e-mobility provider following the expansion of the EnBW HyperNetwork to over 400,000 charging points in 17 European countries. And the work goes on. In total, we will invest €14 billion net across all three segments between 2021 and 2025.

A strong plan. You have been in your role since mid-November 2022, what insights have you gained into the company thus far?

I have gained many insights during visits to numerous EnBW sites. As a result of the numerous personal encounters with colleagues, I settled in at the company very quickly – and am impressed every day anew. Our employees are closely connected to the company and we have a very high level of technological expertise in a number of areas, which is critical to the energy transition. EnBW is clearly on the right path.

Where do EnBW's strengths lie and where is there a need for action?

At 41.7%, our share of generation capacity from renewable energy sources is already good, while the pipeline of existing and new projects is very good. I have already outlined how we can further accelerate the expansion. In this regard, we will also make greater use of the opportunities presented by digitalization. We must also further reduce complexity within the company and thus further strengthen EnBW's resilience. Our planned early phaseout of coal in 2028 represents an important step in increasing the pace of our transformation. But we still need to do better in certain areas. We are therefore now thinking beyond the 2025 strategy and are currently working on our 2030 strategy. It is also clear that the foundation that will allow us to master all the challenges ahead of us is a strong team. And we have that. I would like to say a big thank-you to all my colleagues for their commitment over the past year, which has not been easy for many. I look forward to the shared journey that lies ahead of us.

Mr. Schell, thank you for talking to us.

**Lutz Feldmann**

- Born 1957
- Chairman of the Supervisory Board since May 2016

[Curriculum vitae ↗](#)

Report of the Supervisory Board

The Supervisory Board dutifully and comprehensively performed all of the tasks incumbent on it in the 2022 financial year as required by law and the Articles of Association. It regularly advised the Board of Management on its management of the company and continuously accompanied and monitored all important management measures for the Group. The supervisory and advisory activities of the Supervisory Board also dealt with issues related to sustainability, in particular. The Supervisory Board was involved in all decisions of fundamental importance to the company and the Group.

The Board of Management regularly, comprehensively and promptly informed the Supervisory Board about all relevant aspects of intended business policies and other fundamental issues relating to business planning, and also provided reasons for any discrepancies between the actual development of business and the plans and targets reported at an earlier date. In the reporting period, this particularly included discussions on questions relating to the war between Russia and Ukraine and its impact on the business of EnBW and its subsidiaries, as well as discussions on questions relating to the coronavirus pandemic and its impact on the company. In addition, the Board of Management informed the Supervisory Board about the economic position of the company and the Group including, among other things, the profitability of the company (especially the equity), the development of business (especially the revenue and earnings, the net assets, financial position and results of operations, as well as HR development at the company) and those business transactions that could be of significant importance for the profitability or liquidity of the company. Furthermore, the Board of Management informed the Supervisory Board about the risk situation of the Group and of individual areas of the Group, corporate strategy and planning, risk management, the internal control system and compliance.

Key topics of the discussions at the plenary meetings of the Supervisory Board

In the 2022 financial year, the Supervisory Board dealt extensively with verbal and written reports and proposals for resolutions issued by the Board of Management at seven ordinary meetings on 17 February, 22 March, 11 May, 14 July, 29 September, 9 November and 8 December 2022, and four extraordinary meetings on 7 April, 30 May, 29 July and 15 September 2022. An urgent decision was also taken on three occasions: 18 March, 3 April and 10 June 2022. Furthermore, the Supervisory Board requested reports and information from the Board of Management on individual topics, which were comprehensively provided in a timely manner in each case. The discussions and resolutions at the plenary meetings of the Supervisory Board focused on the following key issues:

- In-depth consultations and discussions with the Board of Management about the latest developments in the war between Russia and Ukraine and its impact
- In-depth consultations and discussions with the Board of Management about the coronavirus crisis management system and the latest developments with respect to the coronavirus pandemic and its possible impact on the companies in the EnBW Group
- Determining the level of the short-term single-year variable remuneration for members of the Board of Management for 2021 and the long-term multi-year variable remuneration for members of the Board of Management for 2019 (performance period 2019 to 2021)
- Selection of the sustainability criteria for the performance period 2023 to 2025 and defining the targets for the variable remuneration for members of the Board of Management for 2023
- Consultation on the annual compliance and data protection report and the agenda for the subsequent period
- Approval of the proposals to be made at the ordinary Annual General Meeting 2022, including in particular on the appropriation of retained earnings for the 2021 financial year, the discharge of Board of Management and Supervisory Board members, the election of the auditor for the 2022 financial year, the (by-)election of a member of the Supervisory Board, approval of the Board of Management remuneration system and the remuneration report for the members of the Board of Management and the amendment to article 16 of the Articles of Association
- Approval of the decision taken by the Board of Management to hold the ordinary Annual General Meeting 2023 as a virtual Annual General Meeting without any physical presence of shareholders and their proxies
- Approval of the remuneration report for 2021 that was produced and checked in cooperation with the Board of Management in accordance with section 162 AktG
- Endorsement of the annual financial statements and consolidated financial statements as of 31 December 2021 presented by the Board of Management
- Replacement and reassignment of members on the committees of the Supervisory Board due to changes in the members of the Supervisory Board
- Appointment of Andreas Schell as a member and Chairman of the Board of Management (term of office beginning on 15 November 2022)
- Approval for a change to the allocation of responsibilities on the Board of Management
- In-depth consultations and discussions with the Board of Management about long-term strategic planning (with a focus on the energy industry, market, trading, gas, expansion of renewable energies, sustainability and climate change mitigation) and consultation on portfolio discussions of selected business fields of EnBW
- Approval for the collaborative projects for the quick charging of electric vehicles in Germany
- Regular reporting by the Board of Management on the development of market prices for electricity, fuels and CO₂
- Regular consultation on the development of the markets relevant to EnBW
- Consultation on the further development and definition of EnBW's climate change mitigation goals
- Consultation on the self-assessment of the Supervisory Board
- Consultation on the impact of the 2022 reform of the German Corporate Governance Code
- Regular reporting by the Board of Management on the development of business activities in Turkey
- Consultation on post completion audits for acquired companies
- Regular consultation on the development of the financial ratings of EnBW AG
- Regular reporting by the Board of Management on the operation, safety and, where relevant, dismantling of the nuclear power plants
- Approval for covering the financing needs of TransnetBW GmbH
- Approval for covering the financing needs of Stadtwerke Düsseldorf AG

- Approval of financing measures for VNG AG
- Approval of the implementation of a settlement in a court proceeding
- Consultation on the yield forecasts for offshore/onshore wind
- Consultation on the results of the EnBW Employee Survey 2021
- Approval for the conclusion of a loan agreement and the extension of a guarantee facility agreement
- Approval for the conclusion of natural gas procurement contracts
- Approval for the submission of a binding bid for LNG regasification capacities
- Approval of investment decisions for the realization of various fuel switch projects
- Regular consultation on the market environment in the energy industry
- Approval of bids for an invitation to tender for grid services
- Consultation on the post-contractual non-competition agreement with members of the Board of Management
- Approval of the financing strategy for 2023
- Approval of the extension to the market operation of a hard coal unit
- Approval for the conclusion of new LNG procurement contracts and the extension of existing ones
- Approval for the conclusion of gas procurement and sales contracts
- Approval for the conclusion of multiple electricity supply contracts
- Approval for the issuing of an interim and the annual declaration of compliance and (Group) declaration of corporate management, the latter including for the first time a qualification matrix on the fulfillment of the defined competency profile for the members of the Supervisory Board
- Approval of the budget for the 2023 financial year and acknowledgment of the medium-term planning for the period 2023 to 2025 consisting of the plans for Group earnings, finance, investment and HR, as well as for the result (HGB) and liquidity of EnBW AG. The corporate planning incorporates both financial and sustainability targets
- Completion of a selection process according to EU Regulation 537/2014 and adopting a resolution on the future auditor for the financial years from 2024 to 2028, subject to election each year by the Annual General Meeting

Aside from the meetings, the Board of Management informed the Supervisory Board in writing about all business transactions of particular importance for the company or the Group. In addition, there was ongoing communication between the Chairman of the Supervisory Board and the Board of Management, particularly with the Chairman of the Board of Management, in order to discuss issues relating to strategy, planning, business development, the risk situation, risk management, compliance, the impact of the war between Russia and Ukraine, the impact of the coronavirus pandemic, important individual transactions and currently pending decisions.

There was a consistently very high attendance rate at the individual meetings of the Supervisory Board. The majority of the members of the Supervisory Board attended all meetings of the Supervisory Board. No member of the Supervisory Board participated in less than half of the meetings.

Work of the committees

The committees set up by the Supervisory Board once again met regularly in the 2022 financial year, so that the Supervisory Board could perform its functions efficiently. In order for the Supervisory Board to optimally perform its functions, it formed a special committee at its meeting on 29 September 2022 with immediate effect that will serve until the end of the day of the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 3 May 2023. This special committee is responsible, in particular, for examining the impact of the war between Russia and Ukraine on the business of EnBW and its subsidiaries. The respective members of the committees are listed on [p. 299⁷](#) of the Integrated Annual Report 2022. The Chairpersons of the committees regularly reported in detail on the work of the committees at each subsequent plenary meeting of the Supervisory Board.

Corporate governance

The Supervisory Board also paid close attention to the various issues relating to corporate governance in the 2022 financial year and discussed the declaration of compliance in accordance with section 161 AktG. These topics are explained in detail in the declaration of corporate management ([p. 164 ff.⁷](#)). The company also published the declaration of corporate management in accordance with section 289f (1) sentence 2 and section 315d sentence 2 HGB on its website.

The **declaration of corporate management** can also be found on our website as a separate document.

[Corporate governance ⁷](#)

Audit of the annual and consolidated financial statements

Following a thorough examination by the audit committee, the Supervisory Board undertook a detailed review of the annual financial statements and consolidated financial statements as of 31 December 2022 that were audited and issued with an unqualified audit opinion by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, and of the combined management report including the non-financial declaration for the 2022 financial year. The final results of its own reviews did not lead to any reservations on behalf of the Supervisory Board. It approved the audit results of the independent auditor and endorsed the annual financial statements prepared by the Board of Management as of 31 December 2022 – which have thus been ratified – and the consolidated financial statements as of 31 December 2022, as well as the combined management report including the non-financial declaration for the 2022 financial year.

Reference to the complete version of the Report of the Supervisory Board

Further details on the topics “Work of the committees,” “Corporate governance,” “Audit of the annual and consolidated financial statements” and “Personnel changes at the level of the Supervisory Board and Board of Management” can be found in the full version of the Report of the Supervisory Board made available to the public on the company’s website.

Karlsruhe, 22 March 2023

The Supervisory Board



Lutz Feldmann
Chairman

The full version of the
Report of the Supervisory Board
can be found here.

[Corporate governance ↗](#)

The Board of Management



Dr. Georg Stamatelopoulos

- Born 1970 in Athens, Greece
- Member of the Board of Management
- Chief Operating Officer Sustainable Generation Infrastructure since 1 June 2021
- Appointed until 31 May 2024

[Curriculum vitae ↗](#)

Andreas Schell

- Born 1969 in Herborn
- Chairman of the Board of Management
- Chief Executive Officer since 15 November 2022
- Appointed until 15 November 2025

[Curriculum vitae ↗](#)

Thomas Kusterer

- Born 1968 in Pforzheim
- Member of the Board of Management
- Chief Financial Officer since 1 April 2011
- Appointed until 31 March 2024

[Curriculum vitae ↗](#)

Dirk Güsewell

- Born 1970 in Radolfzell am Bodensee
- Member of the Board of Management
- Chief Operating Officer System Critical Infrastructure since 1 June 2021
- Appointed until 31 May 2024

[Curriculum vitae ↗](#)

Colette Rückert-Hennen

- Born in 1961 in Leverkusen-Opladen
- Member of the Board of Management and Director of Personnel
- Chief Sales and Human Resources Officer since 1 March 2019
- Appointed until 28 February 2027

[Curriculum vitae ↗](#)

The future in our hands



Sales

Home
storageCharging
with a
differenceAward-
winning
charging
app

Grids

Battery
storageHydrogen
in the gas
gridEmergency
call app

Generation

AI in
wind powerFuel
switch and
hydrogenMarketing
green
electricity

Innovation is part of the corporate DNA

Energy transition, mobility of the future, digitalization: Disruptive ideas are sometimes needed to master the big challenges of our time. As such, innovations also play a major role at EnBW.

Innovation and technological progress are important requirements for achieving the energy transition and climate neutrality. As a provider of sustainable infrastructure, we see it as our responsibility to play our part in improving prosperity, promoting social cohesion and protecting our natural resources with innovative and economic solutions. And this didn't just start yesterday: In 2009, for example, our MeRegio research project launched a field trial in which 1,000 consumers used electricity generated from renewable sources specifically when it was available in large quantities and at low prices – also a highly topical issue right now. In 2010, EnBW's "Are you ready for E-Mobility?" initiative equipped 300 conventionally powered test vehicles with the EnBW E-Car Smart Box and explored the extent to which electric vehicles are suitable for the individual users. We now have the EnBW mobility+ app for this purpose.

In 2014, in the course of our transformation, we introduced innovation management – making the systematic development of new business ideas part of our corporate DNA. One such example is SMIGHT: Launched nine years ago as EnBW's first innovation project, the smart grid company has evolved into an independent limited liability corporation employing 20 people. With its patented retrofit solution, it makes the actual load situation of the distribution grids transparent and provides the basis for efficient and secure grid operation. EnBW Interconnector is another innovation: As part of EnBW's Energy Trading unit, the team networks more than 9,000 generation plants with each other to form a virtual power plant. This creates planning certainty, making it an important component of the energy transition.

Innovations can be found in all areas of the company. Our future-oriented projects are based on agile structures and the freedom granted to come up with creative ideas. Innovative spirit combined with state-of-the-art technology ranging from augmented reality to artificial intelligence create completely new possibilities. The following examples from the Sales, Grids and Generation segments show the innovative strength present within the entire company.



€10 billion

is the sum being made available by the German government for technology-based start-ups **by 2030**.

Source: Federal Ministry of Finance



248

patents were held by EnBW at the end of 2022, 23 more than in the previous year.



Only 7

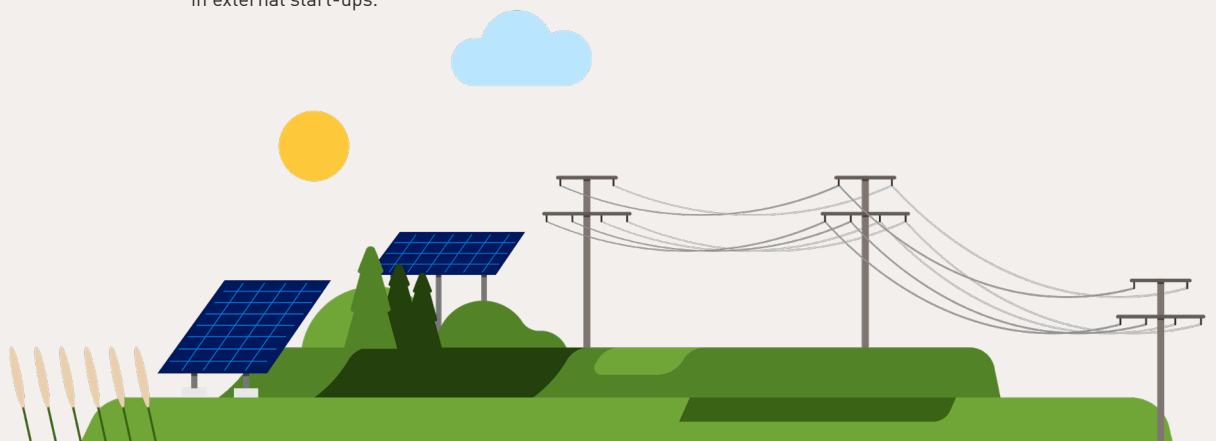
countries are ahead of Germany in the "Global Innovation Index," placing Germany **in the top field at position 8 out of the 132** countries analyzed.

Source: KfW Research – Focus on Economics



24

stakes are held by EnBW in external start-ups.





Fresh ideas for smoothly charging electric cars

A driverless car that stops above a base plate to recharge the battery, before freeing up space for the next car, looking for a free parking space and parking up? EnBW is working on such scenarios and new ideas for the fast, flexible charging of electric cars. As the market leader with 400,000 charging points in 17 countries, we are researching and funding different approaches. Find out more ...

[To the article ↗](#)

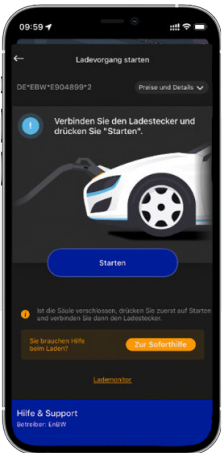




Generate your own power – become self-sufficient

Photovoltaic power plant on the roof, home storage system in the basement, wall box in the garage – plus a cloud for storing the self-generated electricity. Sound futuristic? It can already be done, Mr. Neighbor. The EnBW subsidiary SENEC supplies a complete solution. Take a look here ...

[To the article ↗](#)



Helping people to help themselves at the charging station with an e-bot

EnBW operates the largest quick-charging network in Germany. If the charging station for the electric car fails, an e-bot developed by EnBW helps drivers to help themselves in the event of smaller faults. The e-bot in the EnBW mobility+ app analyzes the problem and engages in dialog with customers. If the fault cannot be rectified, the e-bot points the way to the next station. And you can read all about it here ...

[To the article ↗](#)

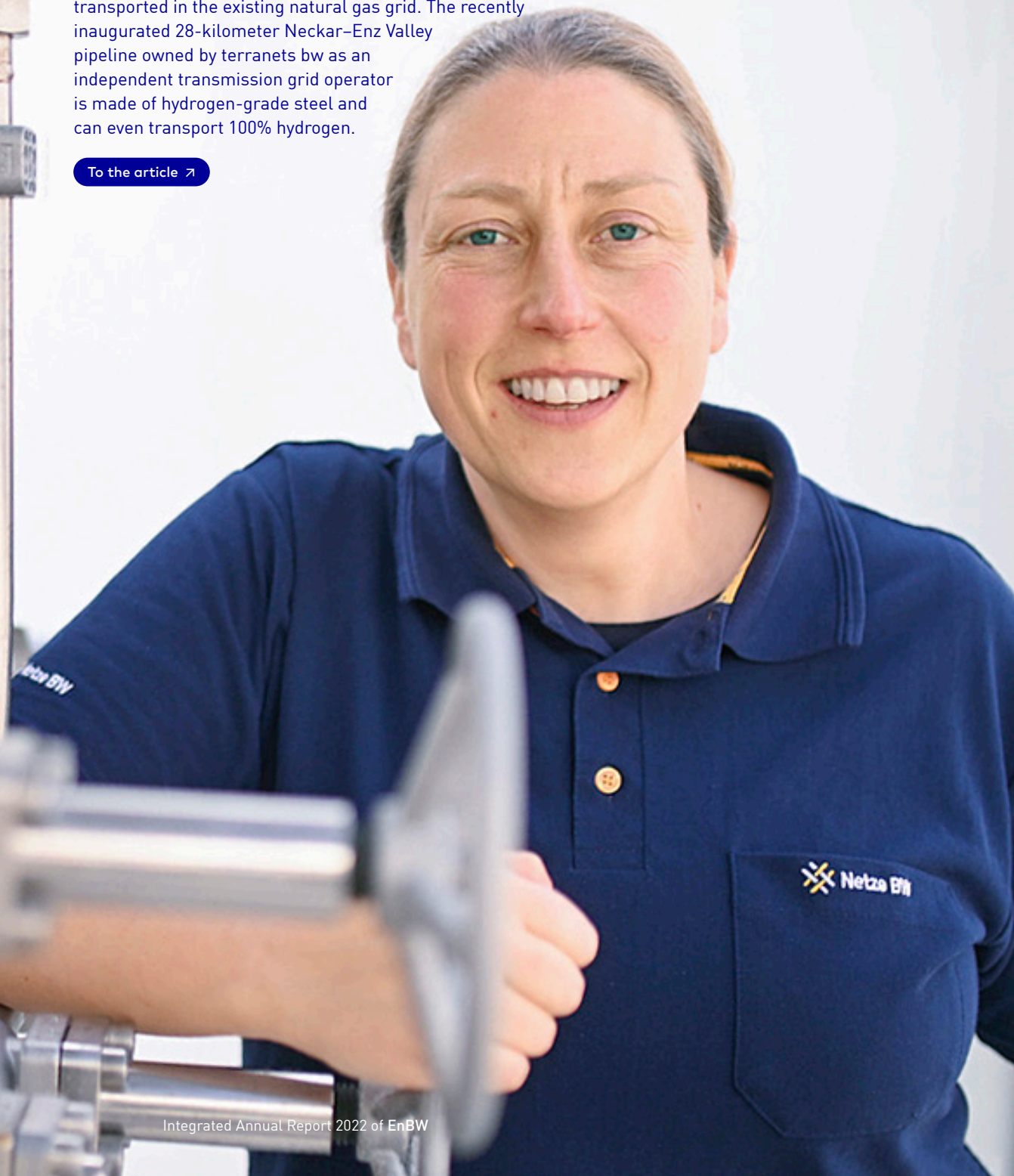




Hydrogen in the gas grid

Did you know that wind turbines and solar power plants have to be shut down time and again when too much electricity is produced at the same time? Researchers are working on a way to convert the energy generated from wind and sun into hydrogen. Gases like hydrogen can be stored and transported more easily. In Öhringen, a town situated in the northeast of Baden-Württemberg, Netze BW is conducting a field trial to explore how much hydrogen can be transported in the existing natural gas grid. The recently inaugurated 28-kilometer Neckar-Enz Valley pipeline owned by terranets bw as an independent transmission grid operator is made of hydrogen-grade steel and can even transport 100% hydrogen.

[To the article ↗](#)





How the “Netzbooster” bolsters the electricity grid and keeps it stable

As an independent transmission grid operator, the EnBW subsidiary TransnetBW is planning one of the world’s largest battery storage systems in Baden-Württemberg. In conjunction with the leading supplier of energy storage products, Fluence Energy GmbH, the future “Netzbooster” (or “grid booster”) is set to achieve what no one has previously dared to do: Make better use of the power lines without compromising grid security. This may sound somewhat terse. But it can send technicians into raptures.

[To the article ↗](#)

NeWa app: an alarm button on the wrist

The item on the wrist may look like a simple watch, but the app on it is so much more: contact to the base station, alarm button and, if necessary, a kind of life insurance. EnBW employees have developed the NeWa app (Netze Watch app) for colleagues who scale electricity pylons or sometimes do other risky jobs alone and in remote areas. In the event of an accident – when the NeWa app registers a fall, for instance – it raises the alarm. Read about everything else it can do here.

[To the article ↗](#)





Thanks to artificial intelligence, wind turbine faults can often be avoided

Some 1,500 sensors monitor the smooth operation of a wind facility. Artificial intelligence (AI), however, also reports deviations and irregularities. It is then the task of AI specialists to discern possible faults from this data and, together with service technicians, prevent a turbine failure. Such AI assistance is already saving EnBW €10 million a year. We reveal here how Josef Feigl and Meik Schlechtingen work.

[To the article ↗](#)



Modern power purchase agreements are helping companies to instantly access green electricity

For the EnBW He Dreih offshore wind farm in the North Sea or a solar park near Rostock – in both cases, EnBW has concluded long-term power purchase agreements (PPA), thereby helping to finance each of the projects. The advantage for companies: By signing a PPA, they can secure the purchase of 100% green electricity from non-subsidized power plants. For a period of 15 years, EnBW will act as an intermediary between operators and electricity users for the supply of 100% green electricity.

[To the article ↗](#)

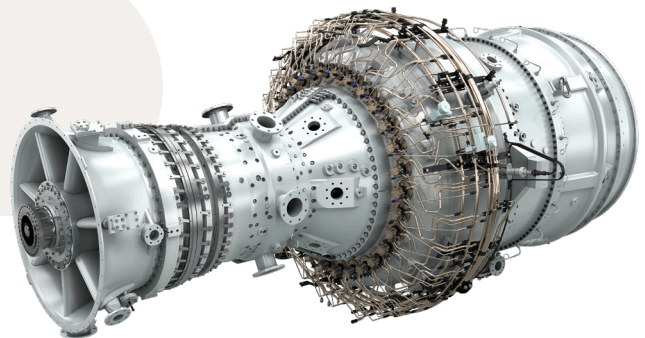


Fuel switch: from coal to natural gas and how hydrogen is set to become the fuel of the future

A fuel switch involves gradually converting coal power plants to run on natural gas. Doing so cuts carbon emissions, reduces the emission of nitrogen oxides and entirely eliminates heavy metals. The conversion of coal power plants to gas power plants is just an intermediate step. The aim is to achieve emission-free operation using green hydrogen. EnBW is already producing high-purity hydrogen in pilot projects. Read [here](#) the reason why this is also partly rocket science. Meanwhile, modern gas turbines will be able to process up to 75% mixed hydrogen in the new power plants of the future.

[To the article ↗](#)

EnBW and Siemens Energy are jointly working on ways of using hydrogen as a climate-friendly fuel in power plants in the future. At the heart of it all are two state-of-the-art gas turbines.



Combined management report

of the EnBW Group and EnBW AG

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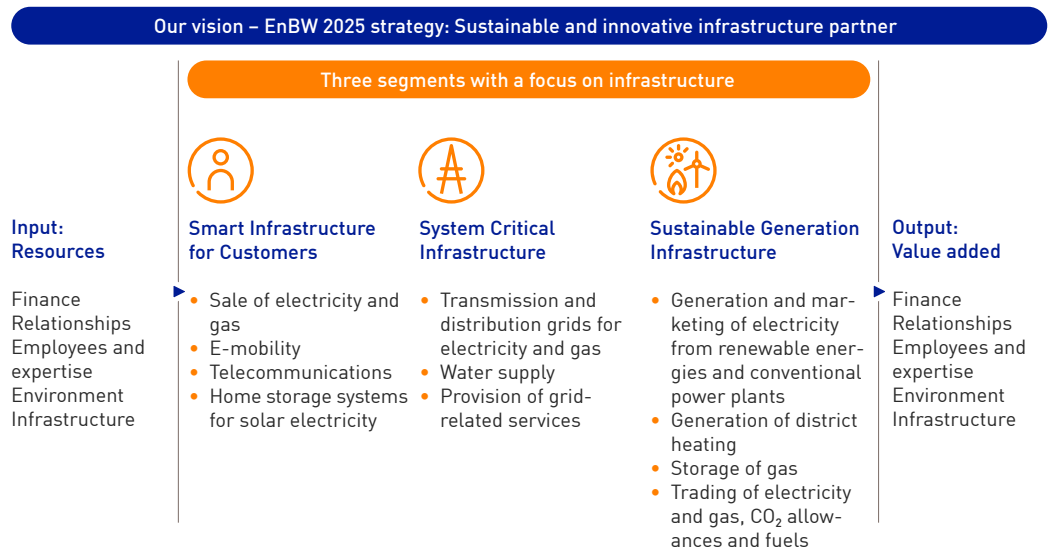
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Fundamentals of the Group

Business model

Business principles

Business model



Our company is transforming itself from an energy supply company into a sustainable and innovative infrastructure partner, also outside of the energy sector. Sustainability is an important element of our business model and acts as a compass for our strategic alignment. We draw on a variety of resources – from finances through to infrastructure – for our corporate activities. As a result of the efficient use of these resources, we create value for ourselves and our stakeholders.



Since 2021, our business portfolio has been split into **three segments** that encompass the **following activities**:

- The **Smart Infrastructure for Customers** segment comprises the sale of electricity and gas, the provision and expansion of quick-charging infrastructure and digital solutions for electromobility, activities in the telecommunications sector and static storage systems in conjunction with photovoltaics.
- The transmission and distribution of electricity and gas are the main components of the **System Critical Infrastructure segment**. Our activities in this segment are designed to guarantee the security of supply and system stability. The provision of grid-related services and the supply of water are other activities in this segment.
- The **Sustainable Generation Infrastructure** segment encompasses our activities in the areas of renewable energies and conventional generation, district heating, waste management and energy services. In order to guarantee the security of supply, we maintain the power plants that have been transferred to the grid reserve. In addition, this segment includes the storage of gas and trading of electricity, gas, CO₂ allowances and fuels, as well as the direct distribution of renewable energy power plants.

The main goal of our **EnBW 2025 strategy** is to develop a balanced and diversified business portfolio along the entire value added chain via these three growth fields. Our portfolio is also characterized by a high proportion of stable, regulated business and an attractive risk-return profile. In addition, we are using our core expertise to exploit new business areas – also outside of the energy sector and in selected markets abroad. You can find more about the EnBW 2025 strategy in the chapter “Strategy, goals and performance management system” from p. 33⁷.

The themes of **sustainability and climate protection** continue to be issues of intense public interest and will also influence social acceptance for our business activities to a greater extent in future. We have set ourselves the goal of continuing to develop our business model in line with the economic, ecological and social dimensions of sustainability. As an energy company, we can make a particularly effective contribution to climate protection. In the Group, we aspire to reduce our greenhouse gas emissions by 70% by 2030 and become climate neutral with respect to our own emissions (Scope 1 and 2 ⁹) [p. 36 f. ⁷] by the end of 2035 at the latest.

We believe that **digitalization** is an important basis for sustainable growth, profitability and competitiveness. In our digitalization agenda 2030, we are intensifying our activities in this area and developing other initiatives, some of which reach across the whole Group. Our focus lies on the digital evolution of the business, developing skills and supporting our sustainability activities (examples can be found on p. 46 ⁷, 54 f. ⁷, 57 ⁷, 69 ⁷, 79 ⁷, 91 f. ⁷, 94 ff. ⁷ and 104 ff. ⁷).

Our company's **business model** has proved itself to be **robust and flexible** during the current crises. The reliable supply of electricity, gas, water and heating to our customers was not at risk at any time. Furthermore, reliable infrastructure has become an increasingly important issue in the social consciousness.

Our **portfolio** has also proved itself to be fundamentally **stable** in crisis situations. Our integrated approach thus enabled us to compensate for varying developments in different business fields in the 2022 financial year. Further information on the impact of the economic situation on our business can be found in the chapter "General conditions" from p. 62 ⁷ onwards.



Assessment of the robustness of our business model against the background of climate change

We analyze the robustness of our business model now with an increasing focus on climate change due to the growing importance of climate-related risks and the recommendations issued by the Task Force on Climate-related Financial Disclosures (TCFD) ⁹. Our strategic considerations take into account the requirements of the energy transition and the profound changes that will take place due to the transformation towards climate neutrality with the effects they will have on all business sectors and private households. We place a particular focus on the expansion of renewable energies, electricity consumption, the expansion of the grids, grid stability and the security of supply. In this context, we examine the requirements with respect to climate protection, possible implementation paths and the implications for the EnBW business. Accordingly, a main component of our analyses of energy industry conditions is **evaluating the different ways in which the energy transition and the transformation to climate neutrality** could possibly develop. This acts as an important basis for assessing the opportunities and risks for our business (p. 137 f. ⁷) that will arise due to climate change and the dynamic regulatory environment associated with it.

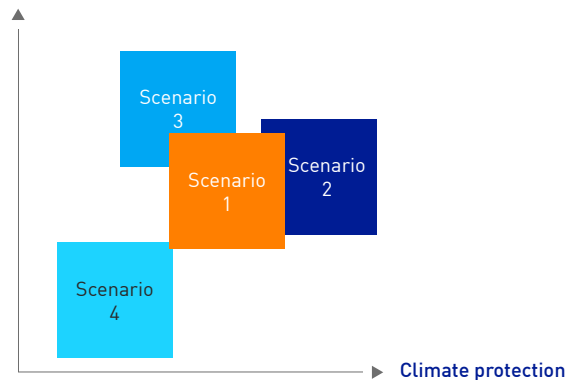
In order to evaluate these opportunities and risks, we use real developments to derive **realistic future scenarios that take into account all of the different aspects of the energy transition**. These scenarios are primarily characterized by two dimensions. The **first dimension** is climate protection and encompasses our transformation to a climate-neutral company with its impact on all of the variables influencing the energy industry. It is thus of crucial importance for our business, as well as for the opportunities and risks along the entire value added chain. The sustainable economic growth that is achievable in the long term is the **second dimension**. The level of growth that can be achieved in the long term will also have an impact on key variables such as the demand for electricity or commodity prices.

In the space defined by these dimensions, we describe **four scenarios that are particularly relevant to EnBW**. We fundamentally believe that we will achieve our goal of becoming a climate-neutral company. However, the speed at which this transformation can be implemented differs in the various scenarios. Two scenarios assume "normal" economic growth within the scope of so-called potential growth (scenarios 1 and 2). In scenario 2, the climate targets defined in the EU Green Deal ⁹ will be largely achieved within the defined time span up to the middle of the century. In scenario 1, there will be a slight delay in achieving the goal of climate neutrality because it will not be possible to comprehensively solve the practical challenges associated with the implementation of the energy

transition. In addition, we describe two other scenarios in which there is a long-term, permanent deviation in economic development that lies outside the scope of potential growth. In scenario 3, it is assumed that a higher priority will be assigned by society and politics to short and medium-term economic growth than to the quick implementation of a transformation towards climate change mitigation. Greater growth will thus be achieved during the period under consideration. In contrast, a period characterized by ongoing crises and weaker economic growth is assumed in scenario 4. In this scenario, the transformation to climate neutrality will be achieved at the slowest pace because the opportunities to secure the required investment in a timely manner will be significantly restricted.

Energy industry scenarios for EnBW

Economic growth



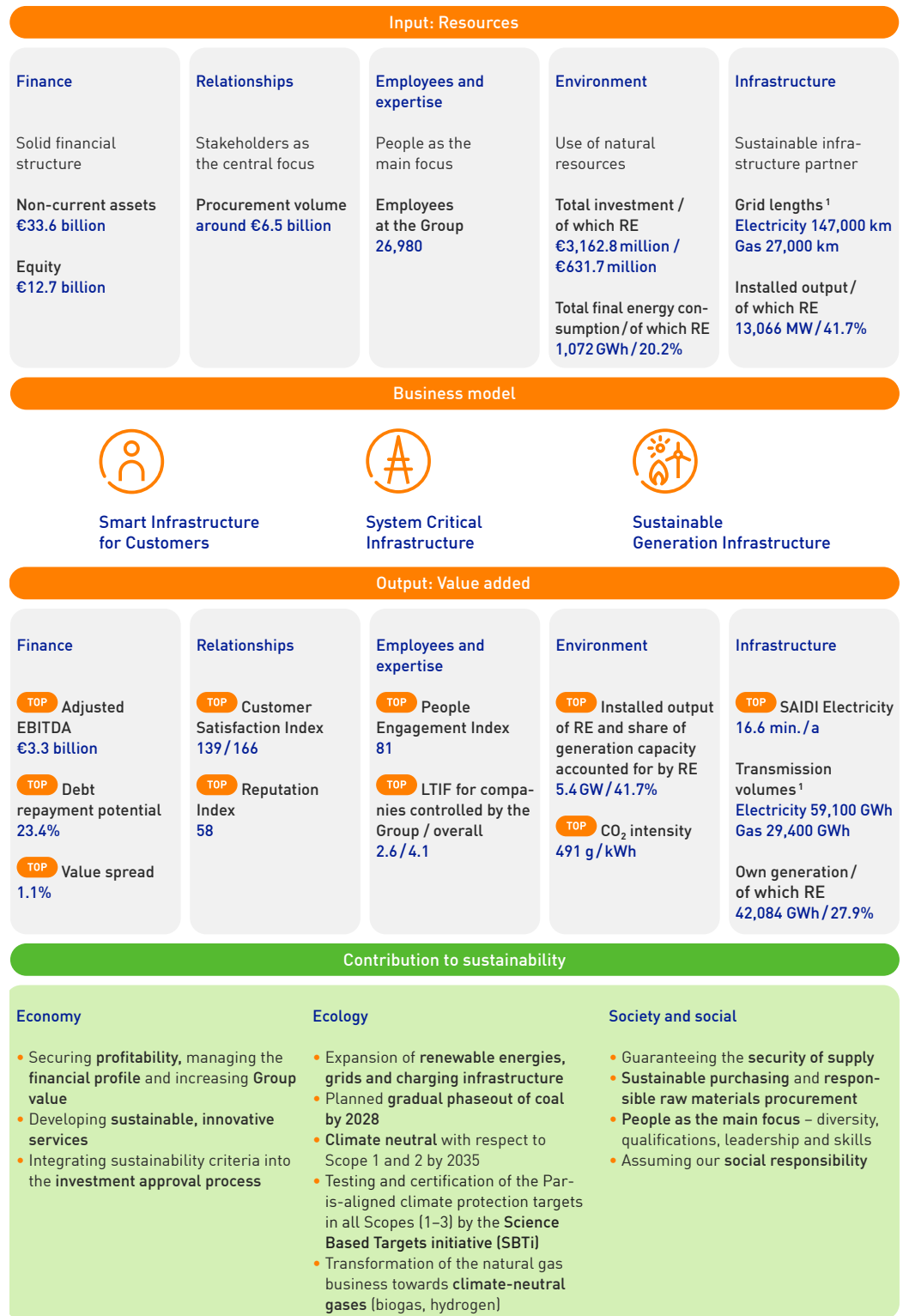
Within the scenarios, **variables** that have different characteristics depending on the scenario in question determine how the energy market develops. These include assumptions on the development of demand, the restructuring of the power plants as part of the phaseout of coal and the full decarbonization of electricity generation (scenario 1), the development of the transmission grids, and the prices and pricing structures for fuels. In addition, estimates about relevant market trends, such as in the area of renewable energies, electromobility or the development of a hydrogen market, play an important role. Based on the assumptions made for specific variables, possible paths for how the energy markets (especially electricity and gas) will develop in the long term are derived for the four scenarios. In the process, we predict the wholesale market prices for electricity in simulated calculations using computer models. These simulations also take into account physical risks, such as the influence meteorological fluctuations may have on the electricity market due to the availability of wind and sunlight, and thus make it possible to incorporate possible changes to the physical environment due to climate change into the calculations. The scenarios produced in this way can provide us with quantitative descriptions that serve as the basis for assessing our business and, in particular, also allow us to evaluate the opportunities and risks associated with climate change.

Value added

Value added for EnBW and its stakeholders

The aim of our corporate activities is to add value in the short, medium and long term. This reflects corporate success, as well as competitiveness and future viability, and does not only depend on the company itself but also on the business environment, relationships with stakeholders (p. 47 ff. ⁷) and the application of a variety of different resources. As a result of the efficient usage of these resources, we create value for ourselves and our stakeholders. We associate the concept of sustainable economic development with our aspiration to conduct all of our business activities in a responsible way. In the 2022 financial year, we revised the presentation of value added to make it more meaningful and have added further information at the end of the diagram.

Value added 2022 for EnBW and its stakeholders



¹ In System Critical Infrastructure segment.

As of the 2022 financial year, we present how EnBW adds value and how we use our resources to this end by means of our key performance indicators (p. 39 ff.⁷) and other selected performance indicators.

With respect to the resource **finances**, it is critically important that we maintain a solid financial structure at all times so that we can finance our business activities. Sustainable financing instruments are playing an increasingly important role in this area (p. 38⁷). The value we generate for ourselves and our main stakeholders is presented in our value added statement (p. 28⁷).

An important factor for the resource **relationships** is building customer loyalty to strengthen trust in EnBW as a partner and supplier. Active dialog with stakeholders builds trust and social acceptance (p. 47⁷). We generate value in this area by engaging in social issues relevant to our various target groups.

Always having the right **employees** with the right **expertise** in the right place is a key focus of the HR policy. Expertise, experience and diversity contribute to the success of the company (p. 105 ff.⁷). We also engage in a range of research and development activities to identify market opportunities and trends and develop innovative products (p. 51 ff.⁷). We also create room for personal development, offer apprenticeships and courses for students, run a multi-stage career integration program for refugees and migrants and are active in the area of diversity (p. 106⁷).

With respect to the **environment**, we generate energy using the natural resources wind, water, sun, biomass and geothermal energy. We generate value in this area by improving our carbon footprint, expanding our renewable energy power plants and connecting them to the grid, developing energy efficient products and ensuring that we engage in sustainable and responsible procurement (p. 96 ff.⁷).

Our resources related to **infrastructure** comprise the expansion and operation of power plants, grids and gas storage facilities. Furthermore, we are continuing to expand our quick-charging infrastructure and the telecommunications and broadband business (p. 93 ff.⁷). EnBW mainly generates value here by pushing forward the energy and mobility transition.

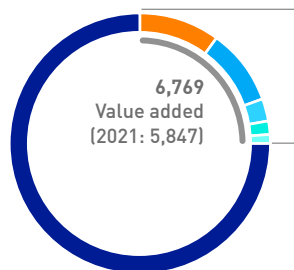
Value added statement

The value added statement indicates the degree to which we contribute to the continuing economic development of the company and our stakeholders using our financial resources. Further information on the dialog with our stakeholders is summarized in the chapter “In dialog with our stakeholders” (p. 47 ff.⁷).

Value added of the EnBW Group

Output: value
in € million¹

● **55,859** Suppliers and service providers: material and other operational expenditure² (2021: 28,962)



62,627 Cash-relevant business performance (2021: 34,809)

Use of value added

	2022	2021
● Active and former employees: primarily wages and salaries	39%	42%
● EnBW Group: retained cash flow	37%	31%
● State: taxes	11%	13%
● Shareholders: dividends	8%	9%
● Outside investors: interest	5%	5%

¹ The figures for the previous year have been restated.

² Includes interest and dividends received, as well as the dedicated financial assets contribution.

We define value added as our cash-relevant business performance in the past financial year less cash-relevant expenses (suppliers and service providers). The value added is derived from the cash flow statement and corrected based on the use of funds. In the reporting year, we generated value added of 10.8% (previous year: 16.8%). This decrease was mainly due to the fact that the increase in cash-relevant cost of materials exceeded the increase in cash-relevant business performance. As well as being used in the form of wages, salaries and pension payments for active and former employees, a further share is dedicated to payments to the state in the form of income taxes and electricity and energy taxes. After consideration of other stakeholder groups, the retained cash flow is available to the company for future investments without the need to raise additional debt (p. 87⁷).

Our operating segments



Using the materiality analysis process that we describe in detail on [p. 47 f.](#)[↗], we identified the material events of the 2022 financial year. These are shown in the following diagram allocated to our three segments.

Overview of the segments



Smart Infrastructure for Customers

Significant events in 2022

- E-mobility growth strategy continued with the construction of additional quick-charging parks, new cooperations for the expansion of the charging infrastructure and the EnBW HyperNetwork [\(p. 93\)](#)[↗]
- Various test results, including the magazine Stiftung Warentest, confirm EnBW's leading position in the area of e-mobility [\(p. 93\)](#)[↗]
- Resolute ongoing expansion of the fiber-optic network [\(p. 94 f.\)](#)[↗]



System Critical Infrastructure

Significant events in 2022

- Triggered discussions on the market about capital partnership in the transmission grid operator TransnetBW [\(p. 33\)](#)[↗]
- Progress made in the approval processes for the ULTRANET and SuedLink projects [\(p. 69\)](#)[↗]
- Start of a comprehensive expansion and renewal program for the distribution grids at Netze BW [\(p. 96\)](#)[↗]
- Growth in the area of grid-related services [\(p. 94\)](#)[↗]
- Expansion of the gas transport capacities in Baden-Württemberg through the commissioning of the Neckar-Enz Valley pipeline [\(p. 69\)](#)[↗]



Sustainable Generation Infrastructure

Significant events in 2022

- Bid accepted for the rights to build an offshore wind farm together with bp [\(p. 34 and 71\)](#)[↗]
- Conclusion of long-term power purchase agreements for the He Dreih offshore wind farm
- Commissioning of the two solar parks Gottesgabe and Alttrebbin [\(p. 97\)](#)[↗]
- Award of contracts for hydrogen-ready gas and steam turbine power plants for the implementation of the fuel switch projects [\(p. 37\)](#)[↗]
- Conclusion of various agreements and supply contracts for liquefied natural gas (LNG) [\(p. 61\)](#)[↗]
- Preparations for the continued operation of the GKN II nuclear power plant until it is decommissioned on 15 April 2023 [\(p. 73\)](#)[↗]

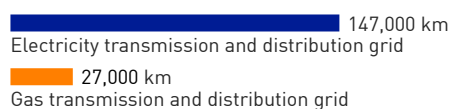
Important cross-segment events in 2022

- Successful stabilization at VNG: capital increase and agreement with the German government on the risks associated with replacement procurement for lost Russian gas deliveries [\(p. 64\)](#)[↗]

Sales in 2022



Grid lengths in 2022



Installed output in 2022



Number of B2C and B2B customers in 2022

Around **5.5** million

Transmission volumes in 2022

Electricity	59,100 GWh
Gas	29,400 GWh

Generation portfolio in 2022¹

Electricity generation	42,000 GWh
Installed output	13,048 MW

Key figures in 2022

5,401 employees (as of 31/12/2022)
€510.2 million adjusted EBITDA

Key figures in 2022

11,485 employees (as of 31/12/2022)
€1,046.0 million adjusted EBITDA

Key figures in 2022

7,151 employees (as of 31/12/2022)
€1,934.8 million adjusted EBITDA

€340.7 million investment
15.5% share of adjusted EBITDA

€1,898.7 million investment
31.8% share of adjusted EBITDA

€859.6 million investment
58.9% share of adjusted EBITDA

Development of adjusted EBITDA in € billion

0.5 2022
0.6 Target for 2025

Development of adjusted EBITDA in € billion

1.0 2022
1.3 Target for 2025

Development of adjusted EBITDA in € billion

1.9 2022
1.3 Target for 2025

¹ The values stated for electricity generation and installed output are not identical to the totals for the EnBW Group. Several power plants are allocated to the other two segments. The total generation of the EnBW Group is 42,084 GWh (excluding positive redispatch volumes), of which 11,744 GWh is generated from renewable energy sources. The total installed output of the EnBW Group is 13,066 MW, of which 5,444 MW is from renewable energy power plants. The totals for generation and installed output for the Group are shown in detail on [p. 97](#)[↗].

Group structure and business radius

EnBW is organized according to the model of an integrated company. EnBW AG is managed through business units and functional units: Core operating activities along the entire energy industry value chain are concentrated in the business units. The functional units carry out Group-wide support and governance tasks. The EnBW Group consists of EnBW AG as the parent company and 235 fully consolidated companies, 26 companies accounted for using the equity method and 3 joint operations. Further information on the organizational structure can be found in the chapter “Corporate governance” under “Management and supervision” on p. 43 ff.¹.

Baden-Württemberg, Germany and Europe

Further information on **selected companies of EnBW AG** can be found under the following link.

[Online ↗](#)

Selected EnBW companies

● Baden-Württemberg

EnBW Energie Baden-Württemberg AG, Karlsruhe
 EnBW mobility+ AG & Co. KG, Karlsruhe
 EnBW Ostwürttemberg DonauRies AG, Ellwangen
 Erdgas Südwest GmbH, Karlsruhe
 GasVersorgung Süddeutschland GmbH, Stuttgart
 NetCom BW GmbH, Ellwangen
 Netze BW GmbH, Stuttgart
 terranets bw GmbH, Stuttgart
 TransnetBW GmbH, Stuttgart
 ZEAG Energie AG, Heilbronn

● Germany

ONTRAS Gastransport GmbH, Leipzig
 Plusnet GmbH, Cologne
 SENEK GmbH, Leipzig
 Stadtwerke Düsseldorf AG, Düsseldorf
 VNG AG, Leipzig
 Yello Strom GmbH, Cologne

● Denmark

Connected Wind Services A/S, Balle

● France

Valeco SAS, Montpellier

● Great Britain

Mona Offshore Wind Holdings Limited, Sunbury-on-Thames¹
 Morgan Offshore Wind Holdings Limited, Sunbury-on-Thames¹
 Morven Offshore Wind Holdings Limited, Sunbury-on-Thames¹

● Austria

SMATRICS EnBW GmbH, Vienna

● Sweden

EnBW Sverige AB, Falkenberg

● Switzerland

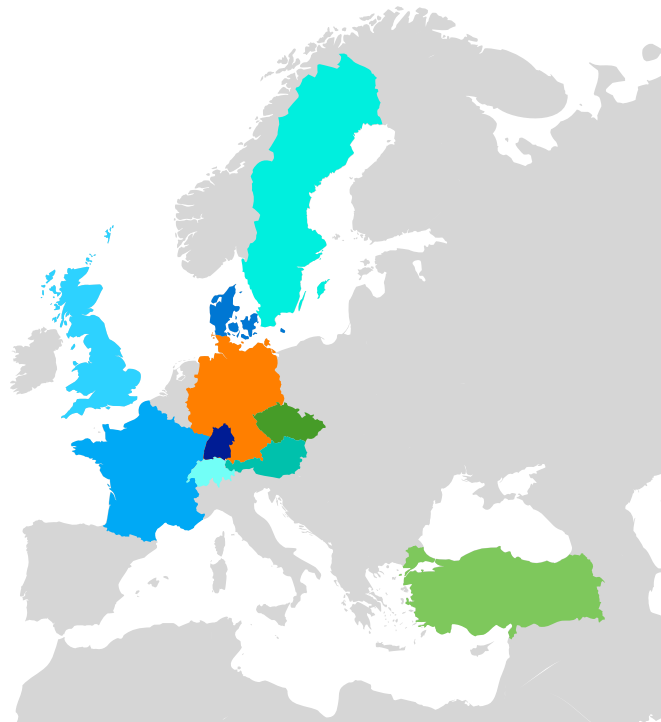
Energiedienst Holding AG, Laufenburg

● Czech Republic

Pražská energetika a.s., Prague

● Turkey

Borusan EnBW Enerji yatırımları ve Üretim A.S., Istanbul¹



¹ Not fully consolidated, accounted for using the equity method.

The full list of shareholdings can be found in the notes to the consolidated financial statements under (38) “Additional disclosures.”

Our roots lie in Baden-Württemberg, where we are positioned as a market leader. We rely here on EnBW AG, Netze BW and a series of other important subsidiaries.

We also operate throughout the rest of Germany and in selected markets abroad via our various subsidiaries. We are pushing forward the **expansion of renewable energies** through Valeco, the French project developer and operator of wind farms and solar parks. We are represented by our subsidiaries Connected Wind Services (CWS) in Denmark and EnBW Sverige in Sweden. In Turkey, we work together in the renewable energies sector with our partner Borusan. In Great Britain, we have secured the rights to build several offshore wind farms together with our partner bp. Following our success in the auction for offshore wind rights off the coast of New York at the end of February 2022, we sold our offshore activities in the USA to our former partner TotalEnergies. Our main focus will now be placed on growth opportunities in Europe. Future engagement in this area will be regularly examined and evaluated against this background.

The companies Energiedienst (ED) in Switzerland and Pražská energetika (PRE) in the Czech Republic, in both of which EnBW has held participating interests for many years, also have a strong focus on renewable energies. We are actively engaged in **the operation of the charging infrastructure and provide a range of products and services necessary for electromobility** in many European countries through our subsidiary EnBW mobility+. We are the market leader for quick charging in Germany and are now also expanding onto the Austrian market with SMATRICS EnBW. Our subsidiary SENEK, based in Leipzig, offers holistic energy solutions for customers to meet their own energy needs using solar electricity and home storage. We further expanded our portfolio in the **broadband business** across Germany with the telecommunications company Plusnet based in Cologne. Our subsidiary NetCom BW has its main focus in this sector in Baden-Württemberg.

Our **most important participating interests** in relation to the value added chain include the following groups of companies:

Click on the respective logos to access the websites of our **most important subsidiaries**.



Energiedienst (ED), based in Laufenberg, Switzerland, has around 1,100 employees and is an ecologically oriented German-Swiss listed company with various subsidiaries that is active in South Baden and Switzerland. ED exclusively generates green electricity, primarily using hydropower, and has already been climate neutral since 2020. Alongside the production, sale and supply of electricity, this group of companies offers its customers smart, networked products and services, including photovoltaic plants, heat pumps, electricity storage systems, electromobility and e-car sharing.



Pražská energetika (PRE), based in Prague, Czech Republic, has around 1,700 employees and its core business activities include the sale of electricity and gas, the distribution of electricity in Prague and Rožtoky, the generation of electricity from renewable energies, the operation and expansion of fiber-optic infrastructure, the expansion of the charging infrastructure for electromobility and the provision of energy services. PRE is the third-largest electricity supplier in the Czech Republic. As part of its activities, PRE promotes the use of modern technological solutions and advises on the implementation of innovative technologies and achieving energy savings.



Stadtwerke Düsseldorf (SWD) is one of the largest municipal energy supply companies in Germany. It has around 3,200 employees and SWD and the companies in which it holds a majority shareholding supply customers in Düsseldorf and the surrounding region with electricity, natural gas, district heating and drinking water, as well as being responsible for waste disposal and street cleaning services in the metropolitan area of Düsseldorf. In addition, the company's focus is placed on the needs-based development of networked urban infrastructures in the areas of energy, mobility, the circular economy and real estate. SWD is supporting the state capital of North-Rhine Westphalia to achieve its target of becoming climate neutral by 2035.



VNG is based in Leipzig and has around 1,500 employees. It is a corporate group with more than 20 companies in Germany and Europe and has a broad portfolio of services in the gas and infrastructure sectors. VNG concentrates on its four business areas of Trading and Sales, Transport, Storage and Biogas. Using this core expertise as a basis, VNG is increasingly placing its focus on new business fields, such as green gases and digital infrastructures. The VNG subsidiary ONTRAS operates and markets the second-largest German gas transmission grid as an independent transmission system operator, while VNG Gasspeicher is Germany's third-largest gas storage operator.

Customers and sales brands

We supply **around 5.5 million customers** with energy and differentiate between two customer groups: The B2C customer group includes retail customers, small commercial enterprises, the housing industry and agriculture. The B2B customer group encompasses major commercial enterprises and industrial companies, as well as redistributors, municipal utilities, local authorities and public entities.

We use our sales brands to orient ourselves to the needs of our customers. In the B2C sector, we sell green electricity, electricity, gas, district heating, energy industry services, energy solutions and drinking water under the **EnBW brand**. These products and services focus on Baden-Württemberg. We sell green electricity and gas products, as well as solutions and digital services related to energy, to retail and commercial customers throughout Germany through the **Yello brand**.

We are also represented in the B2B sector via our subsidiaries through the **GVS brand** and in the B2C and B2B sectors through the **Erdgas Südwest, ODR and ZEAG brands**.

Under the **NaturEnergie brand**, Energiedienst (ED) sells green electricity across Germany and gas to retail customers in South Baden. In addition, ED also offers many other sustainable products and services through this brand in the areas of heating, living, photovoltaics and mobility – from solar power plants and e-car sharing services through to heating concepts for districts. In Switzerland, the ED Group provides electricity to business customers. PRE sells electricity, gas and energy services to retail and commercial customers in Prague and the surrounding region under the **PRE brand**. PRE also supplies electricity, gas and energy services to industrial customers across the Czech Republic under the PRE brand. Electricity and gas are sold in the Czech Republic under the **Yello brand**, primarily via online channels to households and commercial customers. SWD supplies retail and commercial customers in the B2C sector and business and industrial customers in the B2B sector with electricity, gas, heating, energy solutions and drinking water under the **Stadtwerke Düsseldorf brand**. The sales focus is placed here on Düsseldorf and the local region. VNG supplies domestic and foreign trading companies, redistributors, public utilities and large industrial customers with gas under the **VNG brand**. Via its subsidiaries in Germany and Austria, VNG sells gas and electricity – especially to private households, commercial customers and property management companies – under the **goldgas brand**.

Strategy, goals and performance management system

Strategy

Sustainable and innovative infrastructure partner

Our **EnBW 2025 strategy** has the motto “Making and shaping the infrastructure world of tomorrow” and is based on a holistic approach to stakeholders. It defines specific financial and non-financial targets in the dimensions of finance, strategy, customers and society, environment and employees. We have made sustainability an integral part of our corporate strategy because we want to ensure that we create economic, ecological and social added value for our stakeholders.

Our EnBW 2025 strategy increasingly places the company’s focus onto the infrastructure aspects of existing energy-related business fields and utilizing our core expertise to exploit new growth opportunities above and beyond the energy sector. Our core expertise – what we do well and do better than many others – lies in the safe and reliable construction, operation and management of critical infrastructure in the energy sector, such as the generation of energy or the distribution of energy by our grid subsidiaries. This can also be transferred to other **business fields related to infrastructure**. One example of this type of business field is our broadband business² in which we have made major progress by winning various large contracts. We are also involved in the expansion of urban infrastructure. As we understand it, urban infrastructure concerns, for example, the smart networking of energy and heating supplies, telecommunications and mobility. Another new business field is the development of passive mobile phone infrastructure (such as radio towers), whereby we are actively working to improve mobile phone coverage in Baden-Württemberg using, for example, 5G technology².


Our strategy and its diversified approach along the value added chain has demonstrated its resilience in times of crisis. The war between Russia and Ukraine, high volatility on the markets and the possibility of further regulatory interventions on the market increase the level of uncertainty with which predictions about the future development of the company can be made. Therefore, we continuously monitor and evaluate conditions with respect to their possible impact on our business. We remain committed to our overarching strategic alignment as an infrastructure provider, even more so because of its robustness in times of crisis, and are currently working on a continuation of the corporate strategy with a focus on the period up to 2030.





We are following these **strategic goals** in our three segments:

In the **Smart Infrastructure for Customers** segment, we are transferring our core skills to new, often digital business models. In the next few years, we will mainly focus on the growth areas of electromobility, telecommunications and broadband, as well as on photovoltaics and energy storage systems. Our aim is to further expand our quick-charging infrastructure to at least 2,500 sites by 2025, in order to promote electromobility and thus maintain our position as the market leader in this sector. In the telecommunications and broadband business, we are expanding our infrastructure, increasing our range of services and striving to secure a strong position on our market. We also want our subsidiary SENEK to be one of the leading suppliers on the German home electricity storage market for solar electricity. And in the area of B2C sales for electricity and gas, we will continue to rely on digitalization and make improvements in our cost efficiency.

In the **System Critical Infrastructure** segment, our grid subsidiaries for electricity and gas will further expand the transmission grids into an important cornerstone of our earnings alongside the distribution grids. At TransnetBW, our aim is to secure two long-term financial partners with minority shareholdings of 24.95% each. In addition, our grid companies will upgrade the electricity distribution grids so that they are ready to meet the challenges of the future and ensure they are prepared for the demands that will be placed on them by electromobility and the decentralized feed-in of energy. The “EnBW connects” participation model gives local authorities the opportunity to invest in our distribution grids. As part of the decarbonization of the gas sector, our grid companies are preparing their grid infrastructure for the use of climate-neutral gases in the future, such as green hydrogen.

Renewable energies and flexible power plants will dominate the **Sustainable Generation Infrastructure** segment. The expansion of renewable energies will cover further selective internationalization and the realization of projects without state funding. The generation capacity of our wind power plants is due to increase to 4.0 GW by 2025 and our portfolio of photovoltaic projects to 1.2 GW. In addition, EnBW and bp plan to build three offshore wind farms through joint ventures that will have a total capacity of 5.9 GW and lie off the coast of Great Britain. They will be placed into operation from 2028. In the gas business, we want to further strengthen our strong position, especially in the area of climate-neutral gases. In the area of coal-based conventional generation, we have defined a plan to phase out coal by 2028 that is based on the assumption that renewable energies will be ramped up as forecast in the plans announced by the German government. As a replacement for our coal power plants and to secure our portfolio of renewable energies, we decided in 2022 to construct gas power plants that could also be operated using hydrogen in the future (H₂-ready ). After the amended German Atomic Power Act came into force in December 2022, we carried out preparations at Block II of the Neckarwestheim nuclear power plant so that it can continue to generate electricity until 15 April 2023. We are adapting our trading activities to the changes in our generation portfolio and the energy markets and further strengthening our market position with a focus on Europe.

We planned to use this portfolio to increase our **adjusted EBITDA**  to €3.2 billion by 2025 in accordance with our EnBW 2025 strategy. It was already possible to achieve this target in the 2022 financial year and in our current plans we now also expect to exceed this earnings target (p. 128 [↗](#)).

As part of our EnBW 2025 strategy, we planned **net investment**  of around €12 billion in total between 2021 and 2025, of which 80% is intended for growth projects. Based on our current plans, we are expecting that our investment will be higher at around €14 billion. This is due to, amongst other things, a faster energy transition and the rise in inflation (p. 127 f. [↗](#)). The main focus of this investment will be the expansion of the grids, especially the central SuedLink and ULTRANET projects of our grid subsidiary TransnetBW for the future energy supply in Germany, the expansion of renewable energies, such as the planned realization of the EnBW He Dreiht offshore wind farm and the construction of H₂-ready gas power plants in Altbach/Deizisau, Stuttgart-Münster and Heilbronn, and further developments in the Smart Infrastructure for Customers segment: for example, in the areas of broadband, telecommunications and electromobility. Since the 2021 financial year, we now also take sustainability aspects into account, alongside economic and strategic factors, when assessing our investment projects (p. 41 f. [↗](#)). In the future, we will align our investment decisions even more consistently to sustainability criteria and align our growth accordingly (p. 85 f. [↗](#)).



EnBW Sustainability Agenda

Sustainability is closely linked to the core business at EnBW and has thus been consistently taken into account in the development of the company for many years. Our long-term business success is oriented towards achieving economic, ecological and social goals. In 2022, we began the **implementation of the EnBW Sustainability Agenda**. This was developed in a multistage process that incorporated both our stakeholder groups and also our corporate values. The **15 measures** developed as part of the EnBW Sustainability Agenda will make an important contribution to the long-term success of our business and anchor sustainability in our activities and solutions. They will thus make a noticeable contribution to value added and help to minimize the risks facing our company. We have classified these measures according to **four strategic themes**:

More detailed information on the **Sustainability Agenda** can be found on our website.

Online [↗](#)

Strategic themes and measures for the EnBW Sustainability Agenda

New energy and climate neutrality 

- 1 Expansion of renewable energies, taking biodiversity criteria into account in major projects
- 2 Climate-neutrality road map and socially responsible coal phaseout
- 3 Further development towards becoming a system partner for hydrogen provision and infrastructure

Culture of sustainability 

- 8 Board of Management and management remuneration aligned to sustainability criteria
- 9 Expanding the area of sustainable finance, financing via green bonds
- 10 Holistic consideration of sustainability in the investment process
- 11 Expanding our evaluation of risks and opportunities to include climate risks
- 12 Expanding the sustainable HR strategy

Infrastructure transition 

- 4 Eco-efficient quick-charging parks and climate-neutral corporate mobility
- 5 Strengthening the grid infrastructure for the energy and mobility transitions
- 6 Sustainable districts and real estate
- 7 Promoting forms of working and mobility that are ready for the future by laying new fiber-optic cables in rural areas

Protecting the natural environment 

- 13 Anchoring sustainability criteria in purchasing
- 14 Increasing the use of green materials and the efficient use of resources, reducing harmful emissions and water consumption
- 15 Protection of employees and local residents

We made some important progress in the implementation of these 15 measures in the 2022 financial year. Here are some **selected examples for each of the strategic themes**:

- **New energy and climate neutrality:** EnBW is rethinking and redesigning energy generation to forge the path to climate neutrality, which is the focus of **measure 2** (p. 36 ff.⁷). As part of **measure 3**, we are strengthening various aspects of EnBW en route to it becoming a pioneer in all market segments for climate-neutral gases. EnBW, including its subsidiaries such as Netze BW and VNG, is engaged in several hydrogen projects along the entire value added chain. EnBW is realizing fuel switch projects⁸, including the planned fuel switch at the EnBW combined heat and power plant in Stuttgart-Münster. Instead of coal, this power plant will use natural gas as a bridging technology to generate electricity in the future. The current plans for the power plant already envisage the use of hydrogen instead of natural gas at a later date (p. 37⁷). In addition, VNG is using an integrated approach to investigate the generation, storage, distribution and use of green hydrogen in the “Energy Park Bad Lauchstädt” innovation project in Central Germany (p. 52⁷).
- **Infrastructure transition:** Strengthening grid infrastructure for the energy and mobility transition is the main focus of **measure 5** and thus also of the activities of our grid subsidiaries TransnetBW and Netze BW. The decentralization of electricity generation and the ramping up of electromobility have posed challenges for us that we are addressing with forward-looking planning and investment in the development of smart technical solutions. **Measure 6** addresses both EnBW’s own real estate and also the development of sustainable districts for third parties. Our aim is to make our own property portfolio climate neutral by 2035. To this end, we developed a road map in 2022 that lays out the measures required to reduce CO₂ emissions. In the area of sustainable districts, we provide energy infrastructure services and other building-related services for project developers, investors and local authorities. For example, we have developed an innovative concept that is emission-free at a local level for the “Scharnhausen West industrial park” in Ostfildern (p. 95⁷).

- **Culture of sustainability: Measure 9** is designed to strengthen the area of sustainable finance ^②. In November 2022, we successfully issued two green bonds, each with a volume of €500 million. For the first time, the funds from a green bond ^② will be used for the expansion and refinancing of the electricity distribution grids in Baden-Württemberg. Our subsidiary Netze BW is responsible for the expansion of these grids (p. 38[↗]). Furthermore, EnBW is represented in expert groups such as the Task Force on Climate-related Financial Disclosures (TCFD ^②) – an initiative established by the Financial Stability Board – and the Sustainable Finance Committee of the German Federal Government.
- **Protecting the natural environment:** Sustainable supply chains are the main focus of **measure 13**. In the “LkSG Ready” project, representatives from the sustainability, purchasing and compliance departments at EnBW AG are preparing for the requirements stipulated in the Supply Chain Due Diligence Act (LkSG) that came into force on 1 January 2023. We have also been working together with other companies in the energy industry to establish an “Energy Sector Dialog,” which will be held in 2023. The aim is to draft guidelines for action with respect to human rights due diligence in the energy industry and support companies in their implementation (p. 57[↗]).

The EnBW Sustainability Agenda will be supported by a **comprehensive governance structure** that monitors the implementation of the agenda using performance indicators. These can be adjusted for certain measures if necessary.



Our climate protection goals

Two key elements of the **EnBW Sustainability Agenda** are compliance with science-based targets and the achievement of our goal of climate neutrality. Our goals for reducing greenhouse gas emissions along the value added chain are aligned with these aims.

Science Based Targets initiative (SBTi)

The Science Based Targets initiative (SBTi) ^② helps companies to develop their own science-based climate protection targets. In October 2021, EnBW announced its intention to set **science-based targets** according to the SBTi. This process is due to be concluded in spring 2023. EnBW will then have reduction targets that are in line with the Paris Agreement. These reduction targets cover the entire value added chain for EnBW and are split into three emission categories or so-called Scopes: Scopes 1 and 2 ^② include, in particular, the greenhouse gas emissions produced by our power plants as they generate electricity and heat, and when energy is distributed in the grids operated by our subsidiaries. Our Scope 3 emissions are mainly influenced by the gas consumption of our customers (p. 99 f.[↗]). We aim to follow a 1.5 degree-aligned path for Scopes 1 and 2 emissions and a well below 2 degrees-aligned path ^② for Scope 3 emissions.

As an integrated energy company with its own generation portfolio – which is increasingly characterized by renewable energies – we can make an important contribution to decarbonization and thus to safeguarding the livelihoods of future generations.

Measures

Our climate targets **are in line with the requirements and targets of the Paris Agreement**. They should also strike a balance between the different expectations of our stakeholders, with whom we remain in constant dialog. This includes above all the provision of affordable and climate-friendly energy and ensuring the security of supply. Even before the Coal Phaseout Act, we voluntarily divested ourselves of 2,700 MW of particularly carbon-intensive generation. Guaranteeing the security of supply has been made more difficult by the war between Russia and Ukraine and the energy crisis, which have also led to an increase in conventional generation and thus to higher CO₂ emissions. We expect the energy market will normalize in the medium term and this will enable us to gradually realize our reduction path. We have already implemented suitable human resources measures such as further training and forward-looking human resources planning for employees working in conventional generation. Some employees from the area of conventional generation are already bringing their technical expertise to other areas of the company, such as at our offshore wind turbines.

The most important step for achieving our climate protection goals is the early phaseout of coal. Based on the assumption that renewable energies will be ramped up as forecast in the plans announced by the German government, we aim to phase out coal at EnBW by 2028 and will enter into the necessary discussions on how to achieve this.

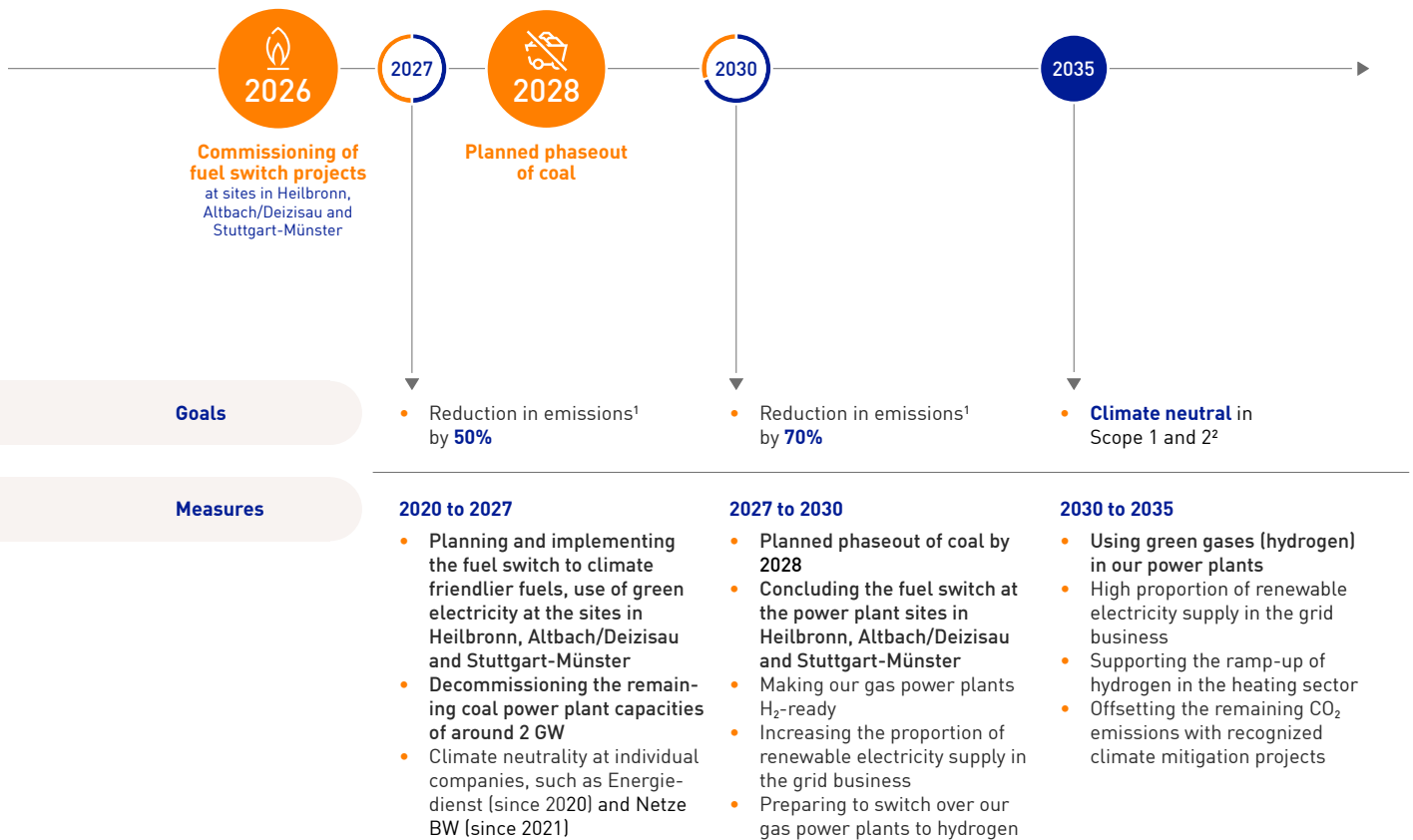
Learn more about our **Sustainability Agenda** here.

[Online ↗](#)

Further information on **SBTi** can be found here.

[Online ↗](#)

Our climate protection goals



¹ Reduction in Scope 1 and 2 emissions compared to the reference year 2018.

² Achievement of our climate protection targets in line with the 1.5 degree path of the Paris Agreement.

Milestones

Scope 1 and 2: emissions in our value added chain

An important milestone for significantly reducing our CO₂ emissions will be the fuel switch² at the power plants in Heilbronn, Altbach-/Deizisau and Stuttgart-Münster. The conversion work at the plants is already underway and is due to be completed in 2026. The aim is to operate the plants from the middle of the 2030s onwards with climate-neutral gases, primarily green hydrogen, so that they will then generate climate neutral energy. EnBW plans to phase out its remaining power plants with around 2,000 MW of generation capacity by 2028.

Various measures will be required to reduce our indirect emissions from purchased or acquired energy (Scope 2). The CO₂ emissions from the general electricity mix will be reduced in the coming years by the expansion of renewable energies and the gradual phaseout of fossil fuel-fired generation. This will also lead to a reduction in our Scope 2 emissions. Furthermore, we plan to specifically utilize green electricity.

Scope 3

When it comes to reducing our Scope 3 emissions², the volume of our gas sales is particularly important. This will be dependent on various developments in the heating sector. Alongside a further increase in the use of heat pumps and the partial mixing of the natural gas used to generate heat with climate-neutral gases, there will be a general reduction in the need to heat buildings due to energy-efficient refurbishment and a fall in the average age of the residential building stock. We will push forward these developments as a partner, especially when establishing a hydrogen infrastructure. This will enable us to offer our gas customers a more environmentally friendly energy supply in future as we align our sales portfolio towards green gases.

The last step to reaching climate neutrality

We already set ourselves the target in 2020 of becoming climate neutral with respect to Scope 1 and 2 emissions by 2035. We will offset any non-reducible, residual greenhouse gas emissions^② by supporting recognized climate change mitigation projects that are carried out according to the highest standards. Our subsidiaries Energiedienst and Netze BW have already been climate neutral since 2020 and 2021, respectively.



Sustainable financing

The use of **sustainable financing instruments** underpins our corporate strategy and makes a contribution to achieving national and international sustainability targets, above all the Paris climate targets and the UN Sustainable Development Goals (SDGs)^② (p. 81 f.[↗]). Since 2018, we have successfully issued several **green bonds**^② on the capital market with a total volume of €3.5 billion. In accordance with our Green Financing Framework, the proceeds from our green bonds are exclusively used in the areas of renewable energies (offshore wind, onshore wind and photovoltaics) and clean transport (charging infrastructure for electromobility). In the 2022 financial year, the EnBW Green Financing Framework was expanded to include the new project category “electricity grids.” As a result, the funds from one of the green bonds were used for the expansion and refinancing of the electricity distribution grids in Baden-Württemberg for the first time in 2022.

Further information on our **sustainable financial instruments** can be found on our website.

[Online ↗](#)

Information on how the funds from the green bonds are used can be found in the **Green Bond Impact Report** on our website.

[Online ↗](#)

We provide detailed information on the allocation of the funds every year in our **Green Bond Impact Report**, which is published at the same time as the Integrated Annual Report. The green bonds thus support our investment in sustainability and in turn the key non-financial performance indicators in the environment dimension. The financing conditions for the **sustainability-linked syndicated credit line**^② are linked to selected non-financial key performance indicators. The proceeds from the **green promissory note of our subsidiary VNG** can only be used for environmentally sustainable projects: The focus in the medium to long term will be green gases, primarily biogas and sustainably produced hydrogen.

Goals and performance management system

Performance management system






The management of the company comprises financial, strategic and non-financial goals and, as well as the finance and strategy goal dimensions, includes the dimensions customers and society, environment and employees. The centerpiece of this **integrated corporate management** is the performance management system (PMS). The most important financial and non-financial Group goals have been broken down into target agreements insofar as they are considered a sensible performance indicator for the respective area. The value drivers for the most important operating performance indicators that contribute to the achievement of targets for the key performance indicators (finance, strategy and environment goal dimensions) are reported in the quarterly performance reviews conducted at a Board of Management level. In terms of external communication, the PMS feeds into the **integrated reporting** of the financial and non-financial performance of the company based on the “International Reporting Framework.” This Integrated Annual Report 2022 incorporates the financial and non-financial aspects of our business activities. The key performance indicators enable us to measure the degree to which goals are achieved and to manage our company.

TOP

Definition of the key performance indicators

We monitor the implementation of our strategy by means of a holistic goal and performance management system. This system strengthens integrated thinking in our company. At the same time, it underpins our comprehensive and transparent focus on performance and stakeholders. Our goal system comprises the five dimensions of finance, strategy, customers and society, environment and employees. A number of specific targets have been defined in each goal dimension and their achievement is continuously measured using key performance indicators. Linked with this goal system and the centerpiece of our corporate management is the performance management system (PMS). Quantitative target values are currently set for the key performance indicators for the 2025 strategy horizon. The key performance indicators for the 2022 financial year were unchanged in comparison with the previous year with one exception: The ROCE² was replaced by value spread² as planned.

TOP Financial and non-financial key performance indicators and targets

Goal dimension	Goal	Key performance indicator	2022	Target for 2025
 Finance	Securing profitability	Adjusted EBITDA in € billion	3.3	3.2
	Managing the financial profile	Debt repayment potential in %	23.4	≥ 12 ¹
	Increasing Group value	Value spread in %	1.1	0.5 – 1.5
The EnBW Group, p. 76 ff. [↗] Forecast, p. 128 f. [↗] Report on opportunities and risks, p. 132 ff. [↗] Multi-year overview, p. 304 [↗]				
 Strategy²	Share of result accounted for by "Smart Infrastructure for Customers"	Share of overall adjusted EBITDA in € billion / in %	0.5/15.5	0.6/20.0
	Share of result accounted for by "System Critical Infrastructure"	Share of overall adjusted EBITDA in € billion / in %	1.0/31.8	1.3/40.0
	Share of result accounted for by "Sustainable Generation Infrastructure"	Share of overall adjusted EBITDA in € billion / in %	1.9/58.9	1.3/40.0
The EnBW Group, p. 76 [↗] Forecast, p. 128 [↗] Report on opportunities and risks, p. 132 ff. [↗] Multi-year overview, p. 304 [↗]				
 Customers and society	Reputation	Reputation Index	58	58 – 62
	Customer proximity	EnBW/Yello Customer Satisfaction Index	139/166	125 – 136/148 – 159
	Supply reliability	SAIDI Electricity in min./year	16.6	< 20
The EnBW Group, p. 91 ff. [↗] Forecast, p. 129 [↗] Report on opportunities and risks, p. 137 [↗] Multi-year overview, p. 305 [↗]				
 Environment	Expand renewable energies (RE)	Installed output of RE in GW and the share of the generation capacity accounted for by RE in %	5.4/41.7	6.5 – 7.5 / > 50
	Climate protection	CO ₂ intensity in g/kWh ³	491	-15% – 30% ⁴ (reference year 2018)
The EnBW Group, p. 97 ff. [↗] Forecast, p. 130 [↗] Report on opportunities and risks, p. 137 f. [↗] Multi-year overview, p. 305 [↗]				
 Employees	Employee engagement	People Engagement Index (PEI) ⁵	81	77 – 83 ⁶
	Occupational safety	LTIF for companies controlled by the Group ^{7, 8}	2.6	2.1
		LTIF overall ⁷	4.1	3.5
The EnBW Group, p. 104 ff. [↗] Forecast, p. 131 f. [↗] Report on opportunities and risks, p. 138 [↗] Multi-year overview, p. 306 [↗]				

- 1 To achieve the unchanged goal of maintaining solid investment-grade ratings, EnBW regularly checks the target value for the debt repayment potential for managing its financial profile.
- 2 The sum of the three segments does not correspond to the adjusted EBITDA for the EnBW Group. €-205.3 million (+9.6%) is attributable to Other/Consolidation in the 2022 financial year (p. 76 f.[↗]).
- 3 The calculation for this performance indicator does not include nuclear generation and the share of positive redispatch that cannot be controlled by EnBW. If the share of positive redispatch that cannot be controlled by EnBW is taken into account, CO₂ intensity would be 508 g/kWh for the reporting year (previous year: 492 g/kWh). The CO₂ intensity including nuclear generation for the reporting year was 401 g/kWh (previous year: 386 g/kWh).
- 4 The reference year is 2018 because the 2020 reporting year cannot be considered representative for the coming years (due to, among other things, market effects and the coronavirus pandemic).
- 5 Variations in the group of consolidated companies (all companies with more than 100 employees are generally considered [except ITOs]). Companies that were fully consolidated for the first time in the fourth quarter of 2022 were not included in the employee surveys for the PEI.
- 6 Due to the extraordinary effects relating to the coronavirus pandemic in the year this key performance indicator was introduced, we may need to adjust this target value during the strategy period.
- 7 Variations in the group of consolidated companies (all companies with more than 100 employees, excluding external agency workers and contractors, are considered).
- 8 Companies that were fully consolidated for the first time during the 2022 financial year were not included in the calculations for the LTIF performance indicators. Excluding companies in the area of waste management.

The **financial key performance indicators** within the PMS are the adjusted EBITDA, the shares of the adjusted EBITDA accounted for by the segments, the debt repayment potential and value spread:

- The **adjusted EBITDA** ⁹ is the earnings before the investment and financial results, income taxes and amortization and adjusted for non-operating effects. Adjusted EBITDA is a key performance indicator for the finance goal dimension, while the key performance indicators for the strategy goal dimension, which describe the **shares of adjusted EBITDA accounted for by the segments** [p. 76 f. ⁷ and 128 ⁷] are derived from it.
- The key performance indicator **debt repayment potential** ⁹ describes the retained cash flow ⁹ in relation to net debt ⁹. The debt repayment potential measures the ability of EnBW to repay its debts from its current earnings potential. This performance indicator should enable us to achieve a controlled growth in earnings within the scope of our financial targets, while maintaining a solid investment-grade rating ⁹ at the same time. To manage our financial profile, we regularly check whether the debt repayment potential complies with the latest requirements of the rating agencies [p. 87 ⁷ and 129 ⁷].
- The **value spread** ⁹ measures the surplus return over the minimum return on capital employed before taxes in a reporting period. It is calculated by deducting the minimum return on capital employed before tax, defined by the weighted average cost of capital (WACC) ⁹, from the return on capital employed before taxes that was actually achieved. Value spread replaced ROCE (return on capital employed) ⁹ in 2022. It is a more meaningful indicator and is independent of external market influences, making it easier to manage and also improves the comparability of the data [p. 88 f. ⁷ and 129 f. ⁷].

In addition to the financial key performance indicators, the PMS also includes **non-financial key performance indicators**:



The **customers and society goal dimension** comprises the Reputation Index, the Customer Satisfaction Index and the SAIDI (System Average Interruption Duration Index) Electricity:

- In order to calculate the **Reputation Index**, a total of around 5,000 people – from the stakeholder groups relevant for the EnBW brand of customers, the wider public, industrial companies, opinion leaders and investors – are asked about their impressions of the EnBW brand by an external market research institute. Results are collected for each stakeholder group about the distinctiveness of the brand and their assessment of the competence of and emotional attitude towards the EnBW brand. These are merged together to form a Reputation Index. The individual reputation indices for each stakeholder group are weighted equally to form a consolidated and reported Reputation Index [p. 91 ⁷ and 129 ⁷].
- The key performance indicator **Customer Satisfaction Index** assesses the average satisfaction of private end customers for electricity over the year, which is directly linked to customer loyalty. The information is compiled using customer surveys about the two brands EnBW and Yello conducted by an external service provider. The Customer Satisfaction Index allows us to draw conclusions about how well we are meeting the needs and wishes of the surveyed customers [p. 92 ⁷ and 130 ⁷].
- **SAIDI Electricity** serves as the key performance indicator of supply reliability. It specifies the average length of supply interruption in the electricity distribution grid experienced annually by each connected customer. SAIDI Electricity includes all unscheduled interruptions to supply that last more than three minutes for the end consumer. The definition and calculation of this performance indicator is based on the guidelines issued by the Network Technology/Network Operation Forum (FNN) of the VDE (German Association for Electrical, Electronic & Information Technologies) [p. 96 ⁷ and 130 ⁷]. The reliability of the supply in the grid areas operated by our grid subsidiaries builds on our comprehensive investment in grids and facilities as well as our system expertise.



The key performance indicators in the **environment goal dimension** are the installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE and CO₂ intensity:

- **The installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE** are measures of the expansion of renewable energies and refer to the installed output of the power plants and not to their weather-dependent contribution to electricity generation [p. 97 ⁷ and 130 ⁷].

- The emissions of CO₂ from own generation of electricity for the Group, as well as the volume of electricity generated by the Group without the contribution made by the nuclear power plants, form the basis for the calculation of the key performance indicator **CO₂ intensity**. This performance indicator is calculated as the ratio between the emissions and the generated volume of electricity and thus specifically describes the amount of CO₂ released per kilowatt hour. By discounting the electricity generated by nuclear power plants, the performance indicator will not be influenced by the phasing out of nuclear energy (p. 98⁷ and 131⁷).



The People Engagement Index (PEI) and LTIF (Lost Time Injury Frequency) are utilized as performance indicators in the **employees goal dimension**:

- The **PEI** expresses how engaged employees are in their work at EnBW. It is compiled at all companies with more than 100 employees (except for the Independent Transmission Operators [ITOs] ⁹) as part of an employee survey carried out by an external, independent service provider. It is determined based on the first question of the standardized list of questions “How happy are you working for the EnBW Group / a company in the Group?” It is a question that uses a rating scale from 1 (I do not agree at all) to 5 (I agree completely). The value determined is then converted to a scale of 0 to 100 (p. 104f.⁷ and 131⁷).
- **LTIF** is calculated on the basis of LTI (Lost Time Injuries), which denotes the number of accidents during working hours which have occurred exclusively because of a work assignment from the company and result in at least one day of absence. LTIF indicates how many LTI occurred per one million working hours performed. The calculation of the LTIF overall includes all companies with more than 100 employees. For the calculation of the LTIF for companies controlled by the Group, those companies engaged in the area of waste management are excluded because the number of accidents deviates significantly from that in the core business in the energy industry. Moreover, companies that were fully consolidated in the EnBW Group for the first time in the reporting year will not be included in the LTIF for companies controlled by the Group for a transitional period of three years if the LTIF calculated for the respective company deviates significantly from the LTIF for companies controlled by the Group. This transitional period will make it possible to take measures to improve the area of occupational safety. External agency workers and contractors are not taken into account in either performance indicator (p. 108⁷ and 131⁷).

Interdependencies

In order to give a comprehensive portrayal of the company, we are convinced that it is not only necessary to present economic, ecological and social aspects, but also to illustrate and provide an analysis of interdependencies between them. To further encourage the idea of a holistic corporate management approach within EnBW, we promote integrated thinking within all important company processes. In doing so, we anchor not only financial but also non-financial aspects into decision-making processes.

Since the 2021 financial year, we have illustrated the progress we have made in anchoring integrated thinking in our company using the **investment approval process** as an example, and have thus also been able to highlight the increasingly important role played by non-financial aspects.

In the 2020 financial year, we were already evaluating our planned investments in the areas of generation, grids and sales using sustainability criteria as part of a comprehensive pilot project. The basis for this was the revision of our investment guidelines. Alongside economic and strategic factors, this type of sustainability evaluation became a fixed component of the approval process followed by the EnBW investment committee and the EnBW Board of Management in the 2021 financial year, providing information relevant to the decision-making process.

The investment approval process is managed by the Board of Management. Individual projects are discussed and recommendations drawn up by the investment committee (InC). Alongside the Chief Financial Officer, the members of the InC include representatives from all remits of the EnBW Board of Management and various specialist departments, including the sustainability department. The InC develops recommendations that are presented to the entire Board of Management together with the project documentation submitted by the specialist departments.

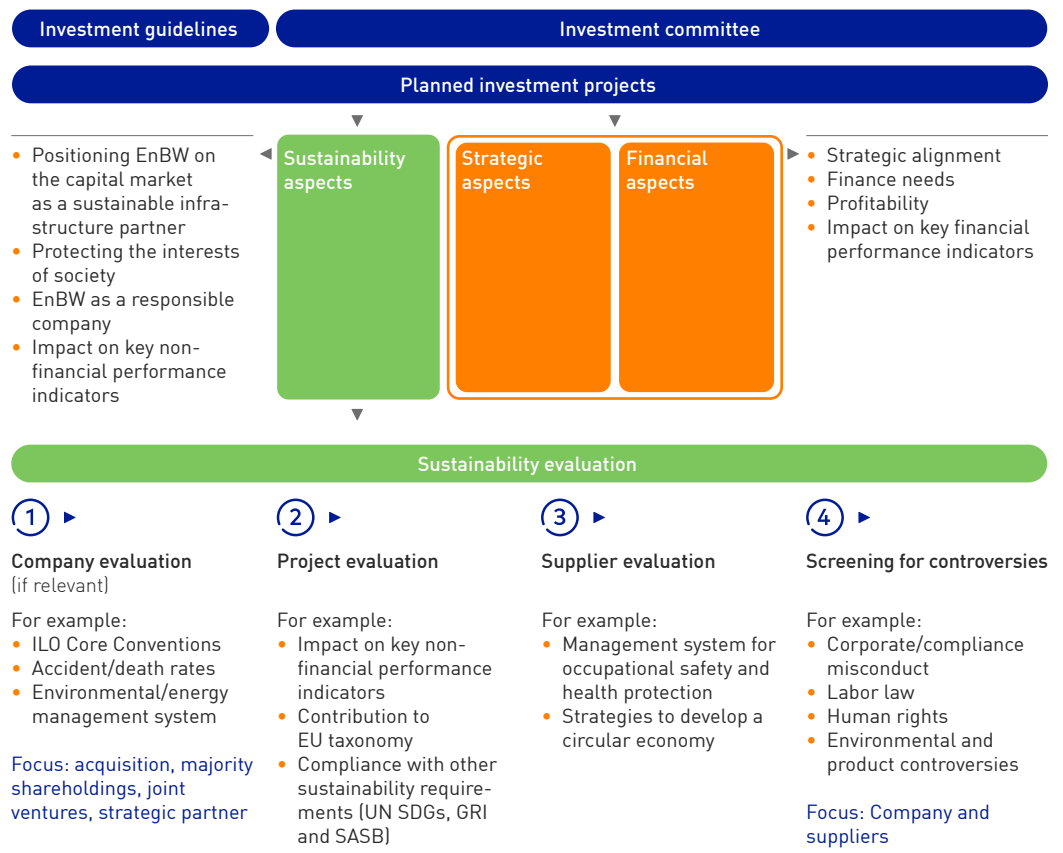
In the past, the main focus when evaluating individual investment projects was placed on the strategic alignment, funding requirements, profitability and impact of the project on the key financial performance indicators.



An investment project now undergoes additional steps to also evaluate its sustainability:

- **Company evaluation** (as part of an acquisition) with respect to its management of social and environmental sustainability: We check, for example, whether the company has guidelines for compliance with the core labor standards from the ILO (International Labour Organization), has an environmental/energy management system and publishes figures on accident and death rates.
- **Project evaluation:** Examining the planned project and/or project category with respect to sustainability. On the one hand, we evaluate the impact of the project category (e.g., wind power, solar, fuel switch, fiber-optic) on our relevant key performance indicators, and on the other hand, we check whether the project fulfills the EU taxonomy requirements and makes a contribution to selected themes from other sustainability standards and initiatives (e.g., UN Sustainable Development Goals [UN SDGs], GRI and SASB).
- **Supplier evaluation:** Examining the suppliers involved in the project to assess their management of sustainability. For this purpose, we check whether the supplier has a management system for occupational safety and health protection and implements strategies or measures to develop a circular economy for the product or product components (e.g., wind power plants, solar modules).
- **Screening for controversies:** The company (from the company evaluation) and the main suppliers (from the supplier evaluation) are screened and evaluated to identify any controversies related to sustainability in the last five years with respect to corporate/compliance misconduct, labor law, human rights, environmental and product responsibility.

Investment approval process



Corporate governance

Corporate management

Good corporate governance is an essential part of the corporate culture at EnBW. We are convinced that responsible and transparent corporate governance strengthens the trust and confidence that customers, capital providers, employees and the general public place in the company, thereby contributing to its long-term success. The Board of Management and Supervisory Board have the responsibility of managing and supervising the company above and beyond merely fulfilling statutory requirements, but to do so in accordance with recognized benchmarks for good corporate governance and in harmony with the principles of a social market economy, guaranteeing the continued existence of the company and ensuring a sustainable increase in its added value. Therefore, we also predominantly meet the recommendations of the German Corporate Governance Code (DCGK) in the version from 28 April 2022.

As the member of the Board of Management responsible for corporate governance, Colette Rückert-Hennen monitored conformity with the German Corporate Governance Code at EnBW and reported extensively to the Board of Management and Supervisory Board on all current themes pertaining to corporate governance. Both boards acknowledged her report and addressed the recommendations and suggestions in the Code. They subsequently approved the company's annual declaration of compliance pursuant to section 161 German Stock Corporation Act (AktG) on 8 December 2022. The current declaration of compliance is part of the Integrated Annual Report (p. 164 ff.¹) and is also published at www.enbw.com/declaration-of-compliance. The remuneration report can be found in a separate report at www.enbw.com/corporate-governance.

The **declarations of compliance** from previous years are published here.

[Online ↗](#)

Management and supervision

Board of Management

Allocation of responsibilities at Board of Management level (as of 15/02/2023)

Andreas Schell
Chairman

- Corporate development
- Sustainability
- Strategy and energy economy
- Communications/policy
- IT and Digital Office
- Corporate security

Thomas Kusterer
Finance

- Accounting and tax
- Controlling
- Finance
- Digital finance and transformation
- Investor Relations
- M&A
- Risk management/ICS
- Equity investment management
- Performance in growth
- Purchasing
- Risk management for trading
- Venture Capital

Colette Rückert-Hennen
Sales and Human Resources

- Personnel
- HR strategy
- Sales, marketing and operations
- Transformation (Next Level EnBW)
- Law
- Auditing
- Regulatory management and data protection
- Boards and shareholder relationships
- Occupational medicine and health management
- Real estate management

Dr. Georg Stamatelopoulos
Sustainable Generation
Infrastructure

- Conventional generation/nuclear
- Renewable generation
- Coordination technology
- Waste management/environmental services
- Decentralized energy services
- Occupational safety, environmental protection and crisis management
- Research and development
- Trading

Dirk Güsewell
System Critical
Infrastructure

- DSO¹ electricity/gas
- TSO² electricity/gas
- Grid technology
- Telecommunications
- Gas value chain
- Innovation management

¹ Distribution system operator.

² Transmission system operator.

Further information on the **Board of Management** of EnBW AG can be found on our website.

[Online ↗](#)

As of 31 December 2022, the Board of Management of EnBW AG consisted of five members. The Board of Management is jointly responsible for managing Group business. In addition to the role of CEO, the tasks performed by the Board of Management are split into the remits of "Finance," "Sales, Legal, Human Resources," "Corporate Real Estate Management," "Sustainable Generation Infrastructure" and "System Critical Infrastructure." There was a reallocation of responsibilities at Board of Management level as of 1 May 2022. In addition to her previous remits, Colette Rückert-Hennen

has also taken over responsibility for Sales, Marketing and Operations. Andreas Schell became Chairman of the Board of Management as the successor to Dr. Frank Mastiaux on 15 November 2022 and took over the duties of CEO. These duties were handled by the Board of Management in its entirety in the transitional phase between the end of the term of office of Dr. Frank Mastiaux on 30 September 2022 and Andreas Schell taking up the position on 15 November 2022.

Supervisory Board

The Supervisory Board of EnBW AG consists of 20 members in accordance with article 8 (1) of the Articles of Association. In accordance with the German Co-determination Act (MitbestG), an equal number of members represent shareholders and employees. Three employee representatives are nominated by the ver.di trade union. The Supervisory Board appoints the members of the Board of Management and advises them on their management of the company. It discusses the business performance, planning and strategy of the company together with the Board of Management at regular intervals and ratifies the annual financial statements. The Supervisory Board is always involved in decisions of fundamental importance to the company. Legal transactions and measures subject to the approval of the Supervisory Board are defined in its rules of procedure. In order for the Supervisory Board to optimally perform its functions, it has formed the following standing committees: a personnel committee, a finance and investment committee, an audit committee, a nomination committee, a mediation committee in accordance with section 27 (3) MitbestG, a digitalization committee, an ad hoc committee and a special committee.

Further information on the Board of Management and Supervisory Board can be found in the Integrated Annual Report under the section on "Corporate bodies" (p. 296 ff.¹) and the declaration of corporate management (p. 164 ff.¹), which is also published separately at www.enbw.com/corporate-governance, as well as on our website in the Report of the Supervisory Board.

The full version of the **Report of the Supervisory Board** is published here.

[Online ↗](#)

You will find all of the information about our **Annual General Meeting** here.

[Online ↗](#)

Annual General Meeting

The Annual General Meeting offers a platform for dialog with stakeholders and it is where shareholders exercise their rights with regard to company matters. The Annual General Meeting passes resolutions on the discharge of Board of Management and Supervisory Board members, the appropriation of earnings and the selection of the auditor. Resolutions of the Annual General Meeting only require a simple majority of votes in most cases. Each bearer share is equivalent to one vote.

Shares of EnBW AG are listed on the General Standard segment of the Frankfurt Stock Exchange. A stake of 46.75% of the share capital in EnBW AG is owned by each of both the Federal State of Baden-Württemberg – via its wholly owned subsidiary NECKARPRI GmbH and, in turn, via its wholly owned subsidiary NECKARPRI-Beteiligungsgesellschaft mbH – and by Zweckverband Oberschwäbische Elektrizitätswerke (Zweckverband OEW) via its wholly owned subsidiary OEW Energie-Beteiligungs GmbH.

Overall, the shareholder structure is unchanged as of 31 December 2022 when compared to the previous year.

Shareholders of EnBW

Shares in %¹

OEW Energie-Beteiligungs GmbH	46.75
NECKARPRI-Beteiligungsgesellschaft mbH	46.75
Badische Energieaktionärs-Vereinigung	2.45
Gemeindeelektrizitätsverband Schwarzwald-Donau	0.97
Neckar-Elektrizitätsverband	0.63
EnBW Energie Baden-Württemberg AG	2.08
Other shareholders	0.39

¹ The figures do not add up to 100% due to rounding differences.

The ordinary Annual General Meeting was once again held as a virtual event on 5 May 2022. At the meeting, the shareholders of EnBW AG resolved to distribute a dividend of €1.10 per entitled share. Based on the shares entitled to dividends, this corresponds to a dividend payout of €297.9 million. The dividend was paid on 10 May 2022.


The next ordinary Annual General Meeting will be held on 3 May 2023 in virtual form in accordance with the new “Act on the introduction of virtual general meetings of stock corporations and amending other provisions.”

Compliance and data protection

Compliance management systems

Compliance with the relevant legal regulations and internal company rules forms the basis for our business activities, is part of our corporate culture and is laid out in the code of conduct. Our compliance management systems (CMS) and functions are individually designed: They are based on company and sector-specific priorities and risks, the size of the company and other factors. They are designed to support each company – and thus the whole Group – in avoiding risks, liability claims and damage to reputation.

Depending on the type of corporate control over a company, the compliance-relevant companies with employees are either directly or indirectly integrated into the compliance management system of EnBW. The CMS and thus the compliance department focus on the prevention, detection and sanctioning of corruption, the prevention of violations against competition and antitrust laws, and the prevention of money laundering in those companies directly integrated into the CMS. A total of 23 companies were directly integrated into the CMS of EnBW in the reporting year (previous year: 23). The CMS is regularly examined and updated both internally and externally.

The companies that are indirectly integrated into the CMS – Energiedienst (ED), Pražská energetika (PRE), Stadtwerke Düsseldorf (SWD), VNG and ZEAG as well as the ITOs (Independent Transmission Operators)  terranets bw and TransnetBW – operate their own independent compliance systems. The preventative measures that these companies implement apply to all participating interests that are integrated into the respective compliance management system.

We aim to safeguard our commercial success by combating compliance risks – especially corruption and bribery. Preventative risk assessment methods, advisory services and training concepts have been implemented at EnBW, the compliance-relevant companies and the ITOs.

Compliance activities in the reporting year

The reporting year was once again affected by the coronavirus pandemic and the impact of the war between Russia and Ukraine. As most employees were still working from home, the compliance prevention activities were predominantly held online – such as the Compliance & Privacy Day on the theme of “Compliance and Privacy under Stress Test.” In 2022, we held training courses for employees in sensitive areas and in other target groups in accordance with our plans for the year. In addition, we placed greater focus on the provision of specific training content for employees with certain duties, such as those involved in business partner auditing. All employees and managers are obligated to complete an e-learning course on corruption prevention every two years, while new employees must complete it during their first year of employment. All of the indirectly integrated companies held training courses to increase awareness among employees. The companies used either the available **in-person or online training courses**.

Number of participants in compliance training events¹

	2022 ²	2021 ²	2020 ²	2019	2018
Sensitive areas	1,275	716	839	904	746
New management personnel / employees	484	355	369	229	182
Management personnel	188	34	75	52	13
Total	1,947	1,105	1,283	1,185	941

¹ At EnBW AG and directly integrated companies.

² Live online training courses and hybrid training courses due to the coronavirus.

The **code of conduct** and other information on the theme of **compliance** are published here.

[Online ↗](#)

+76.2%

more participants took part in **compliance training events** in 2022 in comparison to the previous year.

The annual **compliance risk assessments** at EnBW investigate the corruption, antitrust, fraud and data protection risks and form the basis for all work relating to compliance. In 2022, they were carried out using a risk-based selection process at those companies directly integrated into the CMS.

The EnBW compliance department is available to provide advice on all compliance issues and can be reached via a compliance hotline, e-mail or in person. This service is also available to all subsidiaries. In 2022, the hotline received around 1,060 inquiries. Key issues included sponsoring, donations, gifts and – in contrast to previous years – an increase in inquiries relating to the auditing of business partners including sanctions. Advice was also provided on conflicts of interest and other compliance issues. Advisory services dealing with compliance themes at the indirectly integrated companies were also used to good effect. Against the background of the economic challenges resulting from the war between Russia and Ukraine, existing and newly developed measures for compliance with sanctions proved to be effective. Among other things, regular and recurring business partner audits including the screening of sanction lists were carried out.

In order to improve our compliance work, an external consultant was commissioned to evaluate different areas of corporate compliance and help push forward **digitalization initiatives**. A documentation tool was developed as a result for optimizing the processes relating to the documentation of business partner audits.

Compliance breaches

EnBW AG and the directly integrated companies have established reporting channels via which internal, and also external, whistleblowers can report suspected cases while remaining anonymous. Alongside EnBW AG, the companies ED, PRE, SWD, VNG, ZEAG, terranets bw and TransnetBW have also established a whistleblower system.

In the reporting year, there were seven breaches at directly integrated companies. There were no compliance breaches at indirectly integrated companies in the reporting year. No cases of corruption were reported.

We faced neither antitrust law penalty procedures nor third-party antitrust lawsuits in the 2022 financial year. Law enforcement agency investigations of individual employees and former members of corporate bodies relating to the so-called Russian business deals and the sales tax carousel in CO₂ allowance trading ⁹ also continued throughout 2022 without any discernible activity by the law enforcement agencies. It is not possible to say at the present time when these proceedings will end.

Data protection

In view of the increasing digitalization of our business activities, data protection plays an important role. Our efforts to bring more and more digitalization to the Group in order to both simplify internal processes and develop new business models are closely accompanied by the data protection department in an advisory capacity at an early stage. We closely monitor European regulatory measures such as the “EU Data Act” or “EU Artificial Intelligence (AI) Act” so that the company can take prompt and appropriate action in response to new laws. The data protection department works to guarantee that the rights of the data subject are respected through regular training to raise awareness, continuous improvement measures and audits. Data protection compliance risks are also specifically examined every year and regular reports are submitted to the Board of Management and supervisory bodies to ensure transparency and control. We meet the standards we have set for the processing of personal data by using internal data protection guidelines within the Group that define objectives, the principles for the processing of the data and the procedures themselves. We also have an established reporting system for reporting any data protection breaches. A network of decentralized data protection managers has been formed to support compliance with legal and internal Group regulations. This network regularly receives information, advice and training from the central data protection department. To ensure that data flows within the Group remain transparent, an interdisciplinary body meets three times a year to discuss the framework conditions relating to data protection law, information security issues and any activities dealing with data and digitalization. In sensitive areas of the company, digital learning activities and online/in-person training courses are used to raise employee awareness for this theme. We also offer special e-training courses and educational campaigns for areas of the company that work particularly closely with personal data.

In dialog with our stakeholders

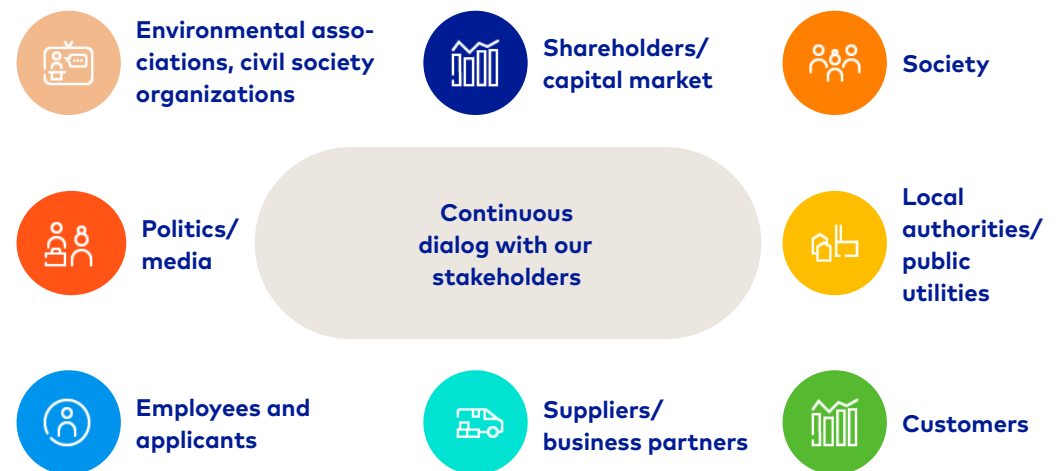
Our stakeholders

The **Energy & Climate Protection Foundation** provides the ideal platform for dialog on the future of energy.

[Online ↗](#)

Continuous dialog with our internal and external stakeholders is an important element in the design and orientation of our business activities. The expectations of our stakeholders are taken into account in the strategic positioning of the company and when making business decisions. At the same time, we critically and constructively discuss the necessary conditions for the development of efficient, reliable and sustainable infrastructure with relevant stakeholders on the basis of transparent information. As part of this dialog, it is also important for us to listen to critical opinions such as those expressed at events held by our Energy & Climate Protection Foundation. It is our belief that mutual understanding, social acceptance and trust are increased further through this **open and respectful exchange** of insights and perspectives. In addition, it can also help us to identify central developments and key topics at an early stage. The dialog with stakeholders thus contributes to the economic success of the company. Therefore, we will continue to intensify this dialog – with a special focus on the themes of the energy transition, mobility transition, climate protection and sustainability.

Our stakeholder groups and selected opportunities for dialog



- Telephone conferences with investors and analysts, Annual General Meeting, Group Bankers' Day, investor update and road show
- Dialogue on handling coal and gas procurement responsibly, discussions and cooperation with suppliers
- Donation campaigns and relief efforts, participation and dialog with citizens, supporting entrepreneurs and young start-ups, engagement in art and culture, tours, information events, Open Door Days, activities with Junge Stiftung
- Employee communication and services, diversity campaigns, social engagement of employees, opportunity for dialog with potential employees
- Local authority events, Energy Team Baden-Württemberg, regional council meetings
- Discussion events held by the Energy & Climate Protection Foundation, events held by the EnBW Energy and Business Club (EWC), discussion format and exchange of ideas with politicians, active communication via the media
- Dialog and discussion with customers, networking events, participation in trade fairs and congresses
- Biodiversity: funding program "Stimuli for Diversity," dialog on the climate and sustainability, campaigns for the environment and climate protection

Materiality analysis

We have continuously expanded our processes over the last few years for identifying material themes and linking them with the development of the company's strategy. Material aspects are determined based on our non-financial declaration and on the International Reporting Framework, as well as in accordance with standards for sustainability reporting issued by the Global Reporting Initiative (GRI). In addition, current developments flow into the determination of future key themes, such as the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) ² on climate-related risk reporting.

We consider themes to be material if they have a significant influence on long-term value added and thus the performance and future viability of our company. Contributions to the strategic orientation of the company as a sustainable and innovative infrastructure partner are of particular importance in this context. Furthermore, aspects reflecting any important economic, ecological and social impacts our company may have and that significantly influence the perception of stakeholders are also taken into account. Material themes are continuously implemented in the functional and business units, as well as in the individual companies of EnBW.





The **materiality analysis process** comprises three steps: the creation of an overview of the themes relevant to strategy and communication, the development of a list of themes relevant from the perspective of sustainability and the derivation of material themes from the reputation analysis. During each step of the process, the themes identified are regularly compared to the key themes that were dealt with by the Supervisory Board in the reporting year. Every step leads to a prioritization of the themes and ultimately to a final list of the top themes. The **material themes** and events at EnBW in the 2022 financial year are allocated to the three segments in the overview of the segments (p. 29⁷). By focusing on our material themes, we aim to make a significant contribution to the Sustainable Development Goals (SDGs)⁸ and generate added value for our stakeholders.

Sustainable Development Goals



Contribution made by EnBW to the Sustainable Development Goals (SDGs)

Four key SDGs at EnBW – activities and performance indicators (examples)

			
<p>SDG 7: Affordable and clean energy</p> <ul style="list-style-type: none"> Expansion of renewable energies (RE) Climate-friendly products (e.g., green electricity) 	<p>SDG 9: Industry, innovation and infrastructure</p> <ul style="list-style-type: none"> Expansion and operation of electricity and gas grids Research, development and innovation management 	<p>SDG 11: Sustainable cities and communities</p> <ul style="list-style-type: none"> Expansion of quick-charging infrastructure for electromobility Expansion of broadband infrastructure 	<p>SDG 13: Climate action</p> <ul style="list-style-type: none"> Climate neutrality by 2035 Biodiversity at EnBW sites
<ul style="list-style-type: none"> Key performance indicators: Installed output of RE, Customer Satisfaction Index 	<ul style="list-style-type: none"> (Key) performance indicators: SAIDI Electricity, SAIDI Gas 	<ul style="list-style-type: none"> Performance indicator: Number of EnBW quick-charging stations in Germany 	<ul style="list-style-type: none"> (Key) performance indicators: CO₂ intensity (generation), CO₂ emissions

Other important SDGs at EnBW

				
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The Sustainable Development Goals (SDGs) define the global framework for building a sustainable future. These goals were published by the United Nations in 2015 as part of the Agenda 2030. The 17 overarching goals and 169 targets focus on global challenges in an economic, ecological and social context. All sectors of society – including companies – have been called on to make their contribution to achieving the SDGs.

We have taken international standards and frameworks, such as the SDGs, into account in the development of our EnBW sustainability agenda (p. 34 ff.⁷). As a sustainable and innovative infrastructure partner, we want to contribute to the achievement of these goals through our activities while also creating value for our stakeholders. In particular, we make a contribution to **four key SDGs**. It is fundamentally important for us as a company to address the concerns and interests of society and we carry out various activities and campaigns to this end every year.

Corporate citizenship and social activities

We are committed to addressing the concerns and interests of society, with a focus on the target groups of end customers, business partners and local authorities. Support for overriding social issues is concentrated on the core areas of popular sport, education, social issues, the environment and art and culture. We also refer you to the details provided in the “Report on opportunities and risks” (p. 132⁷).

The Group guidelines on corporate sponsoring, memberships, donations and involvement with universities govern the goals, responsibilities, standards, principles and processes for EnBW AG and all of the domestic companies in which it holds a controlling interest. Companies based outside of Germany must comply with the EnBW guidelines for foreign companies. Donations are documented in a donation report that is presented annually to the Board of Management. In 2022, donations made by the EnBW Group came to €2.1 million, following €3.7 million in the previous year. Donations worth €720,000 (previous year: €950,000) were attributable to EnBW AG.

The EnBW Board of Management decided a number of years ago not to send Christmas gifts to business partners. Instead, we once again made donations to **social projects in Baden-Württemberg** in 2022 and supported eight charitable campaigns and campaigns initiated by readers of regional newspapers in Baden-Württemberg with total donations of €32,000. Following the outbreak of the war in Ukraine, the main focus of our social engagement was supporting **relief efforts** for the people in Ukraine and also for those refugees arriving in Germany. We made a financial donation of €100,000 in emergency aid to “Aktion Deutschland Hilft” (Germany’s Relief Coalition). The EnBW Food Truck provided food for refugees arriving in Berlin and numerous employees coordinated voluntary campaigns on the EnBW Intranet. Our own initiative called “EnBW helps” was a notable success and employees donated more than €120,000 in total for projects run by regional aid organizations. We also donated €30,000 to the campaign “Schenke Licht!” (Give us light!) organized by the association “Ukrainians in Karlsruhe.” The money was used to purchase generators, power banks and portable power stations and transport them to Ukraine to help alleviate the emergency situation caused by the destruction of the energy infrastructure. We are also housing three Ukrainian families in our holiday home on Lake Titisee and have offered the City of Stuttgart the use of five single room apartments. In addition, we donated food worth a total of €60,000 to the food banks in Baden-Württemberg. EnBW donated protective suits from its surplus stocks to the Zoological City Garden Karlsruhe, the Zoological Garden Halle and Rostock Zoo. The **EnBW “Making it happen” bus** was on tour again in 2022 and the team supported a total of five selected social projects, which were each also awarded up to €5,000 for any necessary materials. The “Let’s Volunteer” initiative continued in 2022: Each month two employees who volunteer in their local communities are given €1,000 to donate to a charitable association.

Since 2016, employees have regularly supported social and charitable projects with the **EnBW “Making it happen” bus**.

[Online ↗](#)

Against the background of the war between Russia and Ukraine, various subsidiaries in the EnBW Group also made donations in 2022 to charitable causes to help victims and refugees. For example, **Stadtwerke Düsseldorf (SWD)** donated €100,000 to the Action Alliance for Disaster Relief and thus doubled the amount collected by its own employees. **Pražská energetika (PRE)** provided financial aid to many families who had fled Ukraine to help with their food costs and to help integrate Ukrainian children into Czech schools. In addition, PRE continued to support the Charta 77 Foundation – Barriers Account, as well as other non-profit organizations focusing on charity, health, social and education activities, and environmental protection. Via its subsidiary ONTRAS Gastransport, **VNG** donated a total of around €30,000 in equal shares to the organizations “Emergency aid for children and families in Ukraine,” “SOS Kinderdörfer weltweit e.V.” (SOS Children’s Villages Around the World) and “Emergency Aid Ukraine – Your Donation Helps!” organized by Aktionsbündnis Deutschland Hilft e.V. **Netze BW** continued the “Mail instead of letter” campaign in 2022 in which the costs saved by electronically mailing requests to read the electricity meter were donated to numerous charitable organizations in the local communities. This campaign also saved printing costs, paper and CO₂ emissions.

Learn more about our engagement in **art and culture** here.

[Online ↗](#)

In the area of **art and culture**, we held the **“BioMedia. The Age of Media with Life-like Behavior” exhibition** in cooperation with the Center for Art and Media (ZKM) in Karlsruhe in 2022. The exhibition gave visitors the opportunity to learn about and discuss potential forms of coexistence between organic and artificial lifeforms. Four works were displayed at the EnBW site in Karlsruhe. We also sponsored the **“Crochet Coral Reef” exhibition** that highlights the fact that coral reefs are dying all

around the world. Over 4,000 people helped to produce the crocheted sculptures depicting the coral reefs featured in this participatory environmental project. The “Baden-Baden Satellite Reef” that was created as part of the campaign was exhibited at the EnBW sites in Stuttgart and Karlsruhe in 2022. We also provided a platform for the organization release Stuttgart e. V. via a series of exhibitions called “**release and art.**” Half of the proceeds raised by the artists was donated to this organization based in Stuttgart that provides advice and assistance to people with drug-related issues.

Corporate guidelines for party donations and lobbying

Ensuring transparency with respect to our lobbying activities forms part of our sustainability activities (p. 34ff. [↗](#)). The EnBW Code of Conduct has been valid since 2009 for EnBW AG and all companies in which it holds a controlling interest. Our lobbying activities are coordinated in our offices in Brussels, Berlin and Stuttgart. As well as maintaining direct contact with political decision makers or their employees and participating in relevant events, we also engage in political dialog by publishing position papers and contributing to consultation processes either directly or via associations. At the same time, we hold our own specialized political events and conferences at our sites. Furthermore, we work together with sector associations and initiatives, research institutes, foundations and think tanks [📍](#) at a local, regional and European level. The EnBW Code of Conduct stipulates that no donations may be made to political parties, organizations affiliated with them, civil servants, elected representatives or candidates for public office.

In dialog with citizens

Dialog with citizens is important to us as a sustainable infrastructure partner. A large number of virtual events, as well as some local in-person events, were held in 2022 to give out information and encourage the participation of citizens.

For example, the **GeoHardt geothermal project** established a dialog forum in 2022 with randomly selected citizens who were able to discuss the latest issues surrounding geothermal power and the advantages and disadvantages of the project for the region with experts and the project team. In addition, the project team continued to head the political panel of experts and advisory board that was founded in 2021 and organized a virtual information evening on the latest geological studies.

Citizens were already able to participate in the public consultation phase for the **fuel switch projects** [📍](#) back in 2021. As part of the approval process, an application for planning approval for the project in Stuttgart-Münster in accordance with the Federal Immission Control Act was officially made available to the public in summer 2022 and a public hearing is thus no longer necessary. The draft resolution on the development plans for the project in Heilbronn was made available to the public in November 2022 and we organized an accompanying digital information event.

In the area of **nuclear energy**, the political discussions on the possible continued operation of the nuclear power plants in Germany were the main focus of dialog. Alongside our active communication on this matter, we also answered numerous questions. After the amended German Atomic Power Act came into force in December 2022, we provided information at a digital press event on our procedures for the extended generation of electricity at our Neckarwestheim II power plant and the impact it will have on our plans to dismantle the power plant. Furthermore, we were invited to make contributions at two events as part of the virtual information forum “Nuclear safety and radiation protection” organized by the Ministry of the Environment Baden-Württemberg.

We plan, construct and operate wind farms and photovoltaic power plants in direct partnership with or through the participation of local authorities and citizens. Local citizens are able to use the **EnBW citizen participation platform** to participate financially in regional renewable energy projects. Two citizen participation models in Hüttersdorf and Silberberg were implemented in 2022.

You will find a selection of the associations of which EnBW and its Group companies are **members** here.

[Online ↗](#)

Further details on the information forum “**Nuclear safety and radiation protection**” can be found here.

[Online ↗](#)

Link to the **citizen participation platform**.

[Online ↗](#)

Research, development and innovation

Research and development

Goals

The goal of our research and development is to identify technological trends at an early stage, assess their economic potential and build up expertise in the business units. For this purpose, we carry out pilot and demonstration projects together with partners or customers directly at the site of their subsequent application. This ensures that successful research projects deliver innovations for our company.

Research, development and innovation also lead to inventions and patents in many cases. The portfolio of patents grew by 23 patents (previous year: +1) in 2022; the EnBW Group thus held 248 patents (previous year: 225) at the end of the year. The patents held by EnBW focus mainly on the areas of renewable generation, gas and electromobility.



Selected activities

Wind energy: Offshore wind power plants with fixed foundations are limited to shallow waters with water depths of up to around 50 m. Floating platforms could be used to install wind turbines in deeper waters. In cooperation with partners, we are investigating several different concepts for floating offshore wind farms that would be suitable for opening up new international offshore wind energy regions. In cooperation with the engineering company aerodyn from northern Germany, we have developed a new design for floating wind turbines called **Nezzy²**. After good results with a 1:10 scale model, a 1:1 scale model was constructed in 2022 and will enter into trial operation during 2023. In parallel, we have analyzed the feasibility and costs for European invitations to tender. Floating foundations are still an important element for the implementation of our offshore strategy and will remain the subject of further research activities in the future.

There are high logistical costs associated with the servicing and maintenance of offshore wind turbines. Since April 2022, we have been researching how **transport drones** can reduce the number of helicopter and ship deployments in conjunction with the German Aerospace Center (DLR). This three-year project is being funded by the Federal Ministry for Economic Affairs and Climate Action (BMWK). An initial concept for managing the interface between the transport container and the drone was developed in 2022 and was very well received at the WindEnergy trade fair in Hamburg. The first real test flight with DLR drones at an EnBW wind farm is planned for the middle of 2023.

Photovoltaics: We are supporting the initiative to rebuild the European PV industry using one of our own developments. Our subsidiary EnPV has industrialized a new **photovoltaic cell design** that promises a higher cell efficiency at the same production costs when compared to the mass market cells currently available. Novel laser processes enable us to employ a simple process to position all the contacts on the rear of the cell, which means it is possible to work with aluminum instead of the comparatively more expensive material silver. In September 2022, EnPV signed a letter of intent with a European solar engineering company to examine the possibility of jointly producing the cells in Europe.

Geothermal energy: In addition to the production of electricity, geothermal energy has the potential to reduce the use of fossil fuels in heating networks. We support our business partners, such as local authorities, in decarbonizing their **heating networks using geothermal energy**. We have held the geothermal license for the Mannheim-Heidelberg-Speyer region together with MVV since August 2020. This license grants us the right to examine how geothermal energy can be used to decarbonize the local district heating system within this region. The two companies founded the company **GeoHardt** for this purpose at the beginning of 2021. After the first geophysical and hydro-chemical studies in 2021 confirmed that the region was geologically suitable, these findings were supplemented by more in-depth studies (3D seismic studies) in winter 2022/2023 to identify the precise target area for the boreholes. GeoHardt remains in continuous dialog with the local authorities, associations and citizens about all stages of the work. A geothermal plant in Bruchsal that is operated jointly with the company Stadtwerke Bruchsal is already reliably supplying a nearby police station with

Further information on the **floating wind power plant Nezzy²** can be found on our website.

[Online ↗](#)

Further information on the **Hardt geothermal project** can be found here.

[Online ↗](#)

geothermal heat today. During the fourth heating season of the project, the heat supplied could be transferred from peak load to base load operation and increased by 20% to 2,400 MWh. At the same time, the technology used in the electricity generation plant was improved and has been operating reliably for many thousands of hours. We have carried out geological studies to investigate possibilities for expanding the power plant site in order to supply other customers with heat and electricity using geothermal power.

Find out more about the **hydrogen projects in Wyhlen** [here](#).

[Online ↗](#)

Hydrogen from renewable energies: We also want to provide our customers with carbon-neutral gaseous energy sources in the long term. We are investigating how to generate affordable green hydrogen with funding from the German government at the H₂-Wyhlen and H₂Mare field labs. In **Wyhlen**, our subsidiary Energiedienst (ED) is expanding an electrolysis plant that was constructed with funding from the State of Baden-Württemberg by 5 MW to 6 MW to make it the **largest power-to-gas plant in southern Germany**. It will supply a district as well as industrial and mobility customers with green hydrogen generated using green electricity. In the reporting year, the contract for the construction of the plant was awarded to a consortium headed by the company APEX. The work to expand the production capacities at the ED hydropower plant in Wyhlen is due to be completed in 2025. Together with a consortium of 35 industry and research partners, we are carrying out research in the **H₂Mare** project into the **production of green hydrogen directly in offshore wind power plants**. Our aim is to develop the skills we will need to construct and operate hydrogen plants at wind power plant sites in the future. As part of the project, an invitation to tender for the planning of a floating pilot plant for use in ports was issued in 2022. It should be placed into operation in 2024 as the first plant in Germany for the generation of hydrogen and derived products at sea. H₂Mare thus aims to lay the foundations for becoming a technological leader in this area in just four years.

The **“Energy Park Bad Lauchstädt”** demonstrates all stages of the value added chain for hydrogen.

[Online ↗](#)

Hydrogen in the gas grid: Natural gas grids can be decarbonized using zero-emission energy sources like hydrogen – just like the electricity grid. At the field laboratory **“Energy Park Bad Lauchstädt”** in central Germany, we are investigating the entire value added chain for green hydrogen on a large industrial scale, from its production and transport through to its storage and application, in a project led by VNG. Preparations for the storage of the hydrogen in an underground salt cavern are also underway. The project has been running since September 2021 and is being funded as a field lab by the Federal Ministry for Economic Affairs and Climate Action (BMWK). The regulatory framework for this business model was analyzed in 2022 and further progress was made with the approvals and building plans. The approval application for the planned 30 MW power-to-gas plant has now been submitted. Approval for feeding the hydrogen into a natural gas pipeline has already been granted. Our subsidiary Netze BW started a pilot project called the **“Hydrogen Island Öhringen”** in 2020 in the City of Öhringen in the Hohenlohe district that is unique across Germany. A section of the existing natural gas grid is being disconnected and will be supplied independently. The conversion work required for this project was successfully completed in 2022. A natural gas mix with a green hydrogen content of up to 30% will be used in the island grid. The hydrogen will be produced from 2023 onwards using renewable electricity with the aid of an electrolyzer on the premises of Netze BW. Supplied hydrogen had previously been mixed with the natural gas to successfully demonstrate the concept at the company’s own operating buildings. The mixed gas is used to supply heat to the company premises and 22 other buildings.

Further information on the **“Hydrogen Island Öhringen”** project can be found on our website.

[Online ↗](#)

Integration of e-mobility into the grid: Since 2018, our colleagues at Netze BW have been investigating the practicalities of integrating electromobility into the electricity grid in a total of four electromobility grid laboratories at eight sites in Baden-Württemberg. These **pilot projects on grid integration** were completed on schedule. The results on the mobility habits and charging behavior of customers, as well as on the relevance, potential and customer acceptance for load management systems to support the grid, were presented to the public in November 2022 at the digital event eNetz 2.0 in order to support the mobility transition in the sector. The findings and the solutions developed in the projects will now be transferred into regular operation within the defined key action points of Customer-Oriented Grid Connections, Transparency in the Distribution Grid, Smart Grid Optimization and Future-Proof Grid Development.

Further information on **integrating electromobility into the grid** can be found on our website.

[Online ↗](#)

Inductive charging: Our site at the Port of Karlsruhe has been connected to the public transport system with its own **electric bus** since 2021. The special feature of this electric bus is that the batteries are charged inductively during the journey and at the bus stops **by inductive coils beneath the road surface**. As soon as the vehicle drives over them, the receiver coils fitted on the underbody are activated. Electrical energy is transferred via a magnetic field to the coils and stored in the battery. We are investigating contactless charging not just because it saves space in the bus and it can travel longer distances without having to be taken out of service for charging. As a future option, it could also be used to refuel autonomous vehicles. The contactless charging technology originates from the Israeli company Electreon. We expanded our research into wireless charging in 2022 by developing **prototypes for wireless charging** in the car park at the EnBW head office in Stuttgart in cooperation with leading automotive companies and suppliers. By comparing the performance of the different prototypes, we will be able to further improve the charging results in the future. In addition, the preparation work for opening a longer charging route for buses using more advanced technology has been carried out in cooperation with a local authority in the Zollernalb district. It should be possible to place the route into operation in the middle of 2023.

Further information on the **extraction of lithium** at the Bruchsal geothermal plant can be found here.

[Online ↗](#)

Sustainable extraction of lithium: The lithium required for batteries in electric vehicles can also be sourced in Germany – it can be extracted from thermal water in Oberrheintal. In cooperation with the Karlsruhe Institute of Technology (KIT) and other scientific companies and institutes, we tested a process to extract lithium from thermal water sustainably. The process produced very good results in the laboratory. It was possible in 2022 to design and construct the plant technology for a real geothermal plant in Bruchsal. EnBW already began extracting lithium in small quantities at the plant in cooperation with a French partner in June. In 2023, we will be focusing on completing short and long-term extraction experiments and examining the environmental impact and economic potential of extracting lithium for electric car batteries here in Germany.

Expenditure and personnel

In the 2022 financial year, we spent €28.1 million (previous year: €38.6 million) on research and development. This decrease was due to the conclusion of a major development project and extraordinary events related to the coronavirus pandemic. We received government research grants of €4.8 million (previous year: €1.0 million). There were a total of 49 employees in areas dedicated to research and development at the Group (previous year: 66 employees). In addition, 282 employees (previous year: 253 employees) were involved in research and development projects as part of their operational work.

Expenditure on research and development

in € million	2022	2021
Grids	12.3	18.8
Generation from renewables	8.0	5.2
Smart energy world, storage and electromobility	3.9	7.1
Hydrogen	3.5	6.5
Customer-related research projects	0.1	0.7
Other	0.4	0.3
Total	28.1	38.6

Innovation

Goals

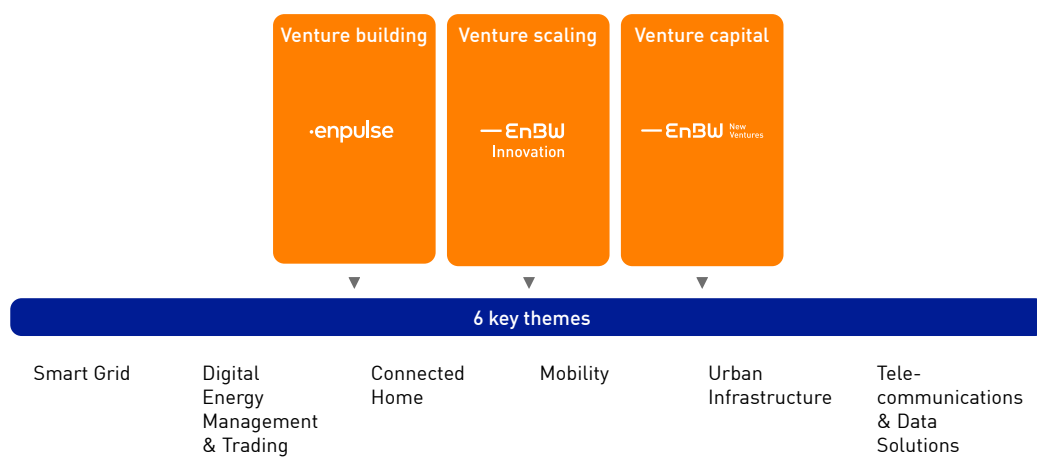
Sustainability is an integral component of our business activities and also defines a framework within which we develop innovative business models in the energy sector and beyond (p. 25 ff. and 34 ff. [↗](#)). We want to make a positive contribution to the climate and society. Therefore, we develop new business models on the basis of the Sustainable Development Goals (SDGs) [🌐](#). You can find out more about EnBW's key SDGs on p. 48 ff. [↗](#). Furthermore, all of the business models in our portfolio rely on a high degree of digitalization. We focus on the development of innovations that push forward the energy transition and make infrastructure smarter and more reliable. Against the background of the war between Russia and Ukraine, new solutions for the energy supply and mobility are becoming increasingly important.

We developed a fundamentally new innovation strategy in 2022 with the goal of promoting innovative ideas in a more targeted manner and in close cooperation with entrepreneurs, investors and employees, while at the same time, opening up new business fields for EnBW. On the one hand, we will focus on strengthening the entrepreneurial independence of the team and spinning off business models as start-ups as early as possible. New business models are now primarily developed outside of the Group and we founded EnPulse in 2022 for this purpose. On the other hand, we will also invest in start-ups outside of the EnBW Group in order to push forward existing innovations and establish a strong network of partners.

Innovation strategy

Overall, we are concentrating our activities on **six key themes**: Smart Grid [🌐](#), Digital Energy Management & Trading, Connected Home, Mobility, Urban Infrastructure and Telecommunications & Data Solutions.

Three pillars of the innovation strategy



The new **innovation strategy** is based on **three central pillars**:

Venture building: EnPulse was founded by EnBW as an independent company in May 2022 and will take over all of the early phase activities from EnBW Innovation in future. It develops new business models within the six key themes.

It will have a broad range of tasks, from analyzing trends and developing and testing initial business ideas through to the foundation of start-ups. EnPulse will also be responsible for **awarding grants to start-ups**. These grants are aimed at young people with entrepreneurial ambitions and will support them in the further development of their business model for between six and twelve months by providing both expertise and up to €120,000 in start-up capital. A total of three start-up grants were awarded in 2022: **Carico** develops test systems for AC and DC charging points. **Tenta Vision** has developed a patented technology that enables companies to test parts during industrial production and identify any defects without damaging the parts in the process. **Zentur.io** has developed a software solution that brings greater transparency to heating grids.

Learn more about how **EnPulse** supports young start-ups.

[Online ↗](#)

EnBW Innovation received the **Digital Lab Award 2022** in the category "Venture Building" and thus took first place in a ranking of the best digital innovation units.

[Online ↗](#)

Find out more about the **leasing models for solar power plants** from **DZ4** here.

[Online ↗](#)

The **investment team at ENV** has received multiple awards from Global Corporate Venturing.

[Online ↗](#)

Link to the **second award**.

[Online ↗](#)

Learn more about the investment made by EnBW New Ventures in **Easelink**.

[Online ↗](#)

EnPulse invested in the company **Zählerfreunde** in 2022. This start-up provides an independent platform that helps users of smart meters save electricity. **q-bility** was spun-off from EnPulse as an independent company in 2022. This start-up enables buyers and sellers to trade greenhouse gas (GHG) quotas on its digital marketplace. Another start-up that was founded in 2022 with investment from EnPulse is **nue GmbH**. nue digitalizes the certification process for large solar power plants so that they can be tested and placed into operation more quickly.

Venture scaling: EnBW Innovation supports young companies that have successfully entered the market so that they can continue to grow. It assists these companies with financing and also helps them to develop their growth strategy by acting as a strategic sparring partner, while its specialist trainers use their experience to provide them with inspiration in their marketing, sales, operations and organizational development.

In November 2022, EnBW increased its stake in **DZ4**, in which the EnBW Group had already held a majority shareholding since June 2021, and has been the sole shareholder since. DZ4 was the first company in Germany to bring a leasing model for solar power plants to the market in 2012 and is now one of the leading providers with several thousand customers. This good market position is to be further expanded in the next few years with the aim of driving forward the private energy transition.

In addition, **EnBW Cyber Security**, **SMIGHT** and **ChargeHere** were also founded as independent companies in 2022. We founded EnBW Cyber Security GmbH in response to the growing demand for security solutions for IT (information technology) and OT (operative technology) (p. 95⁷). The start-up SMIGHT is one of the leading providers of IoT (Internet of Things) grid solutions. It collects real-time data from local grids using its own sensor technology and thus contributes to the efficient operation of the grids. The start-up ChargeHere offers charging solutions for the electrification of company fleets that take into account the current state of the grid when charging.

Venture capital: Alongside the strategic investments made as part of venture building and venture scaling activities, **EnBW New Ventures (ENV)** is responsible for financing external start-ups. It supports entrepreneurs as they develop sustainable solutions for smart infrastructure and has an investment volume of €100 million. ENV also offers these start-ups access to professional investor expertise and a network of customers and suppliers in the energy and infrastructure sectors. ENV is aiming to secure minority shareholdings in up to 20 start-ups, with an investment period of four to eight years in each case. It has so far invested in a total of 15 start-ups and realized two successful exits, while EnBW has also acquired a majority stake in one of the companies. Its evergreen business model means that any proceeds from the sale of shares in start-ups can be reinvested in new companies.

ENV announced **four new investments** in 2022. These include the start-up **Easelink**, which aims to simplify the charging of e-vehicles and automate conductive charging. In addition, ENV has invested in **Intigrity**. This start-up has developed a global cybersecurity platform which companies can use to provide bug bounties (competitions to identify programming bugs). Bug bounties offer an incentive to a community of more than 50,000 hackers to uncover any vulnerabilities and find bugs. Another investment was **CYCLE**. This company provides delivery companies with electric bikes via an all-inclusive care-free subscription service. The fourth start-up is **Deepomatic** based in Paris. The company uses image recognition software to streamline operational processes for field services.

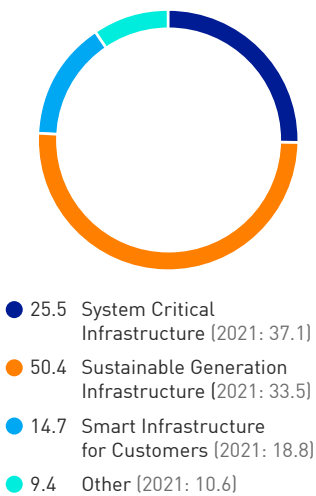
Procurement

Efficient and sustainable procurement processes

More information on the **sustainable supply chain** can be found on our website.

[Online ↗](#)

Procurement volumes of the EnBW Group by segment in %



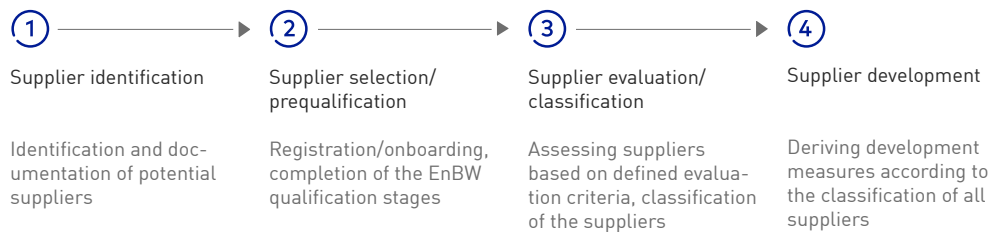
The purchasing department at EnBW views itself as a **partner for the success of the company**. It optimizes the cooperation between business, suppliers and the market from a commercial viewpoint while maintaining high quality standards. Digitalization also helps to make procurement processes more efficient. Central purchasing strives to achieve sustainable procurement, taking into account the requirements of national laws, EU law and the Group’s internal guidelines. As a result, it makes an important contribution to the competitiveness of the company and to minimizing risks.

The **procurement volume** of the EnBW Group in 2022 (without ITOs ^②) amounted to around €6.5 billion (previous year: around €3.5 billion). This considerable increase in comparison to the previous year is mainly due to large investment projects in the area of offshore wind energy and fuel switch ^② projects that were contractually agreed in the reporting year.

The procurement markets were significantly impacted in 2022 by the effects of the **war between Russia and Ukraine**. **Supply bottlenecks** and a high **level of uncertainty** on the market were typical of the problems experienced (p. 140[↗] and 142[↗]). Prices were already high at the beginning of 2022 due to the coronavirus pandemic and the resulting disruptions to the supply chain. Further rises in energy and logistics costs caused additional price increases across all sectors. A sharp increase in demand in the area of sustainable generation infrastructure also exacerbated the situation. The sanctions against Russia – which had been an important trading partner for the energy industry for certain raw materials and (intermediate) products – led initially to further shortages in supply and thus higher prices. In the second half of the year, the supply chains had already reordered themselves to some extent and the price of important raw materials fell again, although prices were still higher than before the beginning of the war. We adjusted the regional distribution of our supply chains at an early stage and identified new suppliers to expand our portfolio. In addition, we developed a reporting process for risks in the supply chain and the possible impact they could have on our business. This gives us a sound basis upon which we will be able to take appropriate action to reduce such risks.

Further diversifying our suppliers and service providers and improving cooperation with them plays an important role in our efforts to achieve a leading position on the energy market. **Supplier management** promotes successful cooperation with our suppliers because it makes their performance transparent and also makes continuous optimization in partnership possible. The careful selection of our suppliers is embedded in our risk management system and supports the observance of legal regulations and internally defined quality standards. Especially with regard to the selective internationalization of the business, central purchasing at EnBW AG is also developing an integrated **supply chain management system** in close cooperation with the business and functional units.

Supplier management process



Sustainable procurement begins with the careful selection of suppliers. Central purchasing at EnBW AG uses a standardized **prequalification process** for this purpose. Suppliers are required to provide a self-assessment via a supplier portal on whether they have sustainable measures in place

in the areas of environmental management, occupational health and safety, the respect for human rights, the fight against corruption, data protection and quality management. This self-assessment was completed by 97% of our suppliers by the end of 2022 (measured by procurement volume).

Respecting human rights and protecting the environment are key pillars of our corporate culture. In cooperation with our business partners, we aim to **improve the situation with respect to sustainability and transparency across the entire supply chain**. We are thus planning to make our procurement process even more sustainable in the future – giving consideration especially to social and ecological aspects. This is also reflected in our EnBW Sustainability Agenda [\(p. 34 ff. ↗\)](#), in which anchoring sustainability criteria in the purchasing process is defined as one of the key measures within the strategic theme of “Protecting the natural environment.” We introduced our **Supplier Code of Conduct (SCoC)** in 2021 as a shared set of values and an important criterion for the selection and development of our suppliers. 97% of our suppliers (measured by procurement volume) had already accepted the SCoC as the basis for our cooperation with them by the end of 2022.


The **Supplier Code of Conduct** forms the basis for our cooperation with our suppliers. The PDF is available to download here.

[Online ↗](#)

The **EnBW declaration on human rights** is available to download in PDF format here.

[Online ↗](#)

In the **“LkSG Ready” project**, we are laying the foundations for compliance with all elements and regulations in the German Supply Chain Due Diligence Act (LkSG). In 2022, we focused on establishing clearly defined processes and developing the expertise and tools needed to analyze sustainability risks both on the procurement markets and in relation to our suppliers. On this basis, we agree measures with our suppliers, where necessary, to improve sustainability and evaluate their effectiveness together. We have also **expanded our existing compliance reporting processes** to include an independent complaints mechanism in accordance with LkSG [\(p. 45 f. ↗\)](#). Another important measure in 2022 was **preparing a declaration on human rights**. We have also been working together with other companies in the energy industry to establish an “Energy Sector Dialog.” The **Energy Sector Dialog** uses a multi-stakeholder approach and is supported by the Federal Ministry of Labour and Social Affairs. The aim in 2023 is to draft guidelines for action with respect to human rights due diligence in the energy industry and support companies in its implementation.

Since the middle of 2022, our **CO₂ tracker for emissions in the supply chain** has enabled us to identify hot spots and carry out more in-depth analyses together with our suppliers for reducing our Scope 3 upstream  CO₂ emissions – for example, at the charging parks for electric vehicles. We have also been including CO₂ emissions and other sustainability criteria as measurable decision-making criteria in relevant invitations to tender since 2022 [\(p. 36 ↗\)](#).

Via our **supplier portal** we offer our suppliers central access to selected information and self-service access.

[Online ↗](#)

Various **automation and digitalization initiatives** have been introduced in central purchasing at EnBW AG with the aim of simplifying our processes even further and, in particular, ensuring that any recurring procurement activities are carried out with the minimal amount of effort. As part of our Group-wide transformation project, we successfully established the new **Ivalua purchasing system** in December 2021 and **constantly updated it** during 2022. It makes cooperation between suppliers, specialist departments and central purchasing significantly easier. Prequalification and supplier evaluation procedures, the ordering process and self-service applications have been greatly simplified and are now intuitive to use. In addition, we have introduced a catalog platform containing almost 25 million items that can be accessed by the employees of EnBW AG.

Our subsidiaries that are not overseen by central purchasing at EnBW AG address non-financial aspects in purchasing using their own mechanisms. **Energiedienst Holding (ED)** works together closely with central purchasing at EnBW AG to procure important product groups using joint invitations to tender and framework contracts, including the associated prequalification processes. In addition, orders are placed largely with regional suppliers from Germany, Switzerland or neighboring EU countries. Purchasing at the companies of **Pražská energetika (PRE)** ensures that suppliers observe practices such as the payment of social security contributions, the settlement of tax liabilities and the prevention of money laundering. Potential suppliers must verify their compliance with these aspects by either submitting a sworn declaration or by presenting corresponding certificates when bidding for invitations to tender. The fulfillment of these obligations is also stipulated in supplier contracts. At **Stadtwerke Düsseldorf (SWD)**, sustainability aspects are anchored in the compliance guidelines, environmental management system manuals and process descriptions. In the area of procurement, SWD pays particular attention to the use of environmentally friendly and sustainable products. It also uses clauses in its supplier contracts as one way to reinforce the fight

against corruption and bribery and to ensure observance of labor and social laws. A Supplier Code of Conduct (SCoC) was introduced in 2022 that includes joint obligations with the suppliers to generate economic, ecological and social added value along the entire supply chain. Alongside economic criteria, SWD places great importance on business ethics, integrity, legally compliant trade, compliance with working standards and environmental protection when selecting, evaluating and monitoring new and existing business partners. The fundamental principles for procurement at **VNG** are regulated by a code of conduct, the management handbook and Group guidelines. Aspects such as the prevention of corruption – which is embedded in the compliance management system – and environmental protection are fixed components of procurement processes.

We also refer you to the details provided in the “Report on opportunities and risks” (p. 132¹).



Responsible raw materials procurement in the coal sector

Origin of coal supplies

With a view to the CO₂ reduction targets set by the German government, we will gradually replace hard coal with more climate-friendly energy sources. The most important milestones here will be the realization of the fuel switch ¹ projects and the planned phaseout of coal by 2028. Nevertheless, hard coal will still play a relevant role for EnBW as a source of energy over the next few years to ensure a reliable and economic supply of electricity. Responsible raw materials procurement, especially in the coal sector, is thus extremely important to us in order to strengthen our sustainable purchasing.

There was major upheaval on the West European coal market in 2022. Russia had been by far the largest supplier of power plant coal to the EU for many years up to this point. As a result of the EU sanctions against Russian coal producers, participants on the European market were forced to fundamentally realign their strategy and seek alternative sources of supply within a short period of time. EnBW was successful in finding new sources and thus always had sufficient coal supplies for its power plants despite the EU ban on the import of Russian coal.

By the end of 2021 and thus even before the outbreak of war in the Ukraine, EnBW had already started to further diversify its procurement portfolio in order to reduce its dependency on Russian coal supplies. In the reporting year, no new contracts were concluded with Russian coal producers.

Until the sanctions came into force in August 2022, EnBW accepted delivery of Russian coal that was covered by existing contracts with Russian coal producers in which there were corresponding contractual obligations. These deliveries accounted for 48.5% of the total coal supplied to the company. A large proportion of the Russian deliveries were stored in reserve at the seaports.

The lost volumes of Russian coal were replaced mainly by coal from Colombia and the USA. The coal supplies to EnBW over the whole of 2022 can be summarized as follows: Russia was still the largest supplier with 2 million t but coal supplies from Colombia increased significantly from 0.2 million t to 1.6 million t. The total amount of coal supplied was the same as in the previous year at 4.2 million t (previous year: 4.2 million t). The procurement volume increased considerably, however, in 2022 to €1,150 million (previous year: €433 million) due to the sharp increase in the price of coal.

The EnBW Group places great importance on knowing exactly where the coal it uses is sourced and being able to disclose this information. Some 88.0% of our coal requirements are thus covered by contracts where the respective producers are already known when the contract is concluded. The remainder is sourced from contracts concluded with trade intermediaries who usually define a quality standard and the countries from which the coal could be sourced, but not the source of the coal itself.

Origin of coal supplies to EnBW power plants

in million t	2022	2021
Russia	2.0	3.6
Columbia	1.6	0.2
USA	0.4	0.4
Other	0.1	–
Total¹	4.2	4.2

¹ The figures may not add up due to rounding differences.

Further information on **coal procurement** can be found on our website.

[Online ↗](#)

Our Russian coal supplies up to August 2022 originated in the mining region of the Kuznetsk Basin (Kuzbass) and were primarily mined by the producers SUEK and Kuzbassrazrezugol (KRU). The Colombian coal was mined by the producers Cerrejón and Drummond. The coal from the USA was sourced from various mining regions.

The opportunities and risks in relation to coal procurement can be found in the “Report on opportunities and risks” [\[p. 136 f.\]](#).

Positioning, overarching concepts and due diligence for the protection of human rights

The **rules of conduct governing the responsible procurement** of hard coal and other raw materials can be downloaded in PDF format [here](#).

[Online ↗](#)

In accordance with the Guiding Principles on Business and Human Rights of the United Nations, we strive to procure coal responsibly. The EnBW coal supplier portfolio acts as the basis for our activities and it is updated on an annual basis. The sustainability performance of current and potential coal suppliers to EnBW is continuously examined and evaluated on the basis of the **EnBW rules of conduct** governing the responsible procurement of hard coal and other raw materials. The business partner audit comprises an audit with respect to both compliance and sustainability. We determine any future action based on the supplier evaluations resulting from these audits, such as requesting further specific information from selected suppliers. In the process, we pay close attention to the latest studies from competitors and international initiatives, as well as relevant information and contributions from civil society organizations.

Further information on the international business initiative **Bettercoal** can be found [here](#).

[Online ↗](#)

We have been a member of the corporate initiative **Bettercoal** since 2020. The independent audits carried out via Bettercoal and the monitoring of the progress made by the individual producers with respect to fulfilling the Bettercoal Continuous Improvement Plans flow into our process for auditing business partners. Currently, we are primarily active within Bettercoal in the Colombian working group because this is where the majority of the coal deliveries were sourced in the second half of 2022. The Russian working group was disbanded immediately after the start of the war between Russia and Ukraine. In addition, we use Bettercoal as a platform for exchanging information with our producers and above all with other stakeholders from civil society, with government representatives from the coal mining regions and with experts on individual countries and human rights. A trip to Colombia was organized by Bettercoal for this purpose in fall 2022.

Our rules of conduct in combination with internal implementation guidelines form the foundations for our business activities. In the sustainability clause that is a fundamental component of all of our contracts with coal producers, we obligate our business partners to observe these rules of conduct. In addition to regular auditing of the sustainability performance of coal suppliers, a multi-stage auditing process is triggered in the event of suspected breaches of the rules. This can lead to temporary suspension or, as a last resort, the termination of the business relationship and thus exclusion from our procurement process. When new contracts are due to be concluded, the results of the analyses saved in the sustainability index are presented to an internal **committee for the responsible procurement of hard coal and other raw materials (AVB)** at regular intervals, with participation from all relevant specialist areas (especially credit risk trading, compliance, environment and sustainability). If any deviations from the minimum standards are identified for existing supply contracts, corrective measures are developed in cooperation with the producers and their implementation is monitored. In 2022, this committee held regular meetings to discuss possible additions to our portfolio of producers – such as potential new coal producers in South Africa and Kazakhstan – that are necessary due to the current situation on the market.

Current developments

Russia

As a result of the increasing tensions between Russia and Ukraine at the time, EnBW had already begun to further diversify its procurement portfolio at the end of 2021 in order to reduce its dependence on deliveries of Russian coal. The company continued to gradually switch over to alternative sources of coal until August 2022, by which time it was no longer reliant on Russian coal.

Colombia

We procured larger amounts of coal from Colombia in 2022 in order to satisfy the increased demand for coal at our power plants. As a member of the Colombian working group at Bettercoal, we were involved in the preparations for and reporting on the Bettercoal trip to Colombia. Meetings were held with relevant stakeholder groups during this trip. They included discussions with representatives from civil society, the unions and government, as well as with the coal producers. Against the background of the changed political conditions in the country, the discussions in Colombia focused on two main areas: socially acceptable structural change in the coal mining regions and dialog with local stakeholder groups. The discussions with the producers (Drummond and Cerrejón) primarily concentrated on the continuous implementation of various improvement measures and thus on ways to achieve environmentally and socially acceptable coal mining in accordance with the Bettercoal Code 2.0 ⁹.

USA

The USA was for a long time only of limited importance to us as a procurement country. On the one hand, conditions on the market did not give us any reason to procure coal from there and, on the other hand, the quality of the coal did not meet our standards. Both factors have now changed and we have added producers from the USA to our portfolio following a thorough sustainability audit and clarification of some outstanding issues. Our business party audit stipulates that we must clarify any questions that arise during the audit directly with the producers. Therefore, we held in-depth discussions with one producer on their complaints mechanism and their strategy for protecting the environment. This enabled us to agree a path forward together to achieve continuous improvement.

Other procurement alternatives

We are currently examining additional procurement options in Australia, Africa and Asia in addition to those in Colombia and the USA in order to further diversify our procurement portfolio in the medium term. The coal market is generally characterized by an elastic supply and the coal is mainly transported by ship, which means that there is no need for any kind of special pipeline infrastructure. Our procurement initiatives make a comprehensive audit of all potential new business partners just as critical as the quality of the available coal and whether it is suitable for our power plants.



Responsible raw materials procurement in the gas sector

Natural gas as a transition technology

In order to achieve our target of climate neutrality by 2035, we are working intensively on initially switching over our power plants from coal to more climate-friendly natural gas (fuel switch ⁹) and then to climate-neutral gas such as biogas or (green) hydrogen in the long term (p. 35⁷). Natural gas plays an important role as a **transition technology** – either in the form of liquefied natural gas (LNG) ⁹ or grid-based natural gas. Against this background, we have transferred our due diligence measures for the responsible procurement of coal over to the procurement of natural gas. The main focus will be a comprehensive business partner audit of all the direct LNG suppliers before they are approved as a business partner for EnBW. In addition, the internal AVB committee is being expanded to include all relevant specialist areas within the company that deal with gas procurement.

Origin and own consumption

In 2022, EnBW mainly sourced its natural gas via supply contracts with companies in Norway and Russia as well as via the European wholesale market. We had two gas supply contracts via VNG Handel & Vertrieb that were affected by the restrictions in supply from Russia. The indirect contractual partner for one of these contracts was SEFE Securing Energy for Europe GmbH (formerly Gazprom Germania GmbH), while for the other, Gazprom export was the direct contractual partner. In the case of the first contract, it was agreed with the contractual partner SEFE that any additional costs for replacement procurement will be reimbursed in full. Compensation was agreed with the German government for the second contract that partially compensates for the increased procurement costs. Both contracts expired at the end of 2022 (p. 64⁷). As a consequence of that situation and also for other reasons, we have been strengthening our efforts to diversify our **sources of gas** to a much greater extent. We concluded two long-term purchase agreements in June for liquefied natural gas (LNG ⁹) with Venture Global LNG for a term of 20 years, which will diversify our sources of gas in the long term. The total volume of LNG will be around 2.8 billion m³, half of which will be sourced from the Plaquemines facility and half from the Calcasieu Pass 2 facility (both in the USA) of Venture Global LNG from 2026/2027 onwards. Although a gas procurement agreement with the Russian supplier Novatek has been canceled, an LNG procurement contract that expires in 2023 still exists and outstanding deliveries will continue to be made in the coming year.

In 2022, we acquired 7,611 GWh of natural gas for our **own consumption at EnBW** (previous year: 8,249 GWh). We use this gas for generating electricity and heat in our power plants, for heating our buildings and for operating our gas plants.

The opportunities and risks in relation to gas procurement can be found in the “Report on opportunities and risks” (p. 136⁷).

Exercising due diligence

We also take our responsibilities seriously in the procurement of gas and exercise human rights due diligence in our supply chain. We have transferred our **business partner auditing** processes from the area of coal procurement to gas procurement. In 2022, we were then able to audit the sustainability performance of all new business partners using a clearly defined process. The business partner audit comprises an audit with respect to both compliance and sustainability. The main focus is placed on the observance of international sustainability standards, a commitment to and compliance with guidelines on environmental protection and human rights, dialog with stakeholders and disclosure of extraction methods. Existing suppliers are reevaluated from a sustainability perspective every one to three years, depending on a risk assessment, as part of our recurring audits, insofar as there are no reasons to carry out an audit sooner. In addition, we are examining whether lessons learned in the Bettercoal initiative can also be transferred to sustainable gas procurement. We are currently holding discussions with various players in the international energy sector on this matter.

Methane emissions

The monitoring of methane emissions from natural gas is becoming increasingly important due to our growing procurement volumes. It is very difficult to collect exact data on methane emissions particularly in the upstream gas supply chain due to the different calculation models used. We are currently working with a general emissions factor of 29 g CO₂eq/kWh natural gas for the upstream supply chain for our gas procurement based on information from the German Environment Agency and the DBI Gas and Environmental Technology Institute. This figure includes methane emissions. For the combustion of the gas, we use an emissions factor (including methane) of 202 g CO₂/kWh natural gas based on data from the German Environment Agency (UBA) and the German Emissions Trading Authority (DEHSt). Despite these low amounts, we are continuously working to further reduce methane emissions. This includes measures at our grid subsidiaries for smart grid management to avoid blowouts, systematic integrity evaluations of the grid, eliminating any weaknesses and the continuous modernization of grid technology, as well as the application of special technical equipment and systems to avoid methane emissions from our lines during maintenance and repair work. We also include direct CO₂ emissions from the operation of the facilities in our gas grids in the calculation of our carbon footprint. We determine the methane emissions from our gas grids using the method developed by the Oil and Gas Methane Partnership (OGMP) (p. 99 f.⁷).

Business report

General conditions

Macroeconomic trends

Economies

Following a noticeable recovery of the global economy from the effects of the coronavirus pandemic in 2021, there was considerable uncertainty at the beginning of 2022 due to the war between Russia and Ukraine. Soaring raw material prices and an extensive strategic realignment, especially of the European energy supply system, exacerbated the already perceptible inflationary tendencies even more. The war also increasingly led to the formation of geopolitical blocs and in some cases the escalation of earlier bilateral conflicts. Furthermore, recurring regional lockdowns due to China's zero-Covid policy caused repeated interruptions to the global supply chains. The restrictions were eased in China in November and December 2022, although consumer behavior and the general economic mood still remained subdued until the end of the year.

The war in Ukraine continues and is certain to also have an impact on the development of the global economy in 2023. However, there were some encouraging signs in the third quarter of 2022, such as the easing of tensions on the energy markets, although they had already come to a standstill again in part in the fourth quarter of 2022. Accordingly, the International Monetary Fund (IMF) only raised its growth forecast slightly in its World Economic Outlook Update in January 2023 compared to the update published in October 2022. According to the IMF, global gross domestic product (GDP) grew by 3.4% in 2022 (previous year: 6.2%). The IMF forecasts global growth of 2.9% in 2023. GDP is expected to grow at a much weaker pace in the eurozone and Germany in 2023. In its World Economic Outlook Update in January, the IMF predicted growth of 0.7% in the eurozone and just 0.1% in Germany. The macroeconomic environment will probably also experience huge uncertainty and volatility in 2023, which makes it difficult to make specific statements about the impact on the company's business performance.

Development of gross domestic product (GDP)

in %	2023	2022 ¹	2021 ¹
World	2.9	3.4	6.2
Eurozone	0.7	3.5	5.3
Germany	0.1	1.9	2.6
France	0.7	2.6	6.8
United Kingdom	-0.6	4.1	7.6
Sweden	-0.1	2.6	5.1
Switzerland	0.8	2.2	4.2
Czech Republic	1.5	1.9	3.5
Turkey	3.0	5.0	11.4

¹ The figures for the previous year have been restated.

Development of interest rates

Unexpectedly high rates of inflation and corresponding adjustments to key interest rates led to a drastic turnaround in interest rates in 2022. As a result, almost all of the securities listed on the stock market fell in value. After decades in which price risks had played almost no role on the capital markets, the USA and Europe were temporarily hit by double-digit rates of inflation during the 2022 financial year for the first time since the 1970s. The yields on ten-year German government bonds increased over the course of the year from -0.1% to almost 2.6%. In view of the economic crisis in Europe and the slowdown in growth momentum in China, the US dollar rose considerably against the euro and the Chinese yuan over the year.

Against this background, the actuarial interest rates, which are used to discount the pension and nuclear provisions, also rose during the course of 2022, which led to a reduction in the present value of the provisions.

Development of the sector and competitive situation

The energy sector is currently experiencing a period of great upheaval. There is particular pressure for change due to the energy transition. However, digitalization, sector coupling ⁷ and the desire of local authorities to become self-sufficient are also having a strong influence on the sector.

A significant factor is that the energy sector is highly regulated, which means that political policies strongly influence developments. Traditional energy companies need to re-examine their competitiveness in individual business areas, exploit the potential offered by a changed market environment and realign their strategies for the future.

Selection of international, national, regional and new competitors

Established competitors		New competitors			
National and international	Regional	Commodity suppliers/ solution suppliers/ start-ups	Renewable energies	E-mobility, telecommunications and broadband	Financial investors
ALPIQ, EDF, EDPR, Enel, Engie, E.ON, Equinor, EVN, Fortum, Iberdrola, Ørsted, RWE, Vattenfall, Verbund	Badenova, Entega, EWE, Mainova, MVV, NERGIE, SWM, Thüga	1komma5°, enpal, Lichtblick, NEXT Kraftwerke, Octopus Energy, ostrom, Sonnen, Thermondo, Tibber	BayWa r.e., bp, Encavis, ENERTRAG, PNE Wind, Shell, theolia, Total Energies, wpd	1&1, Allego, Aral pulse, Deutsche Glasfaser, Deutsche Telekom, Ecotel, Fastned, Google, Ionity, Shell, Tesla, VW	Private equity, infrastructure and pension funds, and insurance companies

EnBW position:

- Further development from an integrated energy supplier to a sustainable and innovative infrastructure partner
- Focus on growth in renewable energies, grids and customer solutions (especially e-mobility, telecommunications and broadband)
- Active in Baden-Württemberg, Germany and selected foreign markets

Challenges:

- Increasing competition due to entry of new market participants in the core business
- New competition due to market entry of EnBW in new business fields
- Optimal positioning with respect to the regulatory environment and highly competitive market

Cross-segment framework conditions

Coronavirus pandemic

Case numbers rose at the beginning of 2022 driven by the omicron wave. The figures then fell at the beginning of June due to, among other things, seasonal effects but then climbed again until July as a result of what was described in the media as the "Covid summer wave." There were further fluctuations in the incidence rates during the remainder of the year but the coronavirus pandemic was largely pushed aside in public discourse by other crises. The impact on the energy sector has remained manageable. Total electricity consumption was slightly below the figure in the previous year (-3.2%), which in view of the increase in energy prices also does not suggest any reduction in consumption due to the coronavirus.

War between Russia and Ukraine

Russian troops invaded Ukraine on 24 February 2022. The war in Ukraine has since raged with increasing intensity and destruction. NATO and EU states have imposed a comprehensive range of **sanctions on Russia**. One of the sanctions agreed as a compromise between the EU states and their leaders was an **oil embargo** against Russia. At a summit on Ukraine held in Brussels on 30 May 2022, the EU agreed to ban more than two-thirds of Russian oil imports into the EU by the end of the year. Germany also halted all imports of crude oil from Russia at the turn of the year. The EU member states also agreed an **import ban on Russian coal** with effect from 11 August 2022 (p. 56 ff. ⁷).

There were also several reductions in the supply of **gas** from Russia via the Nord Stream 1 pipeline from the middle of July 2022 and ultimately a complete shutdown of supplies in September. To ensure that the **storage facilities** were filled, a ministerial ordinance was issued to increase the legally prescribed fill levels. The storage facilities had to be 75% full by 1 September 2022. The minimum fill level was then increased to 85% by 1 October and 95% by 1 November. These targets were achieved in good time. The German gas storage facilities were completely full in November. The gas storage

facilities operated by EnBW and VNG also achieved these targets in good time and were completely full by October. Following a fall in the storage levels to 87% in the middle of December as a result of the temperature, the storage facilities were 90% full at the end of the year. The target set for February 2023 was to keep fill levels above a minimum of 40%. This was exceeded by a large margin with a fill level of around 78%.

The German Bundesrat has given the green light for a one-off **advance payment** as a form of support for gas and district heating customers. This advance payment is designed to act as a financial bridge until the introduction of the “gas price brake” in March 2023. The advance payment provides relief to so-called final consumers of grid-bound natural gas and heating customers by covering their monthly installment payment for December. The actual price brake will introduce a maximum price level for gas and electricity that applies to 80% of the customer’s consumption. The Bundesrat approved the adopted Electricity Price Brake Act on 16 December 2022. The mechanism will come into force in March 2023. In addition, customers whose gas or electricity prices were above the cap of 12 ct or 40 ct per kWh respectively in January and February 2023 will be reimbursed retroactively. Furthermore, the windfall profits from the sale of electricity generated using renewable energies, nuclear power, mineral oil, waste and brown coal will be levied in the period between 1 December 2022 and 30 June 2023 to finance the relief provided to final consumers. The **windfall profit levy** is understandable insofar as it only applies to profits resulting from the currently unusually high electricity prices. However, these levied windfall profits will no longer be available for investment in the energy infrastructure.

The gas importer **Uniper** was left in severe difficulties by the reduction in Russian gas deliveries. The German government, Uniper and the previous majority shareholder Fortrum agreed to extensively nationalize Uniper as a result. The parties signed a corresponding stabilization package on 21 September 2022. As part of the agreement, a capital increase of €8 billion was carried out that was exclusively subscribed by the German state.

Our subsidiary **VNG** also submitted an application to the Federal Ministry for Economic Affairs and Climate Action (BMWK) for stabilization measures in accordance with section 29 of the Energy Security Act (EnSiG) on 9 September 2022. The application was necessary as a result of unfulfilled delivery obligations from two contracts with suppliers. VNG had to replace the missing Russian gas at significantly higher prices on the energy markets so that it could continue to supply its customers reliably at contractually agreed, much lower prices. Due to an agreement reached with the German government on compensation for losses incurred in connection with the replacement procurement costs resulting from the contract with Gazprom export LLC (GPE), VNG was able to resolve the residual risks from replacement gas procurement related to this contract. VNG has a second supply contract with WIEH GmbH, a subsidiary of SEFE Securing Energy for Europe GmbH (formerly Gazprom Germania GmbH). Under a settlement reached for this contract on 10 October 2022, the additional costs of replacement procurement in the 2022 financial year will be borne by WIEH. Both contracts expired at the end of 2022. Following the agreement, VNG withdrew its application for stabilization measures according to section 29 EnSiG. The government will therefore not take an equity stake in VNG. Instead, EnBW and the other shareholders have agreed to increase VNG’s equity by a total of €850 million in a two-step process (p. 61⁷).

In view of the gas shortage and high prices, it is even more important to **save energy**. To this end, Federal Minister for Economic Affairs Robert Habeck launched an energy-saving campaign at the Energy Efficiency Summit in Berlin in 2022. The state government of Baden-Württemberg also initiated an energy-saving campaign called “CLEVERLÄND – saving energy together.”

Climate change mitigation

Federal Minister for Economic Affairs Robert Habeck announced that in light of the current situation the German government will activate additional **coal-fired power plants** to replace the electricity generated by gas power plants. The Federal Cabinet laid the foundations for this measure in the Act on Maintaining the Readiness of Substitute Power Plants for Reducing Gas Consumption in the Electricity Sector. It authorizes the deployment of power plants that are currently available only to a limited extent, are due to be dismantled in the near future or that have been transferred to the grid reserve. A good example is provided by Block 7 of the Rheinhafen steam power plant (RDK 7)

that was not decommissioned as planned but will continue to operate until at least the end of 2023. EnBW is thus making a significant contribution to the security of supply.

Despite having to use these coal-fired power plants again as a fallback solution, there has still been significant progress made in legislating for more climate protection. For example, the Federal Cabinet passed a series of draft laws as part of its so-called **Easter Package** on 6 April 2022. This package will amend a total of 28 laws and ordinances and introduces the new Energy Levies Act (EnUG). One example is the “EEG Article Act,” which brings in immediate measures to accelerate the expansion of renewable energies and other measures in the electricity sector. This law contains new regulations within various acts including the Renewable Energy Act (EEG 2023), the Heat and Power Co-Generation Act (KWKG 2023) and EnUG. Another example is the “EnWG/BBPlG Article Act” – a law to amend energy industry law with respect to the Climate Protection Action Program and to modify regulations governing end customer deliveries. This comprises, among other things, amendments to the German Energy Industry Act (EnWG), the Federal Requirement Plan Act (BBPlG) and the Grid Expansion Acceleration Act (NABEG). The aim is to reduce the level of bureaucracy and accelerate the planning and expansion of renewable energies and the electricity grids. Finally, another important measure to mention is the reform of the Offshore Wind Energy Act (WindSeeG). This increases the expansion targets for the uptake of offshore wind energy, introduces additional auctions for sites that have not been pre-developed and brings in a transition to Contracts for Difference (CfD)⁹, which means bidders must submit their bids for a fixed price. Depending on the market price for electricity, the bidder will either receive the difference to the fixed price in the bid as a subsidy or must pay the difference to the fixed price using retained profits. In view of EnBW’s alignment towards renewable energies, we believe that an acceleration in the rate of expansion and the removal of bureaucratic hurdles are especially positive developments.

As part of its **Immediate Climate Action Program**, the German government made an additional €8 billion available for climate action measures, of which €5 billion will be used to fund the energy-efficient modernization of buildings and the installation of energy-efficient heating systems. The “summer package” planned for the second half of the year was split into individual proposals. The reform of the Energy Efficiency Act (EnEfG) defined binding energy saving targets for 2030, 2040 and 2045. These targets are based on the associated EU Directive. EnBW believes that these planned improvements for greater climate protection are a step in the right direction.

European energy policy

Negotiations for the “Fit for 55”¹⁰ and gas legislative packages as well as efforts to finalize the guidelines in the EU taxonomy¹¹ have been ongoing at an EU level, but the main focus was, however, the increasingly fraught situation with respect to **energy prices and the security of supply** together with the associated emergency measures necessary as a result of the war between Russia and Ukraine. In view of the considerable impact on the economy and household customers, there was increasing political pressure to quickly carry out a fundamental review of the design of the current internal energy market in Europe. Preparations for an accelerated reform before the end of this legislative period (until 2024) were initiated in the second half of 2022.

In order to counteract the **impact of the war between Russia and Ukraine**, the European Commission initially concentrated on increasing the freedom of member states to cushion hardships experienced by badly affected consumers, diversifying the sources of supply and expanding the framework for state aid. As part of an urgent referral process, obligatory regulations for the management of gas storage facilities together with associated solidarity agreements were thus put in place in preparation for potential shortages in the winter months. Furthermore, the European Council introduced emergency measures for the windfall profit levy in the electricity generation sector, for energy-saving obligations and for accelerating approval processes. Other measures include the establishment of a joint purchasing platform for gas and solidarity measures for the supply of gas, as well as a gas price cap – although with limited scope.

Beyond these emergency measures, the EU has been working on proposals for the **reform of the electricity market design** so that it can handle the challenges posed by an energy system characterized by volatile renewable energies in the medium and long term. The details of this reform are still unclear. The European Commission initially wants a sharply focused reform that will have an

VNG is a member of the **European Clean Hydrogen Alliance**, which is pushing forward the rollout of clean hydrogen production and use in Europe.

[Online ↗](#)

Further information on our **experiences with applying the EU sustainable finance taxonomy** can be found here.

[Online ↗](#)

impact as quickly as possible, with further opportunity for more in-depth discussions in the coming legislative period. There have also been calls for immediate and far-reaching changes to the design of the market, which have been viewed critically by EnBW as they abandon the market-driven system.

The challenges caused by the war between Russia and Ukraine have also had an effect on the negotiations for the **“Fit for 55” package** and especially the Renewable Energy Directive. The European Commission has presented various legislative proposals during the ongoing negotiations for the “Fit for 55” package. These include increasing the expansion targets for renewable energies, accelerating approval processes and providing additional resources for funding transition investments and compensating vulnerable consumers. It was possible to reach some agreement on climate legislation before the end of 2022 – such as the revision of the Emissions Trading Directive including the introduction of an additional emission trading system for the heating and transport sectors, the Effort Sharing Regulation and the Carbon Border Adjustment Mechanism (CBAM) – with largely ambitious compromises. Agreement on the rest of the dossier, especially the reform of the Renewable Energy Directive and the Energy Efficiency Directive, should be reached by the end of the first quarter of 2023. The negotiations on the legislative proposals for the decarbonization of the gas sector from December 2021 are taking time and it is expected that the position of the EU Parliament and the EU Council of Ministers will only be presented in the first quarter of 2023, and will come before the European Council in the second quarter. Agreement between the two sides is only expected by the end of 2023. The EU has taken the first positive steps with respect to the unbundling requirements for a future hydrogen grid that are particularly important to EnBW.

The intensive negotiations on supplementary criteria to define electricity generation from natural gas and nuclear energy on a transitional basis as sustainable activities in accordance with the **EU Taxonomy Regulation** ultimately led to very restrictive requirements. EnBW welcomes the recognition of gas activities as a transformation technology. Information on the EU taxonomy [🗨](#) can be found in the chapter “EU taxonomy” (p. 110 ff. [↗](#)) and in the key performance indicators for the EU taxonomy (p. 151 ff. [↗](#)).

Smart Infrastructure for Customers segment

Electricity and gas prices for retail and industrial customers

Average electricity price for a household¹

in ct/kWh	HY2 2022	HY1 2022	2021
Grid fees ²	8.08	8.08	7.80
EEG cost allocations ³	0.00	3.72	6.50
Procurement, sales	20.64	14.40	7.93
VAT	6.40	5.92	5.13
Electricity tax	2.05	2.05	2.05
Concession fees	1.66	1.66	1.66
Other allocations	1.24	1.24	1.09
Total	40.07	37.07	32.16

¹ Annual consumption of 3,500 kWh.

² Including metering and metering station operation. Source: BDEW | As of January 2023

³ EEG cost allocations no longer apply as of 1 July 2022.

+24.6%

increase in **electricity costs** for a household with an annual consumption of 3,500 kWh in the second half of 2022 in comparison to the previous year.

According to an analysis of electricity prices by the German Association of Energy and Water Industries (BDEW) published in December 2022, the average monthly electricity bill for a household with an annual consumption of 3,500 kWh came to €108.12 in the first half of 2022. This figure increased to €116.86 in the second half of 2022. The average figure for the whole of 2021 was €93.80. As a result of the abolishment of the EEG cost allocations [🗨](#) as of 1 July 2022, the BDEW published two figures for the average electricity price in 2022, one for each half of the year. As procurement costs rose anyway due to significant increases in energy prices, the abolishment of the EEG cost allocations did not really reduce the burden on consumers over the year as a whole.

After reducing prices for customers on two occasions, EnBW was forced to increase its prices for household electricity for the first time since 2020 due to the significant rise in procurement costs. On 1 October 2022, EnBW raised the prices for its basic supply tariffs by an average of 31.1%. This

was due to the significant increase in procurement costs on the electricity market, mainly triggered by the war between Russia and Ukraine and especially by the reductions in gas supplies by Russia. Prices for other tariffs also increased by a similar amount as those for the basic supply. The price rises introduced by EnBW were in the middle of the range of price increases on the overall market.

For industrial customers receiving a medium-voltage supply, the average electricity price including electricity taxes increased significantly during the course of 2022 according to calculations made by BDEW. While the average electricity price still stood at 33.02 ct/kWh in the first half of the year, it increased in the second half of the year to 53.38 ct/kWh. In the previous year, prices only just exceeded the 20 ct/kWh mark at 21.38 ct/kWh.

Average natural gas price for a household in a single-family house ¹

in ct/kWh	Q4 2022	Q1-Q3 2022	2021
Procurement, sales	15.88	10.06	3.25
Grid fees ²	1.66	1.66	1.64
VAT ³	1.31	2.44	1.13
Natural gas tax	0.55	0.55	0.55
CO ₂ price ⁴	0.55	0.55	0.46
Other duties and cost allocations	0.09	0.03	0.03
Total	20.04	15.29	7.06

¹ Natural gas central heating with hot water provision, each set at a special customer tariff including a reduced concession fee (0.03 ct/kWh), annual consumption of 20,000 kWh, base price included on a pro rata basis, not volume-weighted.

² Including metering and metering station operation.

³ The "law for the temporary reduction of the value added tax rate for the supply of gas via the natural gas grid" reduced the VAT rate on gas deliveries retrospectively from 1 October 2022 until the end of March 2024 from 19% to 7%.

⁴ The CO₂ price represents the cost for the acquisition of CO₂ emissions trading allowances according to the BEHG and is fixed at a price defined by law until the end of 2025. Source: BDEW | As of January 2023

+183.9%

increase in **natural gas prices** for a household with an annual consumption of 20,000 kWh in the fourth quarter of 2022 in comparison to the previous year.

According to calculations by the German Federal Statistical Office, natural gas prices for private households were 17.7% higher in the first half of 2022 than in the second half of 2021. Gas prices for industry rose in the same comparative period by 38.9%. According to the gas price analysis published by the BDEW in December 2022, the average natural gas price for a household in a single-family house over the first nine months of 2022 was 15.29 ct/kWh. This figure rose to 20.04 ct/kWh for the fourth quarter of 2022. The reason for the publication of two average figures for 2022 was the reduction in VAT for gas deliveries from 19% to 7% from 1 October 2022 and the resulting change to the price structure in the fourth quarter of 2022.

After initially raising gas prices in its basic supply tariffs by 34.8% on 1 July 2022, EnBW was forced to increase prices for the basic supply of gas once again by an average of 38.0% on 1 December 2022, due to further increases in procurement costs. However, the gas prices at EnBW are still below average compared to the overall market. Prices for other tariffs also increased by a similar amount as those for the basic supply.

Structural changes

High wholesale market prices for electricity and gas have placed smaller suppliers, in particular, under pressure. Consequently, some companies canceled their supply contracts with their customers or were forced to declare themselves insolvent. As a result of our long-term procurement strategy, we were less affected initially by the rising prices and were able to demonstrate our reliability, also guaranteeing that those customers in our **basic supply area** who had lost their suppliers were still supplied with energy as usual. Due to the persistently high wholesale prices, however, EnBW was forced to adjust its prices for electricity and gas during the course of the year.

Despite the coronavirus pandemic, the **home electricity storage market** already grew by 48% in 2021 compared to the previous year. Further growth was also seen in 2022. The boom in small photovoltaic power plants continued in the first months of the year and the demand for photovoltaic home storage systems also increased further in its wake. EUPD Research estimated that more than 220,000 home storage systems would be installed for the first time in 2022. 87% of new rooftop systems are now combined with a photovoltaic home storage system. We are one of the leading providers on this market via our subsidiary SENEK and are thus participating in this growth (p. 93f. ⁷).

There continues to be very dynamic growth in the **registration of new electric vehicles**. The total number of new passenger car registrations fell by about 1.3% in 2022, following already low numbers in the previous year. This fall was due mainly to bottlenecks in supply. According to the Federal Motor Transport Authority, around 471,000 electric cars were nevertheless registered in 2022, which was around 32% more battery electric vehicles than in the previous year. The share of the total number of new registrations accounted for by purely electric vehicles increased to 18%. A similarly high proportion of the overall market was accounted for by plug-in hybrid vehicles, with 362,093 newly registered vehicles. This increase was mainly due to the growing acceptance for these vehicles among customers and the wider choice of models available. This growth will also be supported by the target of 15 million electric cars by 2030 that is defined in the coalition agreement concluded by the German government. EnBW mobility+ is helping to ensure there is sufficient **charging infrastructure** to achieve this target. It already operates the largest quick-charging network in Germany, is investing in further expansion and also provides drivers with the opportunity to charge their vehicles throughout large areas of Europe using the EnBW mobility+ app (p. 93⁷).

The coronavirus pandemic has increased awareness for just how crucial the Internet is for the economy and for social life. However, a comprehensive expansion of the **broadband infrastructure** ⁹ is currently not economically viable in many regions. For this reason, future funding will now focus on “gray areas,” and since 1 January 2023 has been provided for areas with a bandwidth ≤ 100 Mbit/s (symmetrical), thus effectively for all private customer connections that are not gigabit-ready. Total funding of €17 billion is available for the expansion of the fiber-optic infrastructure. In order to benefit from this transformation to a gigabit-ready infrastructure, Plusnet is active across Germany, while NetCom BW will focus on Baden-Württemberg (p. 94 f.⁷).

System Critical Infrastructure segment

The shutdown of around half of the French nuclear power plants and the generally tense situation on the energy markets since the start of the war between Russia and Ukraine led to an accumulation of risks for the security of supply in Germany and Europe. For this reason, the German transmission system operators carried out a second special analysis for the winter of 2022/2023 that was completed by September 2022. The analysis took into account the reduced generation from the French nuclear power plants, potential shortages in the supply of coal due to low water levels, the potential non-availability of the gas power plants in southern Germany and of the reserve power plants, and high prices of natural gas of up to €300/MWh. The results of this second **stress test** showed that although crisis situations on an hourly basis in the electricity system were very unlikely, they could not be completely ruled out. The proposed countermeasures include the deployment of reserve power plants and returning coal power plants to the market, additional electricity production in biogas plants and increasing the load on the electricity grids. As the potential contribution that could be made by nuclear energy is limited according to the calculations, and nuclear energy is classified as a high-risk technology, a new deployment reserve consisting of the three nuclear power plants still connected to the grid (Neckarwestheim, Isar, Emsland) was formed for a limited period until April 2023. The Federal Network Agency will monitor the current conditions on the electricity market and grids (coal stocks, power plant availability, gas availability, etc.) and then decide on the basis of this information whether to continue operating the three remaining nuclear power plants in Germany, including Block II in Neckarwestheim.

The Federal Network Agency (BNetzA) confirmed the framework scenario produced by the four electricity transmission system operators (TSOs) for the **Network Development Plan 2037/2045 (2023) Electricity** ⁹ in July 2022 based on a draft scenario by the TSOs, a public consultation and the BNetzA's own evaluations. It contains three scenarios for 2037 and, for the first time, also includes an outlook for a “climate-neutral grid” to support a climate-neutral Germany in 2045. It not only factors in the phaseout of coal and nuclear energy but also the national hydrogen strategy, the highly ambitious policies for the expansion of renewable energies and an increasingly integrated internal energy market in Europe as the main drivers of the transformation of the energy system. The three scenarios reflect different degrees of hydrogen uptake and electrification. The installed renewable energy generation capacities should reach between 400 and 445 GW for photovoltaics and between 230 and 250 GW for onshore and offshore wind by the year 2045. This means that the growth rate

will have to increase fivefold in comparison to the reference year of 2020 in order to cover gross electricity consumption in 2045, which is expected to double to around 1,000 to 1,300 TWh. The first results from the grid calculations are expected at the end of the first quarter.

Our transmission grid operator TransnetBW is participating in two major projects to push forward the development of high-voltage DC transmission lines (HVDC) ⁹ to transport wind energy in future from the north of Germany to the centers of consumption in the south. TransnetBW is responsible for the most southern section of the **ULTRANET** project between North Rhine-Westphalia and Philippsburg. It was possible to submit objections to the plans for this section up to the end of August 2022 during the consultation process. These objections will be discussed with the BNetzA in the next stage before the final decision on awarding planning permission is made. In the **SuedLink** project, two high-voltage DC transmission lines from Schleswig-Holstein to Bavaria and Baden-Württemberg are being realized in cooperation with TenneT. The consultation process for the first of a total of eight sections for which TransnetBW is responsible ended in September. The BNetzA has defined the scope of the assessments required for the further planning of the remaining seven sections.

The **grid companies in the EnBW Group have implemented numerous digitalization measures** which should reduce the huge need to expand the electricity grid in order to achieve the climate neutrality targets and also to optimize the processes involved in operating the grids. In October 2022, Netze BW founded the cooperation network **“1:network” (1:n)** together with the German meter manufacturer EMH metering, Stromnetz Hamburg and Stadtwerke Karlsruhe Netzservice. The partners aim to push forward the use of the 1:n wireless solution and accelerate its time to market. 1:n connects several electricity meters to one single smart meter gateway via a wireless protocol. It will fulfill all of the requirements set by the Federal Office for Information Security (BSI) and the National Metrology Institute of Germany (PTB) for a smart metering system in the future. 1:n can thus drastically reduce the number of smart meter gateways required and should mark a milestone in the efficient rollout of smart meters and the digitalization of the energy transition.

The BNetzA confirmed the amended scenario framework for the **Network Development Plan Gas 2022–2032** ⁹ in November 2022. This means that the current process for the preparation of the NDP Gas will now take into account the impact of the war between Russia and Ukraine. The gas transmission system operators will thus reflect the significant changes to the framework conditions in the gas industry arising from the new geopolitical situation in their models for the grid. Among other things, the gas transmission system operators will consider three LNGplus variations of the scenario for securing the supply of gas that foresee the full replacement of Russian gas with capacities that are available at the German LNG ⁹ facilities and the additional capacities available at cross-border points in Western Europe. The modeling of a hydrogen scenario, which will demonstrate how the existing natural gas grid in Germany can be used to develop an infrastructure for hydrogen by 2032, remains a part of the Network Development Plan. The consultation document on the Network Development Plan Gas 2022–2032 was published by the gas transmission system operators in December 2022.

The current Network Development Plan Gas runs until 2030 and envisages an increase in the gas transmission capacities in Baden-Württemberg, especially for the supply of new gas power plants, which will require a needs-based **expansion of the gas transmission grid** by our subsidiary terranets bw. One of the current expansion measures is the Neckar-Enz Valley pipeline. It will increase the security of supply in Baden-Württemberg and sustainably increase the supply of gas to the Ludwigsburg/Enzkreis region, even at peak times. Construction of this almost 30 km long pipeline began at the beginning of March 2022 and it was placed into operation in December 2022.

Sustainable Generation Infrastructure segment

Installed net output for electricity generation in Germany

in GW	2022	2021	2020	2019	2018
Solar	66.5	59.0	54.1	49.1	45.3
Onshore wind	58.2	56.3	54.8	53.2	52.5
Biomass	9.0	9.4	8.3	8.5	8.1
Offshore wind	8.1	7.8	7.7	7.5	6.4
Hydropower ¹	5.4	5.5	5.5	5.5	5.5
Gas	32.1	31.7	30.5	30.1	30.1
Hard coal	19.0	19.9	23.7	22.7	23.8
Brown coal	18.9	20.0	20.3	20.9	20.9
Nuclear power	4.1	8.1	8.1	9.5	9.5
Oil	4.7	4.7	4.4	4.4	4.4
Total	226.0	222.3	217.4	211.3	206.5

¹ Addition of 5.4 GW hydropower by EnBW. Source: Fraunhofer ISE (www.energy-charts.de) | As of 13/02/2023

Renewable energies

Germany

The proportion of total electricity generation accounted for by renewable energies was around 44% in 2022 and thus significantly higher than in the previous year (previous year restated due to more precise analyses: 41%). More favorable wind conditions and a higher installed photovoltaic capacity were the main reasons for this increase.

The target for the share of the gross electricity consumption accounted for by renewable energies in 2030 has been raised to at least 80% in the reform of the Renewable Energies Act. In order to achieve this target, significant increases were defined for the annual auction capacities and expansion volumes as well as other measures. The annual growth rate for onshore wind power will be increased to 10 GW. Annual growth in photovoltaics of 22 GW is planned from 2026 onwards. As part of the reform of the Offshore Wind Energy Act, the targets for offshore wind energy have been increased to an installed output of 30 GW by 2030, 40 GW by 2035 and 70 GW by 2045. We welcome these developments and believe that they validate our strategy of making renewable energies an important pillar of our company.

Onshore wind

In 2022, new onshore wind farms with a total capacity of around 2 GW were placed into operation in Germany. In the auctions held in May and September, the available capacities were not covered by the submitted bids, which was mainly due to poorer financial framework conditions as a result of higher interest rates, and a significant increase in the cost of raw materials. The target land areas defined for the federal states by the German government will have a positive impact on the expansion of onshore wind energy in the long term. The amendments on the protection of species in the Federal Nature Conservation Act will also have a positive effect.

Offshore wind

One new offshore wind farm with a capacity of around 340 MW was placed into operation in Germany in the first half of 2022. An auction for a pre-investigated site in the North Sea with an installed output of 980 MW was held in September. Significant auction capacities were also announced for 2023 and 2024.

Photovoltaics

A total of around 6 GW of photovoltaic power was connected to the grid in Germany in 2022. In the auctions held in 2022, bids for open-field projects with a total capacity of 2.3 GW and for rooftop power plants with a total capacity of 0.5 GW were accepted. The auctions covered a total capacity of 4.8 GW. The fact that only 2.9 GW was awarded to the successful bids indicates that there are not enough approved projects available to participate in the auctions and the financial framework conditions have become significantly more challenging. In order to achieve the ambitious expansion targets, it will be necessary to expand the approved areas for wind farms considerably.

France

We develop and realize wind energy and PV projects on the French market through our subsidiary Valeco – a project developer and operator in the renewable energies sector. We expect continued dynamic growth in France both in the area of wind power and photovoltaics. 20 GW of onshore wind capacity is currently installed in France. The government's target is to expand this figure to between 33 and 35 GW by 2028. It also aims to expand the installed photovoltaic capacity from the current figure of 16 GW to between 35 and 44 GW. The French energy strategy includes ambitious expansion targets for offshore wind power. We are taking part in an auction for a floating wind farm off the coast of Brittany and are already prequalified for the next phase of auctions for floating projects in the Mediterranean Sea.

Great Britain

The British government has once again raised its target for the expansion of offshore wind capacity by a further 10 GW to 50 GW by 2030 and has underlined its position as the largest European market for offshore wind. In the latest auctions within the CfD (Contracts for Difference) ² funding scheme, six projects with a total capacity of almost 7 GW were successful.

The results of an auction for offshore wind rights in Scotland were announced at the beginning of 2022. We had our joint bid – submitted together with our partner bp – accepted for sites to develop offshore wind farms with a capacity of up to 2.9 GW. The "Morven" project that will be developed on one site will generate enough power to supply more than three million households on aggregate.

Sweden

The Swedish energy market offers favorable physical conditions and a still growing and competitive market environment for renewable energies. The further expansion of onshore wind plays an important role in the Swedish generation market. Photovoltaics are becoming an even more attractive proposition, especially in southern Sweden. It remains to be seen whether offshore wind power will also play an increasing role in the Swedish energy mix in future, both as an important source of electricity and in combination with the targets for integrating green hydrogen into the industrial and transport sectors.

Turkey

Our joint venture in Turkey with our partner Borusan operates wind turbines with a total output of 665 MW and is one of the largest players on the Turkish wind market. In addition, the joint venture operates a hydropower plant (50 MW) and two solar parks (9 MW). Since 2021, there has been a new funding mechanism for renewable energies that will be valid for projects commissioned up until the end of 2025. Feed-in remuneration for new projects will no longer be calculated in US dollars, as previously, but rather in Turkish lira directly. This change will have no impact on the earnings from our existing projects.

Turkey continues to have great untapped potential with respect to renewable energies, primarily in the areas of onshore wind and photovoltaics. We believe that the Turkish market remains an attractive proposition for the future, although we are monitoring the current political and economic developments in Turkey very closely.

Conventional generation: market and fuel prices

Electricity wholesale market

In 2022, the average spot market price ¹ of around €235/MWh was approximately €139/MWh higher than in the previous year. The average price on the forward market ² was also significantly higher than the average price in the previous year. These price increases were mainly due to higher prices for gas, coal and CO₂ allowances. In addition, coal power plants were deployed to a much greater extent than normal due to the high price of gas. The future development of electricity prices will depend on the development of fuel and CO₂ prices and trends in the electricity generation mix. As well as the future development of energy and climate policies, what happens in the war between Russia and Ukraine and the sanctions imposed on Russia will have a major influence on the electricity market.

Development of prices for electricity (EPEX), base load product

in €/MWh	Average 2022	Average 2021
Spot ¹	235.45	96.85
Rolling front year price	298.86	89.14

¹ The figures for the previous year have been restated.

Development of prices for natural gas on the TTF (Dutch wholesale market)

in €/MWh	Average 2022	Average 2021
Spot	122.98	46.87
Rolling front year price	114.21	33.60

Gas market

Prices increased considerably in 2022 in comparison to the previous year. Repeated reductions in the quantities supplied by Russia were the main reason for this development. There were huge increases in spot market prices for a short period of time immediately after the start of the war between Russia and Ukraine. Russian gas continued to flow initially despite the war, which calmed the market to some extent. At the beginning of April 2022, Gazprom Germania (renamed as SEFE Securing Energy for Europe since June 2022) was placed under government control after Gazprom made changes to ownership. Gazprom reduced the capacity of the Nord Stream 1 pipeline by two thirds in the middle of June 2022. This reduction was the main reason for Germany moving to warning level 2 of the Emergency Plan for Gas. Overall, this led to significant price increases from the middle of June 2022 onwards. Russia resumed its supply of gas to Europe via Nord Stream 1 after the completion of maintenance work and gas flowed again from 21 July. However, gas only flowed through the pipeline at 20% of its maximum capacity. Gazprom announced further maintenance work on Nord Stream 1 at the end of August and thus triggered another massive increase in prices. Following the completion of the maintenance work, the company reported damage to a turbine and did not resume exports again. At the end of September, there was an attack on the pipelines in which two strands of the Nord Stream 1 pipeline and at least one strand of the Nord Stream 2 pipeline were damaged.

The lack of gas from Russia was compensated for to some extent by very high production in Norway. LNG imports ⁸ to northwest Europe also increased considerably in comparison to the previous year. However, imports fell slightly over the summer of 2022 because there were insufficient pipelines to transport the gas from the LNG terminals to several gas storage facilities. Gas storage levels in Northwest Europe were comparatively low at the end of last winter but reached a relatively high level over the summer months. The EU also passed a law requiring a fill level of 80% by 1 November 2022. Some countries increased this target even further, such as the 95% level prescribed by Germany. The gas storage targets were achieved. This was helped to some extent by a warm October, which meant there was low demand for heating, and falling prices on the spot market (p. 63 f. ⁷).

The European governments called on power plants, industry and households to reduce their gas consumption by around 15% in order to prevent potential gas shortages over the winter 2022/2023. Large volumes of LNG will continue to be needed in northwest Europe to replace Russian gas. In September 2022, the first new LNG terminal in the Netherlands was placed into operation and has helped to ease the situation. The first liquefied natural gas terminal in Wilhelmshaven also started operating on 21 December 2022. Another liquefied gas terminal was then opened just four weeks later by the Federal Chancellor Olaf Scholz. A Floating Storage and Regasification Unit (FSRU) arrived in Brunsbüttel at the end of January. It is thus the third German LNG terminal that has been placed into operation this winter to ensure the security of the energy supply in just a short space of time.

Oil market

Oil prices rose almost continuously from the beginning of January until June 2022. This trend was only interrupted by a sharp spike in prices of up to US\$128/bbl immediately after the beginning of the Russian attack on Ukraine at the end of February, although this did not have a sustained impact. Prices continued to climb until 8 June when they hit a price of US\$123/bbl. Alongside the war between Russia and Ukraine, a significant rise in the global demand for oil after the coronavirus pandemic and a shortage of oil products also contributed to the increase in prices. Although the OPEC+ group repeatedly increased oil production at first, more and more member OPEC+ states were simply not able to fulfill their rising production quotas. From the middle of June 2022 onwards, high oil prices combined with the sharp increases in interest rates made by many central banks increased the fears of a possible recession amongst market participants and led to an associated negative impact on the global demand for oil. Only the agreement by the OPEC+ group to cut their oil production by two million barrels a day from 1 November 2022 was able to stop the drop in prices and stabilize them. The oil market will still be subject to considerable uncertainty in the future due to the geopolitical crisis, artificial shortages in supply created by OPEC+ since November and macroeconomic risks.

Development of prices on the oil markets

in US\$/bbl	Average 2022	Average 2021
Crude oil (Brent) front month (daily quotes)	99.17	70.95
Crude oil (Brent), rolling front year price (daily quotes) ¹	87.19	66.32

¹ The figures for the previous year have been restated.

Development of prices on the coal markets

in US\$/t	Average 2022	Average 2021
Coal – API #2 rolling front year price	222.13	95.07
Coal – API #2 spot market price	292.08	122.24

Coal market

Coal prices increased initially up to the end of February 2022. Russia and South Africa reported problems with their domestic logistics that had a negative effect on export volumes. The Indonesian government also imposed a coal export ban for January 2022. Prices then climbed significantly following Russia's attack on Ukraine. There were sharp increases in spot prices up to the beginning of March 2022 with prices reaching US\$417/t because of market fears that Russia would fail to deliver its coal. As Russia continued to deliver coal to Europe, however, prices fell at first before continuing to rise again. A new all-time high of US\$424.97/t for the spot price API #2 was ultimately reached on 23 June 2022. The spot price API #2 experienced very volatile sideways movement immediately afterwards but there was then a sharp downturn in API #2 coal prices from the beginning of September. Coal prices then tended to follow not only developments in European gas prices and German electricity prices but in producer margins. On the one hand, there was downward pressure on prices due to the fact that European coal consumers had already covered their demand for the rest of the year to a very high extent to avoid supply shortages. Coal reserves in the ARA region (around Antwerp, Rotterdam and Amsterdam) almost reached full capacity. Following concerns of potential shortages in supply, there was paradoxically a physical oversupply of coal in northwest Europe. In the near future, the European coal market will be highly dependent on the weather during the winter, the development of gas and electricity prices and changes in supply and demand. The forward market ⁹ is anticipating that the situation will ease slightly only in 2024 and 2025 because the demand for coal will remain high in Europe and there is no possibility of a resumption of Russian deliveries for the time being.

Development of prices for emission allowances/daily quotes

in €/t CO ₂	Average 2022	Average 2021
EUA – rolling front year price	81.04	52.76

CO₂ allowances ⁹

At the beginning of 2022, prices for EUA certificates ⁹ at first rose continuously from around €80/t CO₂ to over €96/t CO₂ and were significantly higher than those in the previous year. Following the start of the war between Russia and Ukraine, prices fell back down below €60/t CO₂. They then recovered over time and have been between €70/t CO₂ and €100/t CO₂ since the middle of April 2022. The main drivers of prices for EUA certificates in 2022 were, on the one hand, high emissions in the electricity sector and, on the other hand, the risk of lower emissions in the industrial sector caused by high gas prices and a potential physical shortage of gas during winter 2022/2023. As a result of the further reductions in supply imposed by the market stability reserve [MSR] ⁹ and the tightening of the climate targets for 2030, further price increases are expected in the long term.

Nuclear power

Germany had decided to phase out nuclear power by the end of 2022. This decision was reaffirmed in the current coalition agreement. We responded to this decision at an early stage with a comprehensive dismantling strategy that is being rigorously implemented by our subsidiary EnBW Kernkraft (EnKK). EnKK is the licensed operator of our five nuclear power plants and is also responsible for their dismantling. The dismantling work has been underway in Obrigheim since 2008, at the blocks Neckarwestheim I and Philippsburg 1 since 2017 and at Philippsburg 2 since 2020. In accordance with the German Atomic Power Act (AtG), operation of the fifth power plant – Block II in Neckarwestheim – was only due to continue until the end of 2022. EnKK has also already applied for approval to dismantle this power plant so that work can be started as soon as possible after it is finally shut down.

Following approval by the Bundesrat on 25 November 2022, the three remaining nuclear power plants in Germany – including Block II in Neckarwestheim – will now continue to operate until 15 April 2023. For this reason, EnBW has carried out all of the preparatory work to ensure that, instead of the planned phaseout of nuclear power at the end of the year, Block II in Neckarwestheim can continue to operate reliably and safely. EnBW will thus make its contribution to the security of the energy supply in Germany to the best of its abilities.

The EnBW Group

Finance and strategy goal dimensions

Changes to the segment reporting

Due to a change in the allocation of business activities to the different Board of Management remits, there has been a change in the composition of our segments. The area of contracting was previously allocated to the Smart Infrastructure for Customers segment but is now part of the Sustainable Generation Infrastructure segment. Innovation activities were previously reported under the Smart Infrastructure for Customers segment but will be presented under the System Critical Infrastructure segment from 2022 onwards. The figures for the comparative periods have been restated in each case.

Results of operations

Electricity and gas sales at almost same level as previous year

Electricity sales volume (without System Critical Infrastructure)

in billion kWh ¹	Smart Infrastructure for Customers		Sustainable Generation Infrastructure		Total (without System Critical Infrastructure)		Change in %
	2022	2021	2022	2021	2022	2021	
Retail and commercial customers (B2C)	14.1	14.4	0.0	0.0	14.1	14.4	-2.1
Business and industrial customers (B2B)	22.6	23.5	0.6	0.0	23.2	23.5	-1.3
Trade	0.1	0.1	68.5	69.5	68.6	69.6	-1.4
Total	36.8	38.0	69.1	69.5	105.9	107.5	-1.5

¹ The figures for the previous year have been restated.

Electricity sales in 2022 were at the same level as in the previous year. In a currently challenging market environment, electricity sales to retail and commercial customers (B2C) and also to business and industrial customers (B2B) remained at almost the same level as in the previous year. Sales in the trading sector were also at around the same level as in the previous year.

Gas sales volume (without System Critical Infrastructure)

in billion kWh	Smart Infrastructure for Customers		Sustainable Generation Infrastructure		Total (without System Critical Infrastructure)		Change in %
	2022	2021	2022	2021	2022	2021	
Retail and commercial customers (B2C)	15.5	18.3	0.0	0.0	15.5	18.3	-15.3
Business and industrial customers (B2B)	147.5	246.6	0.0	0.0	147.5	246.6	-40.2
Trade	1.9	1.2	343.7	228.9	345.6	230.1	50.2
Total	164.9	266.1	343.7	228.9	508.6	495.0	2.7

Gas sales increased slightly by 2.7% in 2022 in comparison to the previous year. Adjusted for the effects of changes in the consolidated companies, gas sales were 6.8% higher than the figure in the previous year. Gas sales to retail and commercial customers (B2C) fell due to the weather and the currently challenging market environment. The decrease in sales to business and industrial customers (B2B) in comparison to the previous year was mainly attributable to the cessation of the gas activities at Gas-Union. Sales in the trading sector increased significantly due to expanded trading activities, including in the area of LNG.

External revenue significantly higher than previous year

External revenue by segment

in € million ^{1,2}	2022	2021	Change in %
Smart Infrastructure for Customers	18,772.8	13,923.6	34.8
System Critical Infrastructure	6,679.1	4,412.6	51.4
Sustainable Generation Infrastructure	30,543.2	13,804.0	121.3
Other/Consolidation	7.5	7.7	-2.6
Total	56,002.6	32,147.9	74.2

1 The figures for the previous year have been restated.

2 After deduction of electricity and energy taxes.

Adjusted for the effects of the changes in the consolidated companies, external revenue was 76.3% higher than the level in the previous year. The increase in revenue was accompanied by a corresponding rise in the cost of materials in all segments.

Smart Infrastructure for Customers: Revenue in the Smart Infrastructure for Customers segment increased significantly in 2022 in comparison to the previous year. Adjusted for the effects of the changes in the consolidated companies, revenue was 34.5% higher than in the previous year. This was primarily due to higher prices, especially in the B2B business.

System Critical Infrastructure: Revenue in the System Critical Infrastructure segment increased considerably in 2022 in comparison to the previous year. This increase in revenue was primarily due to higher income from the settlement of redispatch measures with other transmission system operators that has no impact on the result.

Sustainable Generation Infrastructure: In the Sustainable Generation Infrastructure segment, revenue increased considerably in comparison to the previous year, mainly due to higher prices and an increase in trading activities as a result of growing volatility on the electricity and gas markets. Adjusted for the effects of the changes in the consolidated companies, revenue was 128.1% higher than in the previous year.

Material developments in the income statement

The increase of €23,854.7 million in revenue in comparison to the previous year to €56,002.6 million was primarily attributable to higher sales prices in the electricity and gas sectors. The cost of materials was €25,197.4 million higher than the figure in the previous year for the same reason. Other operating income increased by €5,091.9 million in comparison to the previous year. This was attributable to higher income from derivatives, reversals of impairment losses especially on our conventional generation plants and the reversal of provisions for onerous contracts due to, among other things, the early termination of an electricity procurement agreement. Other operating expenses increased by €1,966.6 million, which was also a result of the valuation of derivatives in comparison to the previous year. Amortization and depreciation fell by €312.7 million compared to the previous year. This was mainly attributable to impairment losses on conventional power plants in the previous year.

The investment result in the reporting year stood at €276.8 million, which was €96.8 million higher than the figure of €180.0 million in the previous year. This increase was primarily the result of higher income from the dedicated financial assets. The financial result deteriorated in the reporting period in comparison to the same period of the previous year by €197.1 million to €-22.6 million (previous year: €174.5 million). The main reason for this development was a lower result from the market valuation of securities. This was offset to some extent by the increase in the interest rate for nuclear provisions.

Overall, earnings before tax (EBT) totaled €2,395.4 million in the 2022 financial year, compared with €513.3 million in the same period of the previous year.

Earnings

The Group net profit/loss attributable to the shareholders of EnBW AG increased from €363.2 million in 2021 by €1,374.8 million to €1,738.0 million in the reporting period. Earnings per share amounted to €6.42 in the 2022 financial year, compared to €1.34 in the previous year.

Adjusted earnings and non-operating result

The sum of the adjusted earnings figures and non-operating figures ² gives the figures on the income statement. The non-operating result includes effects that cannot be predicted or cannot be directly influenced by us and as such are not relevant to the ongoing management of the company. The effects are presented and explained in the section "Non-operating EBITDA" ². The business activities relevant to the ongoing management of the company are of particular importance for internal management and for the external communication of the current and future earnings potential. We use the adjusted EBITDA ² – earnings before the investment and financial results, income taxes and amortization, adjusted for non-operating effects – as the key reporting indicator for disclosing this information.

Adjusted EBITDA and the share of the adjusted EBITDA accounted for by the segments

TOP

Adjusted EBITDA by segment

in € million ¹	2022	2021	Change in %	Forecast 2022 ²	Adjusted forecast 2022 ³
Smart Infrastructure for Customers	510.2	344.0	48.3	350 to 425	✓
System Critical Infrastructure	1,046.0	1,263.0	-17.2	1,225 to 1,325	↘
Sustainable Generation Infrastructure	1,934.8	1,539.7	25.7	1,650 to 1,750	↘
Other/Consolidation	-205.3	-187.4	9.6		
Total	3,285.7	2,959.3	11.0	3,025 to 3,175	2,700 to 2,900

1 The figures for the previous year have been restated.

2 Forecast as published in the report from 31/12/2021.

3 Adjusted forecast as published in the report on 30/09/2022.

TOP

Share of adjusted EBITDA accounted for by the segments

in %	2022	2021	Forecast 2022 ²
Smart Infrastructure for Customers	15.5	11.6	10 to 15
System Critical Infrastructure	31.8	42.7	35 to 45
Sustainable Generation Infrastructure	58.9	52.0	50 to 60
Other/Consolidation	-6.2	-6.3	-
Total	100.0	100.0	

1 The figures for the previous year have been restated.

2 Forecast as published in the report from 31/12/2021.

The adjusted EBITDA for the EnBW Group increased by 11.0% in the 2022 financial year in comparison to the previous year to €3,285.7 million, and was thus higher than the original and also the adjusted forecasted range. Adjusted for the effects of changes in the consolidated companies, the adjusted EBITDA for the EnBW Group would have increased by 10.8%.

Smart Infrastructure for Customers: The adjusted EBITDA of the Smart Infrastructure for Customers segment of €510.2 million was significantly higher than the previous year and our forecasted range. Adjusted for the effects of changes in the consolidated companies, earnings increased by €162.0 million. The reason for this increase in earnings and the outperformance of our forecast was the positive earnings performance of the SENEK Group and our B2B business at our subsidiaries.

System Critical Infrastructure: The adjusted EBITDA of the System Critical Infrastructure segment decreased in the 2022 financial year in comparison to the previous year and was clearly below the originally forecasted range, as already communicated in our reporting from 30 September 2022. As a result, the share of the adjusted EBITDA for the Group accounted for by this segment of 31.8% was lower than originally forecast. The reason for this fall in earnings and the underperformance of the forecasted range was the considerably higher expenses for the grid reserve including redispatch to maintain the security of supply, as there was a large increase in both the number of deployments and prices. This was offset to some extent by higher congestion revenue due to a high electricity price differential between Germany and the neighboring countries of France and Switzerland.

Sustainable Generation Infrastructure: The adjusted EBITDA of the Sustainable Generation Infrastructure segment of €1,934.8 million in 2022 exceeded both the value in the previous year and also our forecasts. Adjusted for the effects of changes in the consolidated companies, earnings increased by 25.6%.

This positive development compared to our published forecasts was mainly due to lower negative effects from the market valuation of energy derivatives ⁹ and a higher result from energy trading.

Adjusted EBITDA Sustainable Generation Infrastructure

in € million	2022	2021	Change in %
Renewable Energies	1,107.1	794.0	39.4
Thermal Generation and Trading	827.7	745.7	11.0
Sustainable Generation Infrastructure	1,934.8	1,539.7	25.7

In comparison to the previous year, the adjusted EBITDA for the Renewable Energies area increased by 39.4% to €1,107.1 million. High market prices, better wind conditions and the addition of new solar parks contributed to this increase in earnings. In the Thermal Generation and Trading area, the adjusted EBITDA increased in 2022 by 11.0% to €827.7 million in comparison to the previous year. Higher market prices and positive earnings contributions from trading positions taken were able to more than offset the negative effects of the reductions and cessation in gas supplies due to the war between Russia and Ukraine and the negative effects from the market valuation of energy derivatives.

Increase in the non-operating EBITDA in comparison to the previous year

Non-operating EBITDA

in € million	2022	2021	Change in %
Income/expenses relating to nuclear power	-591.6	70.5	-
Income from the reversal of other provisions	14.8	8.6	72.1
Result from disposals	3.8	-6.6	-
Reversals of/additions to the provisions for onerous contracts relating to electricity and gas procurement agreements	393.8	-343.1	-
Income from reversals of impairment losses	1,499.1	69.5	-
Restructuring	-28.7	-42.3	-32.2
Other non-operating result	-103.6	87.6	-
Non-operating EBITDA	1,187.5	-155.8	-

The increase in non-operating EBITDA ⁹ was primarily attributable to income from reversals of impairment losses on our conventional generation plants and from the reversal of provisions for onerous contracts. The improvement in profitability of coal power plants in the liquid period was the reason for the reversals of impairment losses on the conventional generation plants and, alongside the early termination of an electricity procurement agreement, was also related to the reversal of provisions for onerous contracts. This was offset to some extent by higher expenses relating to nuclear power.

In the 2022 financial year, the other non-operating result ⁹ decreased in comparison to the previous year. This was mainly attributable to valuation effects from derivatives. In addition, the non-operating result contains corrections relating to previous years.

Considerable increase in Group net profit

Group net profit

in € million	2022			2021		
	Total	Non-operating	Adjusted	Total	Non-operating	Adjusted
EBITDA	4,473.2	1,187.5	3,285.7	2,803.5	-155.8	2,959.3
Amortization and depreciation	-2,332.0	-716.8	-1,615.2	-2,644.7	-1,088.3	-1,556.4
EBIT	2,141.2	470.7	1,670.5	158.8	-1,244.1	1,402.9
Investment result	276.8	-35.8	312.6	180.0	-42.1	222.1
Financial result	-22.6	449.6	-472.2	174.5	0.0	174.5
EBT	2,395.4	884.5	1,510.9	513.3	-1,286.2	1,799.5
Income tax	-551.5	-265.7	-285.8	-72.1	330.7	-402.8
Group net profit/loss	1,843.9	618.8	1,225.1	441.2	-955.5	1,396.7
of which profit/loss shares attributable to non-controlling interests	(105.9)	(-146.6)	(252.5)	(78.0)	(-115.5)	(193.5)
of which profit/loss shares attributable to the shareholders of EnBW AG	(1,738.0)	(765.4)	(972.6)	(363.2)	(-840.0)	(1,203.2)

The increase in Group net profit in comparison to the previous year was the result of several different effects. High reversals of impairment losses, especially on our conventional generation plants, which had only been impaired in the previous year, and the reversal of provisions for onerous contracts in the 2022 financial year, compared to additions to the provisions in the same period of the previous year, were the main reasons. Please refer to the section “Non-operating EBITDA” for more information (p. 77⁷). The better result from the valuation of the derivatives also had a positive effect. This was offset to some extent by the decrease in the financial result, which was primarily due to a significantly lower result from the market valuations of securities. It was not possible to compensate for this decrease with income from the increase in the interest rate for nuclear provisions and higher income from the dedicated financial assets in the investment result. Please refer to the section “Material developments in the income statement” on p. 75⁷ for further information. Income taxes change in line with the development of EBT⁷.

We use the amended adjusted investment result to calculate the value spread⁷. This is calculated on the basis of the adjusted investment result less the adjusted result from investments held as financial assets of €226.2 million (previous year: €133.7 million).

Financial position

Financial management

Basis and objectives

The purpose of our financial management system is to ensure that EnBW is able to meet its payment obligations at all times without restriction. In order to minimize risk, optimize costs and increase transparency, financial transactions are managed within the Group finance department as far as possible.

The liquidity management system at EnBW is based on an efficient in-house bank approach⁷ in which liquidity is combined in an EnBW cash pool⁷. Liquidity needs are determined using a forecasting tool and compared with corresponding liquidity sources. By applying a utilization rate for liquidity, we can derive the financing needs and then implement them. We have identified almost 100 relevant liquidity drivers for the forecast. The tool combines a deterministic approach with a risk-based approach to liquidity management. Daily operational management of liquidity is secured using a seven-day and three-month assessment. We also examine the situation over a period of twelve months in our strategic financial analysis.

In the operating business, derivatives⁷ are deployed for hedging purposes only: for example, for forward contracts for electricity and primary energy source trading. This also applies for foreign exchange and interest rate derivatives. All trading activities take place within a consistent framework using risk capital on the one hand and derived limits on the other. The value at risk (VaR) is of

central importance when measuring the level of risk in proprietary trading. In the reporting year, the average value at risk was €20 million.

Interest rate risk management involves the management and monitoring of interest-sensitive assets and liabilities. All relevant interest positions at the Group are analyzed here and used to derive an interest risk strategy. The purpose is to limit the impact of fluctuations in interest rates and interest rate risks on the results of operations and net assets. Appropriate recommendations for action for managing the interest position are resolved by an interest committee. The interest committee meets regularly and can also be convened on an ad hoc basis depending on the market situation.

Currency positions resulting from operations are closed by appropriate forward exchange contracts. Currency fluctuations from operating activities do not have any major effect on our operating result. Foreign exchange risks are monitored on a case-by-case basis within the framework of the currency management system.

As part of the EnBW-wide digital transformation, the treasury IT landscape ² including the payment transaction system and in-house bank has been replaced. As a result, we have achieved greater automation and more stable processes, and have also implemented new and amended governance rules.

We will continue to strive to maintain a balanced financing structure, solid financial profile and thus solid investment-grade ratings ². We aim to secure our long-term access to the capital markets under competitive conditions by reaching a broader base of investors using sustainable financial instruments. Furthermore, we are digitalizing the underlying information and decision-making processes by creating a centralized data structure that can be managed and viewed using new media.

EnBW manages its financial profile using the key performance indicator debt repayment potential ² as the most important indicator of the company's creditworthiness. The debt repayment potential describes the retained cash flow ² in relation to the net debt ² and measures the ability of EnBW to repay its debts from its current earnings potential. A target value of at least 12% should enable the company to exploit growth opportunities while maintaining the creditworthiness of the company at the same time. This target level is reviewed on a regular basis to guarantee a solid investment-grade rating.

Further explanations of our financial terms can be found in the chapter "Strategy, goals and performance management system" on p. 39f. ⁷

Credit ratings

We aim to hold solid investment-grade ratings in order to:

- ensure unrestricted access to capital markets
- offer reliable opportunities for financing partners
- be regarded as a dependable business partner in our trading activities
- achieve the lowest possible capital costs
- implement an appropriate number of investment projects and thereby maintain the future viability of the company

Development of credit ratings – rating/outlook

	2022	2021	2020	2019	2018
Moody's	Baa1/stable	Baa1/stable	A3/negative	A3/negative	A3/stable
Standard & Poor's (S&P)	A-/negative	A-/stable	A-/stable	A-/stable	A-/stable

Even from a ratings perspective, 2022 was highly impacted by the war between Russia and Ukraine, which affected Germany's gas supply and had financial implications for the EnBW subsidiary VNG. The rating agencies Moody's and S&P constantly monitored developments, took them into account in their rating assessments for EnBW and published updates regularly.

Details on the **risk management system** can be found in the notes to the consolidated financial statements in note (26) "Accounting for financial instruments."

For example, S&P confirmed its A- rating for EnBW AG on 15 September 2022 in response to the application submitted by VNG to the German Federal Ministry for Economic Affairs and Climate Action for stabilization measures under section 29 of the Energy Security Act (EnSiG). In its EnBW rating, S&P took into account, among other things, that in their estimation the company's integrated position should continue to prove it is more resilient than non-integrated peers to changing conditions. Nevertheless, the outlook was downgraded to negative.

In December 2022, the financial situation of VNG stabilized in the long term after the risks associated with replacement procurement for the loss of Russian gas deliveries were eliminated by two settlement agreements, and VNG was provided with additional liquidity for its core business and corporate transformation via a capital increase by its shareholders. On 8 December 2022, Moody's confirmed the EnBW rating of Baa1 with a stable outlook. It highlighted the fact that EnBW was able to substantially mitigate the losses associated with the gas contracts through, for example, increased income in the area of electricity generation.

On 6 December 2022, S&P announced that it could revise its rating outlook to stable once there is more clarity with respect to the results for the full 2022 financial year and the development of the financial key performance indicators.

EnBW continues to have one of the strongest credit ratings among integrated energy supply companies in Europe with an A- rating from S&P and a Baa1 rating from Moody's. These ratings are in line with EnBW's objective of maintaining solid investment-grade ratings.

Assessment by the rating agencies

Moody's (06/01/2023)

- Leading position on market as vertically integrated utility within Baden-Württemberg
- High share of regulated earnings (transmission and distribution grid)
- Growing share of renewable assets under contracts
- Track record of measures to defend credit quality
- Supportive stance of shareholders
- 2022 EBITDA limited by its exposure to Russian gas supply
- Continued evolution of generation markets
- Execution risks from a large capital spending program, which will constrain credit metrics
- Increasingly competitive environment for renewable assets
- Stable rating outlook reflects expectation that EnBW will record solid earnings growth in 2023–2024 and maintain a prudent financial policy

Standard & Poor's (06/12/2022)

- EnBW's diversified and integrated position should continue to prove it is more resilient than non-integrated peers to changing conditions
- High share of regulated EBITDA and expanding share of renewable generation provides predictability to earnings and cash flow
- Investment strategy with focus on regulated infrastructure and renewable capacity deployment provides a long-term earnings base
- Financial policy, including shareholder support, geared toward protecting the "A-" rating
- Gas reprocurement losses and potential equity support for subsidiary VNG could pressure EnBW's credit metrics and caused negative rating outlook.
- Rating outlook could be revised to stable after gaining clarity on the company's full-year performance and its remedial measures to medium-term pressure on credit metrics

Sustainability ratings

We maintain close contacts with leading sustainability rating agencies and take their analyses and evaluations of the corporate strategy, the company situation and its business prospects into account in our decision-making process. In the selection of agencies, the main focus is placed on, among other things, transparent and plausible evaluations and efficient working processes between the rating agencies, companies, investors and sustainability analysts. We strive to continuously improve our ratings from recognized agencies in the area of sustainability. We thus aim to strengthen our position as a responsible and sustainable company and also want to address those financial investors whose investment decisions are based wholly or partially on sustainability criteria.

Further information on **sustainability ratings** can be found on our website.

[Online ↗](#)

Latest sustainability ratings

	CDP	ISS ESG	MSCI	Sustainalytics
Result	B/Management (2022)	B/Prime Status (2022)	A/Average (2023)	27.3/Medium Risk (2023)
Scale	A to D-	A+ to D-	AAA to CCC	0 to 40+
Relative position	"Energy utility networks" sector: EnBW has an average rating.	"Multi utilities" sector: EnBW rated in the top 10%.	"Utilities" sector: EnBW has an average rating.	"Utilities" sector worldwide: EnBW is ranked in the top third.
Rating focus	Climate protection	Environmental, social and governance aspects	Environmental, social and governance aspects	Environmental, social and governance aspects

In 2022, we received good scores in important sustainability ratings within the energy sector. The ESG Risk Rating from Sustainalytics for EnBW still stood at 31.0 in 2021 but had improved by January 2023 to a score of 27.3 and is now categorized as "medium risk" (scale: negligible 0-10, low 10-20, medium 20-30, high 30-40 and severe 40+). The scores from the other sustainability ratings were at the same level as in the previous year.

Further information on the non-financial key performance indicators can be found on [p. 91 ff.](#)

Financing strategy

We manage the financing needs of our operating activities separately from the Group's pension and nuclear obligations. As part of our financing strategy, we constantly assess capital market trends with regard to the current interest rate environment and to any potentially favorable refinancing opportunities. On this basis, we decide on further financing steps.

Alongside the internal financing capability and our own funds, we have the following financing instruments at our disposal to cover the financing needs of the operating business (as of 31 December 2022):

- Debt Issuance Program (DIP) ^②, via which bonds are issued: €~5.7 billion of €10.0 billion drawn. On 14 April 2022, we increased the volume of the DIP to €10.0 billion so that we are flexibly positioned to handle the planned investment for our EnBW 2025 strategy over the coming years.
- US private placement: equivalent value of US\$~850 million (translation on the pricing day)
- Subordinated bonds: €~2.5 billion
- Commercial paper (CP) program ^②: €~0.7 billion of €2.0 billion drawn
- Promissory notes: €0.5 billion
- Sustainability-linked syndicated credit facility ^②: €1.5 billion undrawn, with a term until the end of June 2027 after utilizing the second extension option for an additional year
- Committed credit lines: €~0.2 billion of €~4.6 billion drawn. This includes the credit line that was concluded with KfW by VNG on 5 April 2022 with a volume of €660 million and a term until April 2023. This credit line was not utilized at any time. It was concluded to exclusively provide additional financial security in response to the potential risk of extreme developments on the market that could not be excluded due to the impact the war between Russia and Ukraine is having on the energy markets. The credit line was terminated prematurely by VNG on 7 February 2023.
- Uncommitted credit lines: €~0.0 billion of €~1.3 billion drawn. These can be utilized in agreement with our banks.
- Bank loans and loans from the European Investment Bank (EIB). For example, EnBW agreed a bank loan of €600 million with the European Investment Bank in December 2022 to finance the He Dreiht offshore wind farm. The loan will be drawn at the earliest in March 2023.
- In addition, subsidiaries have other financing activities in the form of bank loans and promissory notes.

Information on how the funds from the green bonds are used can be found in the [Green Bond Impact Report](#) on our website.

[Online ↗](#)

Capital market activities

We have sufficient and flexible access to the capital market at all times. The EnBW bonds continue to have a well-balanced maturity profile. As part of our financing strategy, we constantly assess capital market trends with regard to the current interest rate environment and to any potentially favorable refinancing opportunities.

To implement our sustainable corporate strategy, we use green bonds as a sustainable financing instrument. We have already issued green bonds [📄](#) with a total volume of €3.5 billion. They are exclusively used to finance climate-friendly projects, which means that all of the proceeds are invested in sustainable environmental and climate-protection projects. All of our green bonds fulfill the criteria for certification by the Climate Bonds Standard Board [📄](#) on behalf of the Climate Bonds Initiative [📄](#).

The euro subordinated bond with a volume of €725 million and the US dollar subordinated bond with a volume of US\$300 million were redeemed at the earliest possible date on 5 January 2022 in accordance with their terms at their principal amounts plus interest accrued.

On 6 July 2022, EnBW successfully issued its first promissory notes in a volatile market environment after several weeks of marketing activities. The volume of €500 million significantly exceeded the target volume of €300 million stated on the term sheet. It was possible to fix the price of all tranches at the lower end of the indicated range. The promissory notes have enabled us to successfully diversify the financing sources available to the Group and further expand our investor base, with over 50 participating German and international investors.

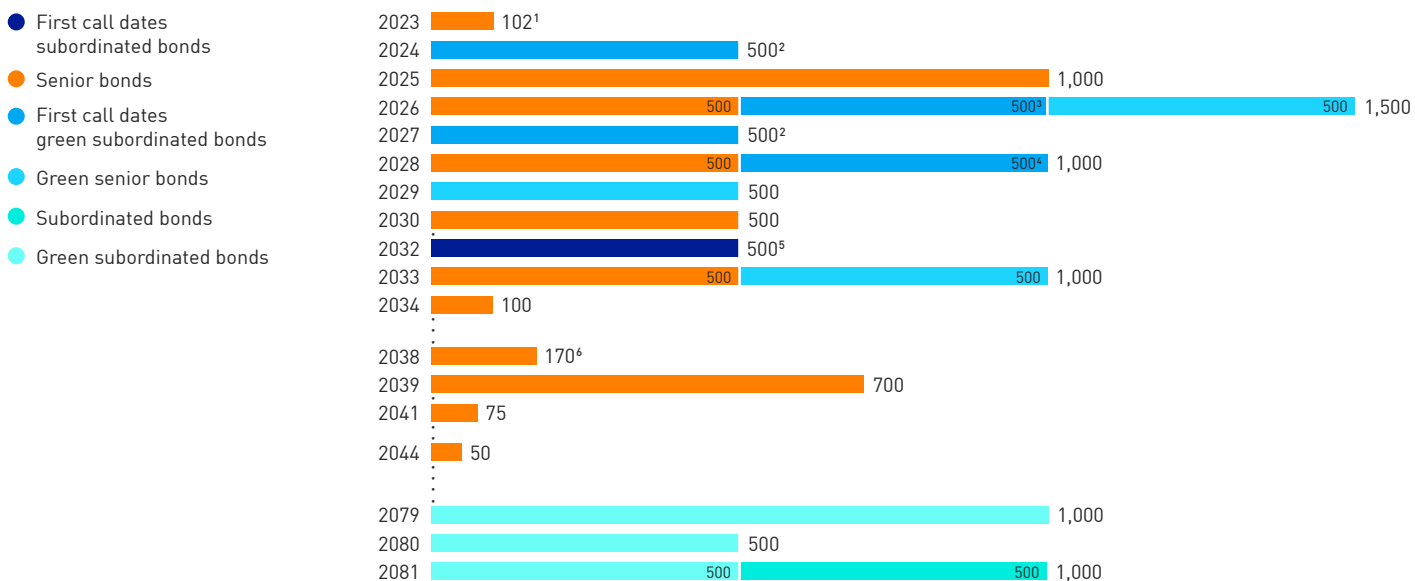
At the end of August 2022, the Climate Bonds Standard Board confirmed the post-issuance certification of the green subordinated bond with a volume of €500 million that was issued on 24 August 2021. The proceeds of the green bond were used entirely for wind power, photovoltaic and electromobility projects.

EnBW concluded its first US private placement of bonds with a total volume of US\$~850 million on 9 November 2022, following two weeks of intensive dialog with investors. Discussions were held with investors on various occasions, including during a road show in the USA and London. The transaction covers amounts in euros, US dollars and pounds sterling with terms of three to twelve years.

In the middle of November, EnBW successfully issued two green corporate bonds with an emission volume of €1 billion. The proceeds from the bonds will be used for offshore wind projects, onshore wind farms and solar parks. For the first time, the funds will also be used for the expansion and refinancing of the electricity distribution grids in Baden-Württemberg.

At the beginning of the year on 17 January 2023, EnBW successfully issued two bonds with a total volume of €1.25 billion. The proceeds from the bonds will be used for implementing aspects of the company's strategy that focus on sustainability.

Maturity profile of EnBW bonds (as of 31 December 2022) in € million



1 CHF 100 million, converted into € as of 31/12/2022.

2 First call date: green subordinated bond maturing in 2079.

3 First call date: green subordinated bond maturing in 2080.

4 First call date: green subordinated bond maturing in 2081.

5 First call date: subordinated bond maturing in 2081.

6 JPY 20 billion (swap in €), coupon before swap 5.460%.

Asset liability management model

We ensure the timely coverage of the pension and nuclear obligations using our asset liability management model⁸.

The aim is to cover the Group's pension and nuclear provisions within an economically feasible period of time by means of appropriate financial assets. We ensure this using our cash flow-based asset liability management model. For this purpose, we determine the effects on the cash flow statement, income statement and balance sheet over the next 30 years. Alongside the anticipated return on financial assets, actuarial reports on pension provisions and sector-specific appraisals by external experts on costs for nuclear decommissioning and disposal are taken into account. The impact the utilization of the pension and nuclear obligations may have on the operating business is limited by taking funds from the financial assets. In the 2022 financial year, the impact on the cash flow from operating activities was around €370 million. As soon as the provisions are fully covered by the financial assets, no further funds will be taken from the cash flow from operating activities as part of the model. This model also allows simulations of various alternative scenarios.

As of 31 December 2022, the dedicated financial assets⁹ for pension and nuclear provisions totaled €6,034.7 million (previous year: €6,477.2 million). Alongside the dedicated financial assets, there are plan assets to cover certain pension obligations with a market value of €714.2 million as of 31 December 2022 (previous year: €869.9 million).

We strive to reach the defined investment targets with minimum risk. We also further optimized the risk/return profile of the financial assets in 2022. The main part of the dedicated financial assets is distributed as investments across nine asset classes. The financial assets are bundled in two master funds with the following investment targets:

- Risk-optimized investments, with a performance in line with market trends
- Consideration of the effects on the balance sheet and income statement
- Broad diversification of the asset classes
- Reduction of costs and simplification of administrative processes
- Consideration of sustainability aspects

The asset management department at EnBW[Ⓢ] is responsible for the sustainable alignment of medium to long-term capital investments. It already began to rethink and sustainably realign the investment philosophy a number of years ago. This is why we take ESG criteria into account in our investment decisions. Our considerations in this regard thus focus on improving climate protection and good corporate management with respect to themes such as reputation, fraud and corruption.

As an institutional investor, we can already demonstrate today that a significant proportion of our investment is impact investment. The proportion accounted for by sustainable capital investments is already more than 50% and rising. The solutions implemented as part of our digitalization strategy are also supporting us on this path. We have already been able, for example, to verifiably reduce CO₂ emissions and improve other ESG performance indicators in our portfolio. In the future, we plan to make our medium to long-term capital investments CO₂ neutral – just like EnBW itself.

Net debt

The liquid assets in the EEG account[Ⓢ] are only held in custody by the transmission grid operators and cannot be used for the operating business. Due to the size of the balance on the reporting date, the net debt[Ⓢ] will be reported from this reporting date onwards without the liquid assets in the EEG account. The figures for the previous year have been restated accordingly. As of 31 December 2022, net debt had risen by €495.7 million compared to the figure posted at the end of 2021. The increase in net financial debt[Ⓢ] in comparison to that reporting date was mainly the result of high fill levels at the gas storage facilities, which were filled at higher procurement costs, and the increase in collateral. This was offset to some extent by the fall in net debt relating to pension and nuclear obligations, mainly as a result of the increase in the interest rate for the pension provisions.

Net debt

in € million ¹	31/12/2022	31/12/2021	Change in %
Cash and cash equivalents available to the operating business	-4,626.1	-5,251.3	-11.9
Current financial assets available to the operating business	-600.4	-584.5	2.7
Long-term securities available to the operating business	-2.4	-2.1	14.3
Bonds	9,683.8	8,401.0	15.3
Liabilities to banks	1,969.4	2,067.4	-4.7
Other financial liabilities	1,238.0	782.0	58.3
Lease liabilities	912.6	884.5	3.2
Valuation effects from interest-induced hedging transactions	-51.0	-53.0	-3.8
Restatement of 50% of the nominal amount of the subordinated bonds ²	-1,250.0	-1,746.3	-28.4
Other	-59.7	-31.4	90.1
Net financial debt	7,214.2	4,466.3	61.5
Provisions for pensions and similar obligations ³	5,426.0	7,772.4	-30.2
Provisions relating to nuclear power	4,614.4	4,955.6	-6.9
Receivables relating to nuclear obligations	-372.9	-365.8	1.9
Net pension and nuclear obligations	9,667.5	12,362.2	-21.8
Long-term securities and loans to cover the pension and nuclear obligations ⁴	-5,642.1	-6,053.4	-6.8
Cash and cash equivalents to cover the pension and nuclear obligations	-185.0	-186.5	-0.8
Current financial assets to cover the pension and nuclear obligations	-75.7	-97.3	-22.2
Surplus cover from benefit entitlements	-106.0	-121.5	-12.8
Other	-25.9	-18.5	40.0
Dedicated financial assets	-6,034.7	-6,477.2	-6.8
Net debt relating to pension and nuclear obligations	3,632.8	5,885.0	-38.3
Net debt	10,847.0	10,351.3	4.8

1 The figures for the previous year have been restated.

2 The structural characteristics of our subordinated bonds meet the criteria for half of each bond to be classified as equity, and half as debt, by the rating agencies Moody's and Standard & Poor's.

3 Less the market value of the plan assets (excluding the surplus cover from benefit entitlements) of €714.2 million (31/12/2022: €869.9 million).

4 Includes equity investments held as financial assets.

Investment analysis

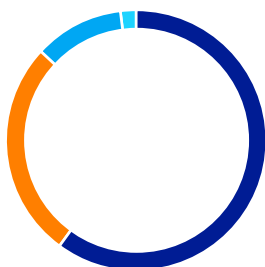
Net cash investment

in € million ¹	2022	2021	Change in %
Investment in growth projects	2,355.6	2,022.1	16.5
Investments in existing projects	797.8	786.4	1.5
Total investments	3,153.5	2,808.5	12.3
Divestitures	-68.3	-20.4	-
Participation models ²	-152.6	-147.9	3.2
Disposals of long-term loans	-0.6	-1.1	-45.5
Other disposals and subsidies	-164.3	-167.9	-2.1
Total divestitures	-385.8	-337.3	14.4
Net cash investment	2,767.7	2,471.2	12.0

1 Excluding investments held as financial assets.

2 This includes offsets of capital reductions in non-controlling interests with short-term receivables to foreign companies. The latter was due to advance payments made in the previous year as a result of contractual regulations.

Investment by segment in %¹



- 60.2 System Critical Infrastructure (2021: 58.6)
- 27.3 Sustainable Generation Infrastructure (2021: 30.1)
- 10.8 Smart Infrastructure (2021: 9.5)
- 1.7 Other (2021: 1.8)

¹ The figures for the previous year have been restated.

Gross investment by the EnBW Group of €3,153.5 million in 2022 was around 12% higher than the level in the previous year (€2,808.5 million). Around 74.7% of overall gross investment was attributable to growth projects; the proportion of investment in existing facilities stood at 25.3%.

Gross investment in the **Smart Infrastructure for Customers** segment of €340.7 million was higher than the level in the previous year (previous year restated: €266.7 million), which was mainly a result of increased investment in the area of electromobility.

Gross investment in the **System Critical Infrastructure** segment of €1,898.7 million was higher than the level in the previous year of €1,647.0 million. In both years, the investment was mainly linked to projects at our Group subsidiaries TransnetBW and terranets bw that are included in the network development plans². In addition, our grid companies invested in the expansion and renewal of the distribution grid.

There was gross investment of €859.6 million in the **Sustainable Generation Infrastructure** segment, which was slightly higher than the level in the previous year (previous year restated: €844.4 million).

Investments in Sustainable Generation Infrastructure

in % ¹	2022	2021
Renewable Energies	20.0	23.3
Thermal Generation and Trading	7.3	6.8
Sustainable Generation Infrastructure	27.3	30.1

¹ The figures for the previous year have been restated.

€631.7 million of this investment was in the Renewable Energies area, compared to €655.6 million in the previous year. In 2021, we secured the offshore wind rights to a site in the Irish Sea and paid the associated auction price. At the beginning of 2022, our bid to secure the offshore wind rights to a site for the development of an offshore wind farm in the Scottish Sea was accepted. In addition, we continued to invest heavily in the He Dreih wind farm in the German North Sea in 2022. Investment in the Thermal Generation and Trading area stood at €227.9 million and was thus higher than in the previous year (previous year restated: €188.8 million). This increase was mainly attributable to investment in the planning of the fuel switch projects² for converting three of our thermal power plants in Baden-Württemberg from coal to gas, with the aim of guaranteeing the supply of district heating from these three sites and maintaining the security of supply in Baden-Württemberg.

Other investments of €54.5 million were at the same level as in the previous year (€50.4 million).

Total divestitures of €385.8 million were higher than the level in the previous year (€337.3 million). The item divestitures includes the impact of our exit from the offshore wind power business in the USA. In the participation models, these divestitures mainly comprised the sale of our minority shareholdings in our solar portfolio. In the previous year, the divestitures comprised the sale of minority shares in a portfolio of onshore wind farms and transactions as part of our local authority participation model “EnBW connects.” Other disposals were at the same level as in the previous year.

We also take climate goals into account in our investment decisions. For this purpose, we adapted our investment guidelines in 2021: Significant investment projects now undergo additional steps to evaluate their sustainability. This additional information flows into the approval processes carried out by the investment committee and Board of Management (p. 41f.⁷).

Liquidity analysis

Condensed cash flow statement

in € million ¹	2022	2021	Change in %
Cash flow from operating activities	1,804.8	7,597.8	-76.2
Cash flow from investing activities	-2,734.9	-2,873.7	-4.8
Cash flow from financing activities	734.6	614.7	19.5
Net change in cash and cash equivalents	-195.5	5,338.8	-103.7
Change in cash and cash equivalents due to changes in the consolidated companies	0.3	29.0	-99.0
Net foreign exchange difference	17.8	32.4	-45.1
Change in cash and cash equivalents due to risk provisions	-0.1	0.1	-
Change in cash and cash equivalents	-177.5	5,400.4	-103.3

¹ The figures for the previous year have been restated.

Despite an increase in cash-relevant EBITDA[⊕] in comparison to the previous year, the cash flow from operating activities was significantly lower than the figure in the previous year. This development was mainly due to an outflow of cash in the net current assets for reasons related to the reporting date. This was primarily due to the significant increases in inventories and cash outflows for collateral against the backdrop of current price fluctuations on the market, compared to cash inflows in the previous year. In contrast, the sharp fall in the net balance of trade payables and receivables in comparison to the previous year had a positive effect on the cash flow from operating activities.

Cash flow from investing activities returned a lower outflow of cash in comparison to the previous year, despite the higher net investment[⊕] on intangible assets and property, plant and equipment. The reasons for this development were a decrease in net investment as part of the portfolio management of securities and financial investments and in cash payments for shares in entities accounted for using the equity method. The latter was primarily attributable to the foundation of two companies in Great Britain in the previous year and the associated bids for offshore wind rights for the construction of offshore wind farms.

Cash flow from financing activities returned a higher cash inflow than in the previous year. This was primarily due to the increase in financial liabilities as part of liquidity management and an increase in cash received for changes in ownership interest without loss of control. This was offset to some extent by an increase in cash outflow for other payments to non-controlling interests.

The solvency of the EnBW Group was ensured as of the reporting date thanks to the company's internal financing capability and the external sources available for financing. The company's future solvency is secured by its solid financial position and results of operations.

Retained cash flow

in € million	2022	2021	Change in %
EBITDA	4,473.2	2,803.5	59.6
Change in provisions	36.2	-103.9	-134.8
Non-cash-relevant expenses/income	-1,251.7	-396.3	-
Income tax paid	-227.9	-200.6	13.6
Interest and dividends received	427.0	358.0	19.3
Interest paid for financing activities	-318.8	-314.5	1.4
Dedicated financial assets contribution	-92.2	184.8	-149.9
Funds from operations (FFO)	3,045.7	2,331.0	30.7
Declared dividends	-510.8	-547.2	-6.7
Retained cash flow	2,534.9	1,783.8	42.1

Funds from operations (FFO)² were higher than the level in the previous year, which was mainly due to the increase in EBITDA and higher interest and dividends received. The increase in provisions (previous year: reduction in provisions) also had an impact. This was offset to some extent by higher non-cash-relevant income and a reduction in the dedicated financial assets contribution.

The retained cash flow² was significantly higher than in the previous year. It is an expression of the internal financing capability of EnBW and reflects the funds that are available to the company for investment – after all stakeholder claims have been settled – without the need to raise additional debt.

TOP**Debt repayment potential**

in € million ¹	2022	2021	Change in %
Retained cash flow	2,534.9	1,783.8	42.1
Net debt	10,847.0	10,351.3	4.8
Debt repayment potential in %	23.4	17.2	-

¹ The figures for the previous year have been restated.

The liquid assets in the EEG account² are only held in custody by the transmission grid operators and cannot be used for the operating business. Due to the size of the balance on the reporting date, net debt² will be reported from 31 December 2022 onwards without the liquid assets in the EEG account. The comparative figure for the previous year was adjusted by €1,565.2 million.

In the reporting year, the retained cash flow was higher than the forecasted range of €1.75 billion to €1.85 billion mainly due to the increase in cash-relevant EBITDA. As a result of the higher retained cash flow and factors that are outside of the company's sphere of influence, such as the rise in the interest rate for pension provisions, the debt repayment potential² in the 2022 financial year was significantly higher than the target value of between 13.5% and 14.5%.

Net assets

Condensed balance sheet

in € million	31/12/2022	31/12/2021	Change in %
Non-current assets	36,984.0	35,232.5	5.0
of which intangible assets	(3,218.2)	(3,417.0)	(-5.8)
of which property, plant and equipment	(22,705.3)	(20,364.4)	(11.5)
of which entities accounted for using the equity method	(1,134.0)	(1,017.9)	(11.4)
of which other financial assets	(6,560.1)	(6,744.3)	(-2.7)
of which deferred taxes	(79.4)	(1,115.2)	(-92.9)
Current assets	32,511.9	35,986.7	-9.7
Assets held for sale	7.8	54.0	-85.6
Assets	69,503.7	71,273.2	-2.5
Equity	12,769.3	8,499.3	50.2
Non-current liabilities	28,064.5	28,531.0	-1.6
of which provisions	(10,483.9)	(14,089.5)	(-25.6)
of which deferred taxes	(958.1)	(1,018.3)	(-5.9)
of which financial liabilities	(11,927.3)	(9,182.5)	29.9
Current liabilities	28,669.9	34,242.9	-16.3
of which provisions	(3,346.8)	(2,676.5)	(25.0)
of which financial liabilities	(963.9)	(2,067.9)	(-53.4)
Equity and liabilities	69,503.7	71,273.2	-2.5

As of 31 December 2022, total assets were €1,769.5 million lower than the figure at the end of the previous year. Non-current assets increased by €1,751.5 million between the two reporting dates, which was mainly due to the reversals of impairment losses. This was offset to some extent by the decrease in deferred taxes. Current assets decreased by €3,474.8 million. This was primarily due to the decrease in derivatives ⁹ as a result of the slight fall in prices on the energy trading markets. This was offset to some extent by the increase in inventories.

As of 31 December 2022, equity increased by €4,270.0 million as a result of the increase in Group net profit and the increase in other comprehensive income, which was mainly caused by the rise in the discount rate for the pension provisions from 1.15% at the end of 2021 to 3.70% as of the reporting date in 2022. The equity ratio increased from 11.9% to 18.4% between the two reporting dates. As a result of the fall in the pension provisions due to the increase in the discount rate, non-current liabilities decreased by €466.5 million. This was offset by the issuing of two green corporate bonds with a total volume of €1.0 billion and the US private placement (USPP) with a nominal value of around US\$850 million. Current liabilities reduced by €5,573.0 million. This was mainly attributable to the decrease in derivatives and the repayment of a euro subordinated bond with a volume of €725 million and a US dollar subordinated bond with a volume of US\$300 million. This was offset to some extent by an increase in trade receivables.

TOP

Value spread

Value spread ⁹ – which is calculated by deducting the weighted average cost of capital before tax (WACC) from ROCE – has replaced ROCE as the key performance indicator since this financial year. The cost of capital before tax represents the minimum return on average capital employed ⁹ (calculated on the basis of the respective quarterly figures for the reporting year and the year-end figure for the previous year). A positive value spread is achieved when the return on capital employed (ROCE ⁹) exceeds the cost of capital. The cost of capital is determined based on the weighted average cost of equity and debt together. The value of equity is based here on a market valuation and thus deviates from the value recognized in the balance sheet. The cost of equity is based on the return of a risk-free investment and a company-specific risk premium. The latter is calculated as the difference between a risk-free investment and the return for the overall market, weighted with a company-specific business field risk. The terms according to which the EnBW Group can raise long-term debt are used to determine the cost of debt.

Value Spread by segment 2022

	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Genera- tion Infrastructure	Other/ Consolidation	Total
Adjusted EBIT including the adjusted investment result ¹ in € million	352.6	424.8	1,279.4	-263.4	1,793.4
Average capital employed in € million	1,565.5	12,359.7	8,178.4	586.9	22,690.5
ROCE in %	22.5	3.4	15.6	-	7.9
Weighted average cost of capital before tax in %	9.2	6.2	7.3	-	6.8
Value Spread in %	13.3	-2.8	8.3	-	1.1

¹ Amended adjusted investment result of €86.4 million, adjusted for taxes (investment result/0.703 - investment result; with 0.703 = 1 - tax rate 29.7%).

Value Spread by segment 2021 ¹

	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Genera- tion Infrastructure	Other/ Consolidation	Total
Adjusted EBIT including the adjusted investment result ² in € million	199.1	694.2	868.4	-233.6	1,528.1
Average capital employed in € million	1,602.9	11,165.3	8,967.0	514.7	22,249.9
ROCE in %	12.4	6.2	9.7	-	6.9
Weighted average cost of capital before tax in %	7.6	4.0	5.4	-	4.9
Value Spread in %	4.8	2.2	4.3	-	2.0

¹ The figures for the previous year have been restated.

² Amended adjusted investment result of €88.4 million, adjusted for taxes (investment result/0.706 - investment result; with 0.706 = 1 - tax rate 29.4%).

There are various factors that influence value spread ². ROCE ² and value spread depend not only on the development of the operating result but above all on the capital employed. Large-scale investments tend to significantly increase the capital employed in the early years, while the effect on income that boosts value, however, only filters through over a lengthier period of time, often long after the investments were initially made. This is especially true of capital expenditure on property, plant and equipment relating to the construction of new power plants, which do not have any positive effect on the operating result of the Group until after they are commissioned. Capital expenditure on power plants, on the other hand, is already taken into account in the capital employed during the construction phase. In a comparison of individual years, the development of ROCE and value spread is, to a certain extent, cyclical in nature, depending on the investment volume. This effect is therefore inherent in the system and results in lower ROCE in phases of strong growth or phases of investment.

Due to the level of the EEG-funds ² currently held by the transmission grid operators, we are disclosing them under capital employed ² from 31 December 2022 onwards. Both the payments into and out of the EEG account are always considered non-interest-bearing liabilities for the EnBW Group because they are only held in custody by the transmission grid operators and cannot be used for the operating business. This adjustment will avoid any impact that the EEG payments may have on the capital employed. The figures for the comparative periods have been restated accordingly in each case.

In the 2022 financial year, value spread fell in comparison to the previous year to 1.1% and thus fell below our expectations for the 2022 financial year (forecast for 2022: 1.5% to 2.5%). The current figure for the value spread is below the forecasted range due to increased capital costs. Adjusted EBIT ² including the adjusted investment result increased, while the average capital employed rose at the same time with the effect that ROCE increased to 7.9%. The risk-adjusted weighted average cost of capital rose in comparison to the previous year to 6.8%.

Smart Infrastructure for Customers: Value spread in the Smart Infrastructure for Customers segment increased by 8.5 percentage points in 2022. This was due to the significant increase in adjusted EBIT including the adjusted investment result. At the same time, the average capital employed was largely unchanged in comparison to the previous year.

System Critical Infrastructure: Value spread in the System Critical Infrastructure segment decreased by 5.0 percentage points in comparison to 2021. The adjusted EBIT including the adjusted investment result was €269.4 million lower than the figure in the previous year, while the increase in capital employed, which was mainly due to investment in the transmission and distribution grids, also had

a negative impact on the value spread. The increase in risk-adjusted weighted average cost of capital to 6.2% then caused the value spread to decrease further.

Sustainable Generation Infrastructure: Value spread in the Sustainable Generation Infrastructure segment was 8.3%, which was 4.0 percentage points higher than the value in the previous year. Adjusted EBIT including the adjusted investment result increased to €1.3 billion. An increase in liabilities in the first half of the year due to higher market prices more than offset the reversals of impairment losses on conventional generation plants, and the average capital employed in the reporting year was below the level in the previous year as a result.

Performance indicators relevant to remuneration

The performance indicators relevant to remuneration are derived as follows:

EBT relevant to remuneration

in € million	2022	2021
EBT	2,395.4	513.3
Less outstanding items for derivatives allocated under trading within EBITDA	226.6	-220.2
Less the measurement of financial assets and outstanding items for derivatives allocated under trading within the financial result	199.5	-380.3
Less changes to the inflation rate and discount rate for nuclear provisions	-418.0	-2.0
EBT relevant to remuneration	2,403.6	-89.2

Funds from operations (FFO) relevant to remuneration

in € million	2022	2021
Funds from operations (FFO)	3,045.7	2,331.0
Less income tax paid	227.9	200.6
Funds from operations (FFO) relevant to remuneration	3,273.6	2,531.6

Intangible assets and property, plant and equipment (net) relevant to remuneration

in € million	2022	2021
Intangible assets	3,218.2	3,417.0
Property, plant and equipment	22,705.3	20,364.4
Investment properties	40.1	45.6
Investment cost subsidies	-8.8	-3.8
Construction cost subsidies	-991.8	-967.0
Intangible assets and property, plant and equipment (net)	24,963.0	22,856.3
Average intangible assets and property, plant and equipment (net)¹	23,520.3	22,381.0

¹ Average calculation based on the relevant quarterly values for the reporting year and the year-end value for the previous year.

ROA (return on assets) relevant to remuneration

in € million	2022	2021
EBIT	2,141.2	158.8
Less outstanding items for derivatives allocated under trading within EBITDA	226.6	-220.2
Less changes to the inflation rate and discount rate for nuclear provisions	169.9	0.0
EBIT relevant to remuneration	2,537.7	-61.4
Average intangible assets and property, plant and equipment (net)	23,520.3	22,381.0
ROA (return on assets) relevant to remuneration in %	10.8	-0.3

Other performance indicators relevant to remuneration

	2022	2021
Expansion of renewable energies (electrical output in MW)	344.6	235.0
LTIF for companies controlled by the Group	2.6	2.3

The remuneration of the members of the Board of Management is described in full in the **remuneration report**, which is available as a separate report at www.enbw.com/corporate-governance.

The **remuneration report** is available as a separate report on our website.

[Online ↗](#)

The **LTIF** is explained in the LTIF section of this chapter.

Customers and society goal dimension

Reputation

A strong reputation is an important factor for the sustainable success of a company. The good social reputation of a company reflects the trust placed by the general public and relevant stakeholders in the competent and responsible actions of that company.

We assume our responsibilities for the economy and society and aspire to be a driver of the energy transition. In the process, we want to gain social acceptance and improve our reputation. A good reputation signals the willingness of society and its different stakeholder groups to cooperate with and invest in the company.

We aim to continuously improve our reputation. The focal point of this concept is the stakeholder team, which was set up on the initiative of the Board of Management in 2017. It consists of representatives from all important areas of the company. The stakeholder team communicates and maintains dialog with relevant stakeholder groups both directly and indirectly [\(p. 47[↗]\)](#).

Reputation Index

Reputation is measured using the key performance indicator Reputation Index using a standardized survey that is carried out by an external market research institute. It is measured in accordance with the requirements of the EnBW Group standard for market research and surveys [\(p. 40[↗]\)](#).

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Key performance indicator

	2022	2021	Change in %	Forecast 2022
Reputation Index	58	55	5.5	56 – 59

The Reputation Index increased in 2022 by three index points in comparison to 2021. Not only does the score now lie within our target corridor of 56 to 59 points, but we also achieved the highest score to date for the Reputation Index for EnBW. This increase was mainly due to a sharp improvement in the figures for opinion leaders and investors in 2022. This improvement can be attributed to positive reporting and enhanced advertising activities, leading to greater visibility in the media as a result. In addition, the result reflected EnBW's engagement in the area of e-mobility and its transformation towards renewable energies, because sustainability as a theme was shown to have the highest relevance across all target groups, even when unprompted.

More details on reputational risks can be found in the "Report on opportunities and risks" on [p. 137[↗]](#).

Customer proximity

Both the coronavirus pandemic and the energy crisis have made **digitalization** even more important for our end customer business in 2022, both with respect to electricity and gas sales and also e-mobility. The main focus shifted here from customer acquisition via digital channels to digital customer communication and increasingly covers the provision of digital services for existing customers. 47% of EnBW customers and 77% of Yello customers are now happy to receive their contractual documents and invoices in paperless form. This figure more than doubled for EnBW customers in comparison to the previous year (2021: 23%). 92% of EnBW customers (excluding the basic supply of energy and reserve supplies) and 96% of Yello customers who concluded a new contract via digital and digitally supported channels have selected paperless customer interaction. The EnBW "zuhause+" app, which was made available for the first time in the previous year, is being used more and more, and over 100,000 customers have now installed the app on their mobile devices. Customers were able to register for the gas saving bonus offered by EnBW for the heating period 2022/2023 via the app and continuously received updated consumption forecasts after entering their meter readings.

You can find our [company website](#) here.

[Online \[↗\]\(#\)](#)

We took over the billing system for our two sales brands in 2022 that was previously hosted by a software provider. This will ensure that we can improve our digital customer communication in the best way possible as we are now responsible ourselves for its operation and development. This work will largely be carried out by our own personnel. Responsibility for the operation and development of the IT systems used to manage the EnBW charging infrastructure and handle customer interaction and billing on the EnBW mobility+ app now also lies in our own hands.



Our aim is to rigorously anchor **sustainability** in our sales processes (e.g., with respect to our products and services). In doing so, we hope to generate economic, ecological and social value and strengthen our market position even further. Our initial focus has been placed above all on the area of climate protection. We were able to implement further initiatives in 2022 and we present the most important ones in the section “Selected activities” (p. 93ff.⁷).

Customer Satisfaction Index

Our customers lie at the heart of our philosophy and actions. We aim to build long-term relationships with our customers by offering an intelligent combination of products and services, developing new product worlds, communicating transparently and delivering the highest-quality service possible. Maintaining a high level of customer satisfaction is key. The Customer Satisfaction Index is compiled for EnBW and Yello from customer surveys carried out by an external provider (p. 40⁷).

TOP

Key performance indicator

	2022	2021	Change in %	Forecast 2022
Customer Satisfaction Index for EnBW/Yello	139/166	127/159	9.4/4.4	127 – 139/ 150 – 161

The Customer Satisfaction Index for EnBW improved by 9.4% to a value of 139 in 2022. The satisfaction of EnBW retail customers was thus at a very good level and at the top end of our forecasted range. A very good level is reached when 60% of those surveyed indicate that overall they are particularly satisfied with EnBW. This is the case from 136 points upwards. This significant improvement in the Customer Satisfaction Index for 2022 was achieved in a particularly challenging market environment because the exceptional rise in energy prices since fall 2021 has placed an increasing burden on households. By guaranteeing a secure supply of energy, EnBW has demonstrated that it is a reliable and efficient partner. We initiated various different measures to improve customer satisfaction. These included developing a sustainable range of products and pushing forward the expansion of our digital and analogue range of services. The “EnBW Energiewelt” (EnBW Energy World) platform bundles together all of the various products online and creates transparency. Specialized services are also available that offer transparent information on energy costs and help customers to reduce them. We believe that constant investment in our national marketing campaign on the theme of e-mobility has also had a positive effect on the image of the company with respect to innovation and sustainability.

The satisfaction of Yello customers increased to an outstanding index value of 166. This positive development is being influenced by the current state of energy policy and corporate decision-making, resulting in Yello customers being less likely to want to switch providers.

Another tool for evaluating and improving customer satisfaction is the **customer test panel “Powerhelden”** (power heroes) that was established back in 2019. It is currently made up of a group of around 1,200 people of all ages and social and educational backgrounds who source their energy from the EnBW Group or third-party providers. We use questionnaires, user tests and interviews to gain insights that can flow into the optimization, creation and monitoring of products and processes across the Group.

Further details are available in the “Report on opportunities and risks” p. 137⁷.

The **customer test panel “Powerhelden”** gives us feedback on our products, services and performance.

[Online ↗](#)

We provide **information on how to save energy** on our website.

[Online ↗](#)

Selected activities

2022 was significantly impacted by the **challenges on the energy market**. EnBW and Yello intensified their communication with customers via digital media, information letters and their websites with the aim of providing transparency and bolstering customer trust. EnBW and Yello have also been supporting their customers in the form of a **gas saving bonus**, which will help customers cushion increasing costs and give them an extra incentive to save energy. Customers who reduce their gas consumption by 10% between October 2022 and April 2023 will be rewarded with a bonus of €100.

Green electricity has become the standard in the product portfolio of EnBW and Yello. The proportion of the electricity supplied to new customers by EnBW and Yello that was accounted for by green energy increased from 96% in 2021 to almost 100% in 2022. 62% of the total customer base is now supplied with green electricity across both brands (EnBW excluding the basic supply of energy). Taking compensation measures into account, Yello and EnBW were thus able to save a total of around 620,000 t of CO₂ emissions in 2022. At the beginning of 2022, Yello also launched its new brand identity with the theme of sustainability at its core, advertising it using the slogan “Good Energy” and a wide-reaching image campaign.



Further information on **electromobility** is available online.

[Online ↗](#)

EnBW is the market leader among both charging infrastructure operators and electromobility providers in Germany. It operates the biggest quick-charging network in the country and is continuing to expand it at a rapid pace. In order to **expand the charging infrastructure** for electromobility, we are not only investing in our own sites but also in sites that we are jointly developing with our partners. In 2022, we concluded more new, long-term, nationwide cooperation agreements with renowned companies and placed new quick-charging sites into operation. EnBW was able on average to complete more than one large charging park with a solar roof per month. For example, two were placed into operation in Lower Saxony: Car drivers now have access to 20 high-power charging (HPC) points in Lauenau and 16 in Bispingen with capacities of up to 300kW. A quick-charging park that can charge 32 vehicles simultaneously will be completed in Großburgwedel, near to Hannover, by the end of March 2023. We tested other vehicle-related services at this charging park for the first time such as vacuum cleaners and compressed-air tire inflators. Concepts for autonomous shops were tested jointly with partner companies at the quick-charging parks in Bispingen and Kamen in 2022. Drivers can purchase items quickly using contactless payment systems while their vehicle is charging. All of our sites are operated 100% with green electricity.

As an electromobility provider, we can offer our customers easy access to the **EnBW HyperNetwork** – the biggest charging network in Germany, Austria and Switzerland. It also provides nationwide charging options in France, Italy, the Netherlands, Belgium, Luxembourg and Liechtenstein. Eight additional countries were added to the network in 2022: Croatia, Poland, Sweden, Denmark, Slovakia, Slovenia, Spain and the Czech Republic. The number of countries has thus almost doubled to 17 in the space of a year. Using the **EnBW mobility+ app** and a charging card, car drivers have access to almost 400,000 charging points (as of 31 December 2022) where they can always charge at the same price. The EnBW mobility+ app has now been downloaded more than 1.8 million times and also came out on top in a number of independent tests in 2022. For example, it was named the best electromobility app by the magazine Stiftung Warentest with a grade of GOOD (iOS: 2.1, Android: 2.2; test 5/2022).

In the first half of 2022, we acquired around 25% of the shares in SMATRICS, a subsidiary of the Austrian energy company VERBUND. This investment will enable closer cooperation in wide-reaching product collaborations, especially in the area of fleet and business customers, and also with customers on the German market. We are pushing forward the expansion of quick-charging infrastructure in Austria via **SMATRICS EnBW**, a joint subsidiary of SMATRICS and EnBW.



Our subsidiary **SENEC** based in Leipzig was one of the top three providers of home storage systems for solar power plants in Germany in the 2022 financial year. SENEK is a specialist in equipping customers so that they are able to meet their own energy needs with solar electricity. It has continued to grow at a high rate and has now sold around 58,000 storage systems in Germany, Italy and Australia. It also doubled the amount of photovoltaic capacity it sold in Germany in comparison to the previous year to around 220 MW (2021: around 110 MW). According to the results of independent market research, SENEK has a 20% share of the installed home storage system market in Germany. Business in Italy developed particularly well and the company had sold around 14,000 storage systems by the end of the year. SENEK Italia thus tripled its sales volume in comparison to the previous year and is growing as quickly as the entire Italian market for providers of energy solutions.

SENEC Germany had its carbon footprint calculated for the first time in 2022 and has agreed further recommendations for action in 2023. These include continuing to use a sustainable trade fair booth construction concept, which was presented for the first time at the Intersolar 2022 trade fair. One component of this solution is a carbon-saving event construction kit made from recycled overseas shipping containers that will last for several years and is very versatile to use. Overall, SENEK and its customers helped to save around 430,000 t CO₂ in Germany in 2022.

The contracting project with a major German food company is presented in the following [video](#).

[Online ↗](#)

In the area of **contracting**, we provide industry, the real estate sector and public clients with a sustainable and efficient energy infrastructure implemented directly at the customer's site. We create customized energy concepts for the provision of energy with either no CO₂ emissions or only low emissions – a service that is now in ever greater demand. In a project for a large German food company, for example, we were able to sustainably reduce the CO₂ emissions from processes to provide energy and media by 35% in June 2022. We were also able to extend the contracting agreement with a local authority customer for the supply of cooling and heating by 20 years. At several different properties, we installed, for example, a new heating plant, a new cooling supply system, new PV power plants and a new air-conditioning system. The new installations and renovation measures will save 450 t CO₂ per year, which corresponds to a reduction of 53%. An important component of our long-term contracting agreements is the ongoing monitoring and optimization of plant operation. We enhance applications and business processes as part of our digitalization approach that automatically collect, link and evaluate data from the plant.

Our company views itself as an experienced and capable **partner for local authorities and public utilities**. We have invested in many local authority companies across the whole of Baden-Württemberg and play an active role in networks for the exchange of information between our participating interests and other public utilities. Local authorities are also able to invest in Netze BW using our **"EnBW connects"** participation model. A total of 214 local authorities have now indirectly invested in Netze BW via the local authority holding company Netze BW GmbH & Co. KG. "EnBW connects" also gives local authorities the opportunity to get actively involved with current issues in the energy industry. By remaining in regular, direct contact with the local authorities, and through the introduction of a new market cultivation program in 2022, Netze BW has been able to further improve its range of services. In the currently challenging situation on the energy market, we can offer our local authority customers a high level of transparency, deliver information in different formats and provide them with a comprehensive range of services, such as creating **contingency plans for emergency and crisis situations**. We have noticed a significant increase in demand for these services. Looking beyond the current situation, ensuring a renewable energy supply that is fit for the future is an important component of our local authority agenda. To this end, Netze BW has been featuring the **H₂-readiness** [Ⓢ] of its gas grid (i.e., the gas grid is already capable of transporting hydrogen gas directly to end customers) on its digital local authority platform since 2022. Using our **digital school services**, we help local authorities to provide the necessary infrastructure in their schools to make digital learning possible for all of their students. Based on the experience we have gained from our long-standing involvement with 166 schools in Stuttgart, we are currently trialing our services in the towns of Munderkingen and Sindelfingen.



The main telecommunications activities at EnBW AG are bundled together in **EnBW Telekommunikation** with its subsidiaries NetCom BW and Plusnet. In 2022, **NetCom BW** continued to expand by acquiring the end customer business and grid operations of the company Telekommunikation Lindau in the Lake Constance region of Bavaria. The transformation from a so-called FTTC network, in which the fiber-optic cable connects up to the copper network, to a FTTB network, in which the fiber-optic cable is laid straight to the building, is a main focus of the corporate strategy followed by the company. Aside from carrying out any necessary expansion of the broadband network [Ⓢ] together with cities, local authorities and municipal associations, NetCom BW is now working more intensely on the implementation of self-financed projects. During the course of the financial year, it concluded around 40 cooperation agreements with local authorities and the majority of them have already entered the project planning stage. Construction work has already started in Rottenburg am Neckar and Nagold to connect up to 8,000 households directly to the fiber-optic network by the summer of 2024.

In 2022, **Plusnet** worked rigorously on pushing forward the expansion of the fiber-optic network in industrial areas and financed this expansion itself. Cooperation agreements were concluded during the course of the year with eight local authorities in North Rhine-Westphalia, Rhineland-Palatinate and Hesse to expand their fiber-optic networks. The first fiber-optic network in Bergisch Gladbach was commissioned in the middle of the year. In addition, we concluded important strategic agreements in 2022 for developing the backbone and connection networks for broadband. By working with infrastructure partners – such as GlasfaserPlus, a joint venture between Deutsche Telecom and the IFM Global Infrastructure Fund – Plusnet has been able to significantly expand the fiber-optic network across Germany that can be marketed in future. In cooperation with NetCom BW, Plusnet also signed a contract with DB broadband, a subsidiary of DB Netz AG. NetCom BW and Plusnet will expand the shared backbone network by 20,000 km to around 50,000 km of dark fiber (unswitched fiber-optic line) as part of the agreement.

We founded the company **EnBW Cyber Security** in May 2022 in response to the growing demand for security solutions that protect against cyberattacks. As a wholly owned EnBW subsidiary, EnBW Cyber Security helps companies, local authorities and municipalities to find and implement the right security strategy for them. The company has grown constantly since it was founded in Karlsruhe and its customer base now comprises about 90 companies. EnBW Cyber Security has been working with the Baden-Württemberg Ministry of the Interior and the Baden-Württemberg State Bureau of Investigation since 2020. This cooperation includes the provision of a dual study program for students and, since October 2021, EnBW Cyber Security and its two cooperation partners have been training business information science students specializing in cybersecurity at DHBW Heilbronn.



In the area of **sustainable districts**, we develop sustainable, holistic and at the same time cost-effective concepts for district infrastructure for cities, municipalities and project developers. This business area takes on responsibility for the general planning and for the supply and future operation of the technical infrastructure, including the integration of, e.g., mobility concepts, digital parking space management and smart services. In 2022, we received the first orders for 13 new projects covering around 3,800 residential units. In May 2022, the implementation contract for the “**climate-neutral Scharnhausen West industrial park**” was concluded. This commercial district in Ostfildern will cover an area of 15 hectares and will be home to the largest borehole heat exchanger in Germany. A holistic concept with a self-sufficiency rate of at least 65% has been developed for this district, which will save around 4,300 t CO₂ emissions compared to a standard district with conventional energy supplies.

We present our **services in the area of sustainable districts and our latest projects** [here](#).

[Online ↗](#)



Supply reliability

As an energy company and in cooperation with our distribution grid companies, we are tasked with guaranteeing a secure and reliable supply of electricity and gas to our customers. We face additional challenges both now and in the future due to the increasing amount of decentralized generation, with volatile feed-ins as a result of changing weather conditions, and the electrification of road traffic. We are preparing our distribution grids so that they can handle this decentralized energy world. Therefore, we are expanding the existing conventional infrastructure with smart grid technologies ² so that we can better monitor and manage the generation, distribution and storage of energy. This work includes, for example, the further expansion of local transformer stations with remote monitoring and control systems to reduce the time it takes to find faults, as well as the introduction of an app-based malfunction alert system.

Further information on the **expansion of the grids at Netze BW**.

[Online ↗](#)

Our grid companies are responsible for the secure and reliable operation of the distribution grids. The processes are managed by the respective grid control center, which is also responsible for coordinating any work to rectify faults in the grid in its region. As part of the investment and maintenance programs, our grid companies are upgrading their grids and expanding them according to demand. In 2022, Netze BW launched a comprehensive expansion and renewal program for its distribution grids. These measures will contribute to the grid expansion plan and to ensuring a reliable supply. The overall annual budget for the realization of all investment and maintenance measures is approved by the Board of Management of the EnBW Group. The measures are carried out over one or multiple years and are realized independently by our grid companies. Some of the investment budget is used for the gradual expansion of smart grids. The growing use of smart grid technology allows us, on the one hand, to optimize our investment processes and, on the other hand,

to improve the security of supply in our grids and with it the satisfaction of our customers and our reputation. Besides the reliability and security of supply, the efficiency of the measures is also taken into account when making investment decisions. This is because grid investment also has an influence on the network user charges that make up part of the electricity price paid by customers.

SAIDI

We record all unscheduled interruptions to supply at our distribution grid operators for gas and electricity. This data flows into the “System Average Interruption Duration Index” (SAIDI). It states the average duration of supply interruptions per end consumer in minutes per year (p. 40¹).

TOP

Key performance indicator

	2022	2021	Change in %	Forecast 2022
SAIDI electricity in min./year ¹	16.6	15.8	5.1	15–20

¹ SAIDI electricity includes all unscheduled interruptions to supply that last more than three minutes for the end consumer.

The figure for the supply reliability of the electricity distribution grid was within the forecasted range in the 2022 financial year as in the previous year. The moderate increase by 0.8 minutes was mainly due to a large power failure at our grid subsidiary PREdistribuce. This was caused by a fault at the upstream Czech transmission system operator ČEPS that was outside the sphere of influence of PREdistribuce. In contrast, the increasing digitalization of our distribution grids has had a positive impact on supply reliability.

At our gas distribution grid operators, the average duration of unplanned supply interruptions per end consumer (SAIDI Gas) was below 1 min./a in the 2022 financial year, as in the previous year.

Environment goal dimension

Our Group environmental targets – which are integrated into the EnBW 2025 Group strategy – relate to the expansion of renewable energies and to making our contribution to climate protection. These targets are measured using the key performance indicators “installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE” and CO₂ intensity. Our Group environmental goals are supplemented by activities and targets for the implementation of environmental themes in the EnBW Sustainability Agenda (p. 34 ff.²). Alongside EnBW AG, the main subsidiaries dealing with environmental issues include Energiedienst (ED), Stadtwerke Düsseldorf (SWD), Pražská energetika (PRE) and Netze BW. These and other subsidiaries have an environmental management system certified according to DIN EN ISO 14001 or validated according to EMAS, as does EnBW AG. We have thus created the prerequisites for ensuring that environmental requirements are systematically and continuously taken into account. It is used to manage guidelines and regulations, define and monitor environmental targets and establish the necessary testing processes. The consistent implementation and further development of the environmental management system ensures that any material negative impacts on the environment can be avoided as well as possible. Risks generally exist in the area of environmental protection due to the operation of power generation plants and transmission facilities and the possible consequences for air, water, soil and nature. We counter these risks using organizational and procedural measures to reduce their impact, as well as through emergency planning and hazard prevention measures.

You will find a detailed presentation of the [EnBW Sustainability Agenda](#) and our [climate neutrality strategy](#) here.

[Online ↗](#)



Expansion of renewable energies

Installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE

TOP

Key performance indicator

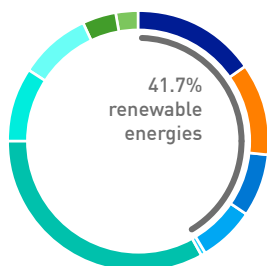
	2022	2021	Change in %	Forecast 2022
Installed output of renewable energies (RE) in GW and the share of the generation capacity accounted for by RE in %	5.4/41.7	5.1/40.1	5.9/4.0	5.4 – 5.6/ 41.5 – 42.5

We provide **citizens** with various opportunities to get involved and find out more information about our **projects to expand wind and photovoltaic power**.

[Online ↗](#)

In 2022, the installed output of renewable energies increased to 5.4 GW compared to 5.1 GW in the previous year. The share of the generation capacity accounted for by RE increased to 41.7%. Additional output of around 300 MWp was added with the commissioning of the two solar parks Gottesgabe and Alttrebbin. Other onshore wind power plants and PV power plants were also added. Both key performance indicators were within the forecasted ranges. We have thus continued to push forward the expansion of electricity generation from renewable energy sources in accordance with our strategy. Expanding renewable energies to between 6.5 and 7.5 GW by 2025 is one of the 15 strategic measures in the EnBW Sustainability Agenda [\(p. 34 ff. ↗\)](#). In view of the currently installed output and our project pipeline, we believe that we remain on course to achieve the target value.

Installed output in %



15.4	Wind (2021: 15.7)
11.6	Pumped storage (with natural flow of water) (2021: 11.9)
7.7	Run-of-river (2021: 7.9)
6.4	Photovoltaics (2021: 3.9)
0.6	Other renewable energies (2021: 0.7)
33.2	Brown and hard coal (2021: 34.1)
9.4	Nuclear power (2021: 9.6)
8.9	Gas (2021: 9.2)
4.2	Pumped storage (2021: 4.3)
2.6	Other thermal power plants (2021: 2.7)

Generation capacity¹ (as of 31/12)

Net electrical output² in MW

	2022	2021
Renewable Energies	5,444	5,100
Run-of-river power plants	1,008	1,007
Storage/pumped storage power plants using the natural flow of water ²	1,513	1,517
Onshore wind	1,031	1,016
Offshore wind	976	976
Photovoltaics	832	498
Other renewable energies	84	86
Thermal power plants³	7,622	7,622
Brown coal	875	875
Hard coal	3,467	3,467
Gas	1,166	1,166
Other thermal power plants	346	346
Pumped storage power plants that do not use the natural flow of water ²	545	545
Nuclear power plants	1,223	1,223
Installed output⁴	13,066	12,722
of which renewable in %	41.7	40.1
of which low CO ₂ in % ⁵	13.1	13.4

1 Generation capacity includes long-term procurement agreements and partly owned power plants.

2 Output values irrespective of marketing channel, for storage: generation capacity.

3 Including pumped storage power plants that do not use the natural flow of water.

4 In addition, power plants with an installed output of 1,706 MW were registered for decommissioning. However, they were classified as system-relevant by the Federal Network Agency and TransnetBW and are thus used by TransnetBW as reserve grid capacity.

5 Excluding renewable energies; only gas power plants and storage power plants that do not use the natural flow of water.

Own generation ^{1,2} by primary energy source

in GWh	2022	2021
Renewable Energies	11,744	11,692
Run-of-river power plants	4,676	5,150
Storage/pumped storage power plants using the natural flow of water	687	858
Onshore wind	1,927	1,746
Offshore wind	3,331	3,196
Photovoltaics	825	432
Other renewable energies	298	310
Thermal power plants ³	30,340	30,707
Brown coal	6,348	5,691
Hard coal	10,606	10,829
Gas	2,764	3,452
Other thermal power plants	151	152
Pumped storage power plants that do not use the natural flow of water	1,081	1,106
Nuclear power plants	9,390	9,477
Own generation	42,084	42,399
of which renewable in %	27.9	27.6
of which low CO ₂ in % ⁴	9.1	10.8

1 Own electricity generation includes long-term procurement agreements and partly owned power plants.

2 Generation volumes are reported without the volumes for positive redispatch that cannot be controlled by EnBW. Own generation including positive redispatch in 2022 was 44,690 GWh.

3 Including pumped storage power plants that do not use the natural flow of water.

4 Excluding renewable energies; only gas power plants and storage power plants that do not use the natural flow of water.

In 2022, own generation of electricity was slightly below the previous year's level at 42.1 TWh. Generation based on renewable energies increased compared to the previous year due to the addition of new power plants and better wind conditions, although generation from our hydropower plants was significantly lower than the level in the previous year due to low water levels. The volume of electricity generated by our thermal generation plants fell in comparison to the previous year. Although generation at our coal power plants increased slightly driven by prices on the market, generation at the gas power plants fell considerably. The proportion of own generation from renewable energy sources thus increased in comparison to the previous year to 27.9%.

**CO₂ intensity/climate protection****CO₂ intensity**

TOP

Key performance indicator

	2022	2021	Change in % ²	Forecast 2022
CO ₂ intensity in g/kWh ¹	491	478	2.6	0% – 15%

1 The calculation for this performance indicator does not include nuclear generation and the share of positive redispatch that cannot be controlled by EnBW. If the share of positive redispatch that cannot be controlled by EnBW is taken into account, CO₂ intensity would be 508 g/kWh for the reporting year (previous year: 492 g/kWh). CO₂ intensity including nuclear generation for the reporting year was 401 g/kWh (previous year: 386 g/kWh). We publish a five-year comparison of the performance indicators in our "Multi-year overview" on p. 305.

2 The figures may not add up due to rounding differences.

The CO₂ intensity of our own electricity generation increased in comparison to the previous year by 2.6% to 491 g/kWh and was thus at the lower end of our range for the forecasted increase of 0% to 15%. In comparison to 2021, generation from renewable energy sources increased due to more favorable wind conditions and higher generation from photovoltaics following the construction of additional solar parks. In contrast, there was an increase in the deployment of our coal power plants in Germany, especially in southwest Germany to maintain the security of supply, but also in France due to the priority given to the storage of gas in the second half of 2022 as a result of the war between Russia and Ukraine and the fact that many of the French nuclear power plants were taken offline. This high deployment had a negative impact on the availability of the hard coal power plants. The CO₂ intensity fell by 10.4% in 2022 in comparison to the reference year of 2018 (548 g/kWh). We were thus still within our target corridor in 2022 for achieving our target of reducing CO₂ intensity by 15% to 30% by 2025, in comparison to the reference year of 2018. We also refer you to the details provided in the "Report on opportunities and risks" (p. 137f.⁷).

Carbon footprint of EnBW

EnBW calculates and reports on its carbon footprint in accordance with the international Greenhouse Gas Protocol standard and takes into account Scope 1, Scope 2 and Scope 3 emissions ⁹.

The Scope 1 emissions from burning fossil fuels are calculated based on the guidelines issued within the European Emission Trading System (EU ETS). These guidelines are mainly based on the EU regulation on the monitoring and reporting of greenhouse gas emissions ¹⁰ (in short: Monitoring Regulation, MRR) (EU Regulation 2018/2066). The emission factors are taken from the current "Guidance for preparing monitoring plans and emission reports for stationary installations" from the German Emissions Trading Authority (DEHSt) and publications issued by the German Environment Agency (UBA). The CO₂ equivalents of the greenhouse gases are calculated based on their global warming potential GWP100 according to the Sixth Assessment Report (AR6) from the IPCC.

We measure market-based Scope 2 emissions using specific emission factors according to the designation of the electricity and heating supplies to our plants and buildings. In order to determine location-based Scope 2 emissions, we apply the energy designations used in the respective country, such as the Bundesmix (federal mix) of the general electricity supply according to section 42 German Energy Industry Act.

We are currently working with a general emissions factor of 29 g CO₂eq/kWh for the upstream Scope 3 emissions of our gas sales and the gas consumption at our gas power plants based on information from the German Environment Agency and the DBI Gas and Environmental Technology Institute. We calculate the upstream CO₂ emissions for procured fuel used for energy generation in our power plants using GEMIS factors ¹¹. The Scope 3 emissions for our flights and train trips are based on data we receive from the booking agents and the German rail company Deutsche Bahn. For gas combustion of our customers, we use an average emissions factor of 200 g CO₂/kWh natural gas based on the average composition of the natural gas.

EnBW also provides information on the performance indicator "CO₂ emissions avoided" when reporting its carbon footprint. A key goal of the energy transition is to protect the climate by reducing greenhouse gas emissions and using energy efficiently. "CO₂ emissions avoided" give another measure of EnBW's contribution to the achievement of this target. The activities carried out by EnBW in this area – both internally and also with our customers – support the implementation of the energy transition.

Direct CO₂ emissions are determined mainly by the deployment of our power plants. As a result of rising gas prices caused by the war between Russia and Ukraine, the transmission system operator instructed us to deploy our reserve power plants to a greater extent to maintain the security of supply. This led to an increase in direct CO₂ emissions from 16.4 million t CO₂eq in 2021 to 17.5 million t CO₂eq in 2022. We present this category of electricity generation separately in the following table as "Electricity generation – not controllable." Higher indirect CO₂ emissions from grid losses were the main reason for the increase in Scope 2 CO₂ emissions from 0.4 million t CO₂eq to 0.5 million t CO₂eq. Scope 3 CO₂ emissions are mainly influenced by the gas consumption of our customers and thus by gas sales in the B2C and B2B sectors. As a result of the war between Russia and Ukraine, gas sales and thus also the Scope 3 emissions fell significantly in the 2022 financial year from 60.9 million t CO₂eq in the previous year to 37.7 million t CO₂eq. There was an increase in CO₂ emissions avoided, which was primarily attributable to the increase in biogas activities in 2022, from 9.8 million t CO₂eq to 10.0 million t CO₂eq.

Carbon footprint

in thousand t CO₂eq/in %





	2022	2021
Direct CO₂ emissions (Scope 1)	17,474/100.0	16,377/100.0
Electricity generation – not controllable ^{1,3}	2,906/16.6	1,701/10.4
Electricity generation – controllable ^{2,3}	13,465/77.1	13,415/81.9
Heat generation ³	773/4.4	884/5.4
Operation of gas pipelines/plants ^{3,4}	257/1.5	306/1.9
Operation of electricity grid	32/0.2	32/0.2
Buildings	11/<0.1	10/<0.1
Vehicles	28/0.2	27/0.2
Other ⁵	2/<0.1	2/<0.1
Indirect CO₂ emissions (Scope 2)⁶	516/100.0	439/100.0
Grid losses	449/87.0	373/85.0
Operation of plants, electricity grid	7/1.3	11/2.4
Operation of plants, gas grid ⁴	40/7.7	37/8.4
Buildings	11/2.1	9/2.1
Operation of plants, data and telecommunications network	6/1.2	7/1.5
Other ⁷	4/0.8	3/0.7
Indirect CO₂ emissions (Scope 3)	37,675/100.0	60,898/100.0
Upstream indirect CO₂ emissions (Scope 3)	5,894/15.6	8,900/14.6
Upstream gas sales	4,729/12.6	7,669/12.6
Procurement of fuel for energy generation	1,151/3.1	1,222/2.0
Upstream gas consumption, gas plants	11/<0.1	8/<0.1
Business trips	3/<0.1	1/<0.1
Downstream indirect CO₂ emissions (Scope 3)	31,781/84.4	51,998/85.4
Gas consumption by customers	31,781/84.4	51,998/85.4
CO₂ emissions avoided	9,984	9,808
CO₂ intensity of business journeys and in traveling CO₂/km	163	190

- 1 Includes the CO₂ emissions for electricity generation from redispatch and reserve power plant deployment.
- 2 CO₂ emissions from electricity generation excluding redispatch and reserve power plant deployment.
- 3 The figures for the previous year have been restated.
- 4 The methane emissions from the gas grids included here were calculated using the method developed by the Oil and Gas Methane Partnership (OGMP).
- 5 Includes non-automotive fuel consumption (e.g., emergency generators).
- 6 Market-based method. According to the location-based method, the Scope 2 emissions were 759 thousand t CO₂eq in 2021 (the figure for the previous year has been restated) and 921 thousand t CO₂eq in 2022.
- 7 Contains Scope 2 emissions from electricity consumption at water plants and own/operational consumption at charging infrastructure for e-mobility.

Emissions (Scope 1, 2 and 3)



Greenhouse gas emissions (CO₂, CH₄, N₂O and SF₆)

 Scope 3 upstream Other indirect greenhouse gas emissions	 Scope 1 Direct greenhouse gas emissions from sources belonging to or directly controlled by the company	 Scope 2 Indirect greenhouse gas emissions originating during the production of purchased electricity, steam, district heating and cooling that the company consumes; grid losses	 Scope 3 downstream Other indirect greenhouse gas emissions
<ul style="list-style-type: none"> • Upstream gas sales (gas procurement) • Procurement of fuel • Business trips 	<ul style="list-style-type: none"> • Electricity generation • Heat generation • Operation of gas pipelines and gas plants • Operation of electricity grid • Buildings • Vehicles 	<ul style="list-style-type: none"> • Grid losses • Operation of plants, electricity grid • Operation of plants, gas grid • Operation of plants, water supply • Buildings 	<ul style="list-style-type: none"> • Gas consumption by customers (B2B and B2C gas sales)
Upstream emissions by third parties	Direct and indirect emissions at EnBW		Downstream emissions by third parties

Energy consumption

Energy consumption

	2022	2021
Total final energy consumption in GWh ^{1,2}	1,072	1,019
Proportion of renewable energies in final energy consumption in % ^{2,3}	20.2	20.2
Energy consumption of buildings per employee in kWh per employee ^{2,4}	5,474	4,778

1 Includes final energy consumption of production including pump energy, energy consumption of grid facilities (electricity, gas and water) excluding grid losses, energy consumption of buildings and vehicles.

2 The figure for the previous year has been restated.

3 For electricity consumption for which the proportion of renewable energies is unknown, the Bundesmix (federal mix) label for electricity in the respective reporting year is assumed. For fuels, a proportion of 5% bioethanol is generally assumed.

4 Calculations based on assumptions and estimates. Only those companies with relevant consumption data have been taken into account.

Total final energy consumption includes the consumption of final energy for our business activities. It does not include conversion losses during energy generation or grid losses. The total final energy consumption and the proportion accounted for by renewable energies are determined based on our own consumption and the operational consumption of the power plants. Due to the increase in the deployments of our coal power plants, total final energy consumption increased in comparison to the previous year by 5.2% from 1,019 GWh to 1,072 GWh. Apart from the thermal power plants, the uptake of energy from renewable sources increased so that the proportion of renewable energies in final energy consumption was 20.2% as in the previous year.

The energy consumption of our buildings covers the energy required for heating rooms and providing hot water and electricity. As the coronavirus pandemic has subsided, the use of our office spaces has increased. This led to an increase in the energy consumption of buildings per employee from 4,778 kWh in 2021 to 5,474 kWh in 2022.

You can find numerous other **environmental performance indicators** on our website.

[Online ↗](#)



Selected activities

Climate-friendly internal mobility: In order to make a contribution to climate-friendly mobility, we are replacing all of the company vehicles that have conventional drives with fully electric vehicles in the **fleet** operated by EnBW AG by 2024. At the end of 2021, there were still 178 conventional vehicles in the fleet. This figure had fallen to 134 vehicles by the end of 2022, which we plan to replace with fully electric vehicles. At the end of 2022, we already had 74 fully electric vehicles in the EnBW AG fleet. Our subsidiary PRE has also introduced a program to **switch its fleet over to electric vehicles** to help it achieve its goal of climate neutrality. It plans to increase the proportion of electric vehicles in its fleet of passenger vehicles to 37% by 2025, 50% by 2030 and 100% by 2035. A total of 15 new electric passenger cars were purchased by PRE in 2022 and 13 passenger cars with combustion engines were removed from the fleet. ED Netze is also working on the **full electrification** of all vehicles at its site.

Another element of climate-friendly internal mobility is the electric cars in the EMMA employee program (Entgeltumwandlungsmodelle und Mitarbeiterangebote / deferred compensation models and employee offers), previously known as NewMobility. These offers proved very popular again in 2022. 825 employees were using an electric car in the EMMA program by the end of 2021 and this figure had risen to 1,635 electric cars by the end of 2022.



Sustainable real estate management: We aim to reduce the **CO₂ emissions** and improve energy efficiency in our real estate portfolio. EnBW Real Estate, the subsidiary responsible for most of the real estate activities of EnBW AG, has been set the target of reducing the **specific energy consumption** of existing buildings by 10% by 2025 and by 20% by 2030, based on the reference year of 2018. We achieved a reduction of 14% at the benchmark sites by around 2022. The portfolio managed by EnBW Real Estate GmbH comprises about 130 properties with approximately 290 buildings and a net floor space of around 670,000 m². We also expanded our focus on **biodiversity** at the properties to include the increasingly important aspect of **climate resilience** in 2022. Reducing CO₂ emissions is one of the main priorities for the new ED Netze site in Donaueschingen that is currently under construction. The new buildings have lower energy requirements than the maximum level allowed by law according to the KfW 40 standard and also feature a climate-neutral local heating supply. The building construction work and carpentry work at the three hybrid buildings (wood/prestressed concrete) was completed in 2022.

-77%

reduction in paper usage in 2022 compared to the reference year of 2019.

SWD is participating in the construction of the EUREF Campus city district in Düsseldorf, which utilizes an **innovative concept** for the supply of energy including various regenerative and environmentally friendly energy sources, as well as a mobility hub as a testing platform and start-up platform for new forms of mobility.

Reduction in paper consumption: We have set ourselves the goal of significantly reducing paper consumption and want to reduce the volume of paper procured centrally at EnBW AG by up to 90% by 2025, based on the reference year of 2019. Mainly as a result of our digitalization initiatives, we were able to reduce our internal paper consumption by around 68 t and customer-driven paper consumption by around 540 t in 2022, which represents a reduction in paper consumption of 77% since 2019. Alongside the effects of the coronavirus pandemic and the higher number of employees working from home as a result, the further digitalization of our business processes at EnBW has also contributed to the reduction in paper consumption. For example, the number of printers operated by the company decreased even further from 1,400 at the beginning of 2021 to around 930 in 2022. In line with our sustainability goals, new homes have been found for some of the printers that have so far been decommissioned. Among other things, we offer them free of charge to interested educational institutions.



Climate-friendly grid and plant operation: ED Netze is rigorously expanding its electricity grid. The Löffingen transformer station, which was partially placed into operation at the beginning of December 2022, is helping to maintain the security of supply in this grid area. The previous 20 kV transformer station has been replaced with innovative switchgear technology and makes a contribution to achieving the goal of climate neutrality. Instead of the gas sulfur hexafluoride (SF₆) which is still widely used, the switchgears contain so-called clean air. This consists only of nitrogen and oxygen and thus does not have any global warming properties. The transformer station is due to be fully commissioned during the course of 2023. PRE also has another program for **reducing SF₆ emissions** from the electricity grid and for converting to **CO₂-efficient technologies**. In Potsdam-Nesselgrund, the independent transmission system operator ONTRAS Gastransport commissioned **Germany's first emission-free gas pressure control station** in June 2022. It will save up to 98% of primary energy compared to a conventional plant. The innovative plant concept can be used as a blueprint for gas transfer stations throughout Germany and represents an important milestone on the path towards achieving climate-neutral gas transport.

Furthermore, BALANCE Erneuerbare Energien, a subsidiary of VNG, constructed photovoltaic power plants at three sites in 2022 to reduce the own electricity consumption of the biogas plants at the sites. They will feed surplus energy into the public grid. The three power plants will generate a yield of around 475,000 kWh in total in the first year. This corresponds to the annual electricity needs of around 150 two-person households. Alongside the economic benefits, they will also **help to reduce CO₂ emissions**.



Hydropower: Generating electricity from hydropower helps protect the climate. At the same time, utilizing hydropower encroaches on nature. Therefore, we are committed to ensuring that hydropower is used in harmony with the environment. If power plants cause changes to the natural landscape, we balance these effects through environmental compensatory measures. For example, we preserve the continuity of watercourses by **constructing or optimizing fish ladders for fish to ascend or descend the river**. At our hydropower plants on the Iller river, we have started comprehensive studies on restoring ecological continuity in the river and we are planning the construction of a fish ladder in coordination with the licensing authority to help fish ascend the considerable height difference at the hydraulic power plant in Aitrach. Studies on the implementation of a technical fish protection facility including a route that will allow fish to descend the river are just as ambitious. There is currently no established standard for the construction of fish protection racks at major hydropower plants that are combined with a continuous redirection route leading to the tailwater.

At the so-called canal power stations in Tannheim, Unteropfingen and Dettingen on the Iller river downstream of Aitrach, we are also making progress with the plans to **implement ecological river continuity and population protection measures**. This includes the construction of a migration facility for fish to travel upstream at the Mooshausen dam, where water from the Iller river is redirected into the Iller canal at volumes of up to 100 m³/s.

Find out more about our measures to conserve **biological diversity** and protect **nature and species** on our website.

[Online ↗](#)

Further information on how we use our **solar parks** to **protect species** can be found here.

[Online ↗](#)

Further environmental data, including on the **Global Reporting Initiative**, is available on the Internet.

[Online ↗](#)

Conservation of biological diversity: We initiated the **EnBW “Stimuli for Diversity” program for the protection of amphibian species** together with the LUBW (Baden-Württemberg State Institute for the Environment) back in 2011, which has also included funding for protective measures for reptiles since 2016. The program is part of the project “The economy and business for nature,” which is a component of the state initiative “Active for biological diversity.” It still remains the only conservation program from a company nationwide that not only funds the protection of one single species but two whole groups of species across the state. Funding was awarded to ten project applications in 2022. Numerous measures have thus been implemented in a total of 140 projects since 2011 that have helped to improve the habitats of native amphibians and reptiles so that their populations can start to grow again in the medium to long term.

As part of the **blooming transformer station** project, Netze BW has been using the uncultivated areas around transformer stations to promote biodiversity since 2019. The aim is to create natural flower meadows at every transformer station that will become home to a large number of different species that are usually found in the natural environment at the respective sites. A further ten transformer stations were transformed into “buzzing transformer stations” using regional seeds in the reporting year and now provide a rich habitat for numerous species of butterflies, wild bees and other insects. These are hotspots for biodiversity with up to 60 different plant species per 10 m², providing food, protection and a place of retreat for native insects. Flower meadows covering a total area of around 84,600 m² have been created at the 39 sites. This will make an active contribution to the proliferation of flower pollinating insects.

Alongside the key performance indicators in the environment goal dimension, other environmental targets are defined in the EnBW Sustainability Agenda [\(p. 34 ff. ↗\)](#). We utilize a broad range of additional environmental performance indicators for measuring, managing and reporting on the other results of our environmentally relevant activities. Selected activities and performance indicators are described in this section. Other **environmental performance indicators** can be found in our “Multi-year overview” [\(p. 305 ↗\)](#) and on our website.

Employees goal dimension

The further development of our corporate strategy in the period up to 2025 [\(p. 33 ff. ↗\)](#) will place new demands on our HR policy. In future, the strategy will focus on growth, infrastructure, selective internationalization and new business also outside of the energy sector. Using our HR strategy 2025 “People as the main focus,” we want to create the conditions that give the people at EnBW and our company itself the opportunity for growth, development, a future and thus success. The key tasks of HR are recruiting employees for the company, managing their development and accompanying them through the transformation, encouraging loyalty to the company among employees and maintaining and fostering their motivation, satisfaction and employability.

Employee engagement

People Engagement Index (PEI)

Since November 2020, we have been using an employee survey (EnMAB) to measure the People Engagement Index (PEI) as a key performance indicator. The PEI allows us to draw conclusions not only on the satisfaction of employees, but also on how motivated and engaged they are in their work at EnBW [\(p. 41 ↗\)](#).

TOP

Key performance indicator

	2022	2021	Change in %	Forecast 2022
People Engagement Index (PEI) ¹	81	82	-1.2	> 77

¹ Variations in the group of consolidated companies (all companies with more than 100 employees are considered [except ITOs]). Companies that were fully consolidated for the first time in the fourth quarter of 2022 were not included in the employee surveys for the PEI.

The employee survey EnMAB was held from 17 October to 3 November 2022. The survey achieved its highest coverage to date, being answered by around 22,900 employees, including trainees and students. On the basis of this survey, the PEI reached 81 points in 2022 on a scale of 0 to 100. It stood at 82 points in the previous year. According to an assessment by the service provider, an international benchmark index compiled using similar questions at numerous companies from various different sectors stood at 75 points in 2022. Our values were very high in comparison with other companies in 2022 in the “Engagement” and “Well-being and respect” categories.

We also refer you to the details provided in the “Report on opportunities and risks” (p. 138⁷).

HR strategy 2025

Our HR strategy 2025 “People as the main focus” supports the implementation of the EnBW 2025 corporate strategy. Digitalization requires a willingness to change, technological expertise and modern working practices. Our managers should not just place expectations on their employees but also support them and lead their teams with conviction into a more complex world. Our HR policy will support employees in this process of change, for example by developing new forms for cooperation and for further training and education. In addition, we value the potential offered by the diversity of our employees.



The HR strategy focuses on **six key themes** with 21 strategic areas:

- People-centered transformation
- Employer brand & recruiting
- Leadership & skills
- Qualification@EnBW
- Diversity@EnBW
- HR processes, services & digitalization

Selected activities in our six themes

People-centered transformation: We consider ourselves to be the shapers of a people-centered transformation and are placing the main focus on people and their needs. To support employees during the transformation process, we have, for example, updated the EnMAB employee survey. We supplemented it in 2022 to include an “empowerment survey” for the first time. Our aim is to use the results to discover how different values and standards at the company are impacting the attitudes and experiences of employees in their work. The goal is to derive measures to increase loyalty to the company and to improve the motivation and performance of employees in the long term.

The working world has undergone a period of profound change due to the coronavirus pandemic and to technical and demographic changes. We responded to this transformation in 2021, for example, by launching the “**BestWork**” initiative to deal with the question “How do we design the working world of the future?” The first stage of the Group-wide rollout of “BestWork” began at EnBW AG and some subsidiaries in November 2021 and was concluded in the first quarter of 2022. At the end of this stage, every employee was able to decide whether they wanted to work more or less than 50% from home or on a mobile basis. This decision will be valid in the first instance until the end of 2023. The second stage of BestWork started in February 2022 with the motto “CooperationSpaces.” In this stage we will optimize workspaces and technical equipment for the form of cooperation selected by each team and the type of hybrid collaboration. Employees are due to move into their newly designed workspaces by the end of 2023. By giving our employees the opportunity to work from home – where feasible – we are helping to reduce CO₂ emissions caused by commuting to work. Employees at EnBW and some subsidiaries have also been given the opportunity to work from another European country since this year. They are permitted to work from abroad for a maximum of 30 calendar days at a time and for a maximum of 90 calendar days every twelve months.

Employer brand & recruiting: EnBW is on track for growth. This will require us to secure new talent. Our employer campaign which is running under the motto “We are the E” or “I am the E” and which began in November 2020 aims to make EnBW more well known nationwide as an employer and also to continuously improve the attractiveness of EnBW as an employer. The success of this campaign was demonstrated by the results of our market research surveys that were carried out across Germany in December 2021. Almost half of those surveyed stated that working for EnBW is an attractive prospect, which was true for only 29% of those surveyed in 2018. Various images from the campaign could be seen across Germany on social media, digital career networks and the EnBW career website for a six-week period starting in April 2022. In addition, we are constantly working to make our recruiting processes even more efficient. For example, we have digitalized the hiring process to a large extent and improved our talent finder program. During the application process, we are continuing to hold more interviews via videoconference.

Leadership & skills: The growth of our company is closely linked to the personal development of every individual person. This is why we developed our new trainee program that started in April 2022 under the motto “Shape the future with your energy.” Over a period of 20 months, we provide trainees with insight into all areas of the Group in eight practical phases including a two-month placement abroad at one of our European subsidiaries. The trainees pick up specialist expertise and also develop their soft skills.

Our digital learning and development platform “**LernWerk**” enables employees to organize their own personal development independently. It was rolled out across the company during 2022. In cooperation with the specialist departments, we developed so-called knowledge hubs covering themes such as sustainability, grid technology training, health management, data analytics and artificial intelligence. “LernWerk” not only includes content to be consumed digitally but also promotes active application of content via, among other things, physical exchange formats. Since the beginning of July 2022, we have also been integrating the “development dialog” into “LernWerk”. This comprises the following three formats: personal development reviews, impulse appraisals and status reviews. These give employees the opportunity to maintain continuous dialog on their development at the company.

Qualification@EnBW: On 31 December 2022, there was a total of 1,276 trainees and students working in the EnBW Group. EnBW has been increasingly utilizing virtual reality (VR) and augmented reality (AR) for training since the beginning of 2021 and is cooperating with the start-up Holo-Light. Trainees are able to use smart glasses and VR software to prepare themselves to deal with, for example, hazardous situations, without actually being exposed to any real danger when they are in the virtual world. In addition, EnBW is utilizing gamification approaches in its training, such as in the “E-Quiziert” learning app that has been available since April 2022. This innovative training concept provided by EnBW was ranked in second place in the “Training and Dual Study” category at the German Human Resources Awards 2022.

We have been offering a multi-stage **career integration program** to refugees and migrants since 2016, in which 51 people are currently serving a technical apprenticeship. 27 participants have now completed their training as either an industrial mechanic, electronics technician, plant mechanic or mechatronics engineer and 26 of them have been awarded a permanent contract. As part of our social engagement activities, we will continue the program over the next few years and also carry on using it as an additional tool for recruiting young talent.

Diversity@EnBW: Diversity is a fixed component of our corporate culture and a key element of the HR strategy. We actively support equal opportunities. EnBW wants to give its employees in leadership positions more flexibility. To this end, more leadership positions will be offered as part-time jobs in the future.

Proportion of female managers at EnBW AG

in %	2022	2021
First level below the Board of Management	11.1	7.7
Second level below the Board of Management	23.1	21.3

The Board of Management has set the goal of further increasing the proportion of women at both management levels below the Board of Management in the period from 1 January 2021 to 31 December 2025. At both the first level (top management) and second level (upper management), the proportion of women should increase to at least 20%. This target was not yet achieved in the 2022 financial year in top management. The proportion of women in top management changed from 7.7% in the previous year to 11.1% in the reporting period, while the proportion of women in upper management increased from 21.3% in the previous year to 23.1%. These changes were due to the appointment of more women to management positions. A “Diversity, Equity & Inclusion” strategy was developed in 2022 based on the HR strategy. It covers the three strategic fields “Success and Opportunities,” “Inclusive Culture” and “Diverse Ecosystems.” In the next stage, we will implement any already defined measures and establish a system for continuously measuring their success. This will also help to achieve the targets for the proportion of women in management positions.

HR processes, services & digitalization: The 2025 corporate strategy also poses new challenges for the HR and IT departments and means that we need to realign and focus our IT-based HR processes. For this purpose, we have launched the “EnABLE HR” project with the aim of establishing a future-oriented process and IT system environment for human resources work. We will use intelligent system solutions to relieve employees in the HR department of the burden of administrative, manual and repetitive tasks, for example, by offering a comprehensive range of self-service solutions. Processes with a customer interface were also digitalized and made easier to use in 2022. For example, employees can now also submit their sick notes electronically.

Selected activities at our key subsidiaries: With the goal of ensuring it can continue to successfully attract new employees in a difficult job market, **Energiedienst (ED)** established, among other things, a new employer branding strategy in 2022. The application process and onboarding program were also modified using the new software Workday. The “HR transformED” project, which originally focused purely on the theme of digitalization, has now become a comprehensive transformation program: The subproject “Time management” was successfully concluded in 2022 and “HR Core System” is still being implemented. **Pražská energetika (PRE)** ran programs and an assessment center for the development of young talent and managers with the aim of retaining and further developing the most important management skills on a continuous basis. Other processes in the area of payroll accounting were also digitalized. **Stadtwerke Düsseldorf (SWD)** founded the Transition Team in 2022 in order to support the transformation of work culture in the best way possible. Other important themes for the company were health management and diversity, for which events and information were provided in formats tailored to specific target groups. **VNG** launched, among other things, its “Next Work” program with the aim of developing the future working world at VNG in the dimensions of culture, space, technology and services. It also pushed forward the digitalization of its HR processes, for example, by introducing a digital seminar management system and a revised e-learning platform.

Other issues

In accordance with the **collective bargaining agreement** that was reached by the Employers’ Association for Electricity Power Plants in Baden-Württemberg and the labor union ver.di on 16 March 2021, a second wage increase of 1.6% came into force on 1 May 2022. The first wage increase of 2.1% was made on 1 March 2021. In addition, employees received a one-off tax-free payment based on the pay scale groupings. All employees who were subject to general taxation in Germany and who were in main employment on 1 September 2022 received the so-called flat-rate energy relief payment (Energiepreispauschale – EPP) of €300 gross in their wage slip in September. The German government agreed the EPP as part of the Tax Relief Act in May 2022 to ease the burden on citizens due to the rise in energy prices.



EnBW provides a comprehensive range of services to promote the **health** of its workforce. This includes, among other things, preventative medical services, vaccinations, physiotherapy treatments and psychological counseling. The sickness ratio stood at 5.3% in 2022 and was thus 1.2 percentage points higher than the figure in the previous year.

We publish more **performance indicators for employees** on our website.

[Online ↗](#)

Other performance indicators

Employees¹

	31/12/2022	31/12/2021 ²	Change in %
Smart Infrastructure for Customers	5,401	5,227	3.3
System Critical Infrastructure	11,485	10,866	5.7
Sustainable Generation Infrastructure	7,151	7,051	1.4
Other	2,943	2,920	0.8
Total	26,980	26,064	3.5
Number of full-time equivalents ³	25,339	24,519	3.3

1 Number of employees excluding apprentices/trainees and inactive employees.

2 Restated for the new segment structure valid from 2022.

3 Converted into full-time equivalents.

As of 31 December 2022, the EnBW Group had 26,980 employees, which was 916 more than in the previous year. This increase was primarily due to taking on new employees in strategic growth fields. In the System Critical Infrastructure segment, the increase in the number of employees was due to the importance of the regulated business and the first-time consolidation of an investment in the area of grid services. The increase in the number of employees in the Sustainable Generation Infrastructure segment was mainly due to the renewable energies business and restructuring within the Group. Digitalization and transformation processes as well as restructuring within the Group increased the number of employees in "Other." The increase in the number of employees in the Smart Infrastructure for Customers segment was primarily due to the expansion of broadband[?] and increased demand for energy and storage solutions. The employee turnover ratio stood at 7.9% in 2022 and was thus 1.7 percentage points higher than the figure in the previous year.



Occupational safety

In the area of occupational safety, we have set ourselves the goals of avoiding accidents and work-related illness and creating a safe working environment. The Group guidelines "Occupational safety and health protection" describe the responsibilities and tasks related to occupational safety and define the processes. The EnBW guidelines for occupational safety and health protection are also described in this document. The Occupational Safety Working Group has the task of regulating issues that affect all companies uniformly within the Group. It is headed by the Chief Operating Officer Sustainable Generation Infrastructure at EnBW and has the power to make binding decisions in accordance with the company's rules of procedure.

We work continuously on minimizing **danger in the workplace**, which could result in accidents or work-related illnesses, through training and programs of measures. In 2022, 62 managers participated in the training course "Responsibilities and liability with respect to occupational safety" that was organized by the Group occupational safety department.

The Group-wide **Quentic software** is now being used in 32 Group companies with around 17,700 employees. The "Measures" module that helps companies to track site visits and incidents was one of the modules that became well established in 2022. The data entered into Quentic will be used to derive performance indicators in the future. This will enable the target-oriented management of occupational safety measures.

Since most of the protective measures relating to the coronavirus ended in April 2022, we have been able to hold more in-person **training courses** on occupational safety. The ongoing pandemic was still taken into account when organizing these courses and they were thus held in small groups. We are continuing to provide self-tests for our employees.

LTIF

The key performance indicator LTIF (Lost Time Injury Frequency) is used to measure the number of LTI (Lost Time Injuries) according to the definition on p. 41⁷. Every company included in the LTIF for companies controlled by the Group receives an individual target from the Board of Management – the fulfillment of this LTIF target flows into the assessments for the achievement of targets in each case. The companies can also set their own individual targets that go beyond those set by the Board of Management.

TOP

Key performance indicator

	2022	2021	Change in %	Forecast 2022
LTIF for companies controlled by the Group ^{1,2,3}	2.6	2.3	13.0	2.0–2.2
LTIF overall ^{1,2}	4.1	3.3	24.2	3.2–3.5

1 LTIF indicates how many LTI occurred per one million working hours performed. Further information on the calculation of this performance indicator can be found on p. 41⁷.

2 Variations in the group of consolidated companies (all companies with more than 100 employees, excluding external agency workers and contractors, are considered).

3 Companies that were fully consolidated for the first time during the 2022 financial year were not included in the calculations for the LTIF performance indicators. Except for companies in the area of waste management.

The key performance indicator LTIF for companies controlled by the Group worsened in the 2022 financial year and increased to 2.6. At the same time, however, the average days of absence per accident fell significantly and now stands at 13.1 (previous year: 20.3) for the companies controlled by the Group. This means that the severity of the accidents greatly declined. The LTIF overall – including our subsidiaries in the area of waste management – also increased significantly in the reporting period. However, the average days of absence per accident was also 13.1 days and was thus also considerably below the value in the previous year (19.8). We believe that the increase in both the LTIF for companies controlled by the Group and the LTIF overall is mainly attributable to the increased deployment of power plants due to the energy crisis and the higher staffing requirements as a result. The LTIF overall was also influenced in 2022 by the number of accidents at the newly consolidated (trade-oriented) companies working on the installation of photovoltaic plants and electricity storage systems for retail customers.

In the 2022 financial year, there was unfortunately a fatal accident at an external company working for Energiedienst (ED).

We also refer you to the details provided in the “Report on opportunities and risks” (p. 138⁷).

Selected activities

The **measures for achieving the targets for occupational safety** are defined independently by the Group companies:

In October 2022, the integrated management system (occupational safety, environment and energy) at **Netze BW** was certified in accordance with DIN EN ISO 14001, EMAS and DIN EN ISO 50001. The audit according to DIN EN ISO 45001 was concluded in January 2023. As part of the project to improve the occupational safety culture that was started in 2021 with support from DuPont Sustainable Solutions, Netze BW identified four areas of action in the 2022 financial year. The measures are already being implemented in the “Occupational Safety Initiative 2.0” (InA 2.0). Some employees also completed a program to become an “InA Trainer.” They will provide training courses for all managers in 2023 on cultural change and raising awareness for occupational safety. Netze BW also ran other initiatives to raise the awareness of employees for occupational safety and health protection, including “Occupational Safety Awareness Day.”

In the area of **conventional generation**, training courses and briefings were held from the middle of the second quarter of 2022 onwards, once again increasingly as in-person events. “Occupational Safety Days” were also held once again for employees at these sites. To increase awareness for the theme of occupational safety during apprenticeships, around twenty technical apprentices designed and produced a series of videos themselves entitled “RiskBuster – Next Generation” during a two-day workshop. The videos were presented at the “Safety Days” event at the Rheinhafen steam power plant. The “100 days without accidents” campaign also continued in the reporting year and this goal was achieved a total of ten times at different locations.

The measures implemented by **EnBW Kernkraft** (EnKK) in the area of occupational safety and health protection in 2022 focused on improving the resilience of employees and managers with respect to change. Training courses and workshops were held that covered this complex theme. The aim was to provide all employees with methods to deal with far-reaching change. Another main focus continued to be the training courses designed to promote safe behavior and critical reflection. Learning content for the company's own employees and those from partner companies on specialized dismantling activities was also developed and tested.

Stadtwerke Düsseldorf (SWD) has been implementing its "Personal drive" project at the company Netzgesellschaft Düsseldorf. This project was started in 2021 to improve the "culture of prevention" and sustainably instill precautionary behavior in its employees. The goal is to develop an accident-free corporate culture which guarantees a safe working environment as a matter of course. In the first quarter of 2022, the company introduced an online form for reporting and recording near accidents or dangerous situations. Collecting data on and analyzing near accidents will help identify potential weaknesses and also areas where safety can be improved. In the "New Corporate Governance AS/GS" project, SWD analyzed the current situation and has defined a possible approach for improving the control and management structure for occupational safety and health protection at the company.

In the 2022 financial year, a variety of activities to maintain and further improve occupational safety standards were carried out at **VNG**. For example, the VNG subsidiary BALANCE Erneuerbare Energien completed a review of the current situation with respect to occupational safety and with the aid of an external auditor in order to identify potential levers for optimizing the occupational safety culture. The results were used to hold, amongst other things, workshops with managers and employees on the theme of "Living safety!" VNG Gasspeicher had its integrated quality, environment, safety and health protection management system recertified in October and thus once again fulfills the requirements for DIN EN ISO 9001, ISO 14001 and ISO 45001. The VNG subsidiaries VNG Gasspeicher and Erdgasspeicher Peissen carried out a joint internal emergency exercise at the underground storage facility Bernburg/Katharina.

Energiedienst (ED) concluded a cooperation agreement in July 2022 with Netze BW that included, amongst other things, training courses on how to handle protective equipment and training on the application of certain safe work practices when using grid technology. In addition, ED laid the foundations for the introduction of the occupational safety software "SAM," which will be rolled out in phases from 2023 onwards. As well as providing various tools related to the subject of occupational safety, the software provides employees with a better overview of which courses and briefings they have already completed and which are still pending.

In the reporting year, the main focus at **Pražská energetika** (PRE) was placed on, amongst other things, occupational safety measures for their own employees and those of their suppliers. For example, further training courses were provided for work carried out in cable tunnels. In addition, PRE introduced safety management measures and mechanisms for the construction of PV power plants. Against the background of changes to the law with respect to reserve technical facilities, training courses were provided for the responsible employees. The changes relate to, amongst other things, the editing and updating of documentation and requirements for the further training of employees in electrical trades.



EU taxonomy

The European Commission presented the EU Green Deal ^② in December 2019. It includes the target of reducing net emissions from greenhouse gases in the European Union to zero by 2050. A key element of the EU Green Deal is the EU taxonomy ^②, a classification system used to define “environmentally sustainable” economic activities. The aim is to use defined requirements to classify economic activities EU-wide with respect to their contribution to six environmental objectives in order to encourage the development of sustainable financing products. The six environmental objectives are:

1. Climate change mitigation
2. Climate change adaptation
3. The sustainable use and protection of water and marine resources
4. The transition to a circular economy
5. Pollution prevention and control
6. The protection and restoration of biodiversity and ecosystems

The EU-Taxonomy Regulation distinguishes between “taxonomy-eligible” and “taxonomy-aligned” activities:

- An activity is **taxonomy-eligible** if taxonomy criteria exist for the activity and it matches the taxonomy description of the activity, irrespective of whether it fulfills the criteria.
- An activity is **taxonomy-aligned** if it fulfills the taxonomy criteria for the activity. In this case, it makes a significant contribution to the respective environmental objective (fulfills the technical screening criteria), causes no significant harm to any of the other environmental objectives (fulfills the technical screening criteria to do no significant harm, DNSH) and observes and complies with the minimum safeguards for occupational safety and human rights.

The reporting obligation this year exclusively covers the environmental objectives “climate change mitigation” and “climate change adaptation.” The criteria for the other four objectives have not yet been finalized and thus do not have to be reported for the 2022 financial year.

As in the previous year, the economic activities of EnBW will generally be reported based on the criteria in the EU Taxonomy Regulation. In this reporting year, the activities in the energy sector were expanded to include the criteria sets for natural gas and nuclear power activities.

The formulations and terms contained in the EU taxonomy are subject to uncertainty with respect to their interpretation and need further clarification. Our own interpretation is presented below: The EU Taxonomy Regulation requires the presentation of the proportions of total revenue generated by a company that are achieved using products and services associated with taxonomy-aligned economic activities. EnBW believes that it is appropriate to allocate expenditure related to assets or processes associated with taxonomy-aligned economic activities to capex and opex if the measures relevant to capex and opex are implemented such that the technical screening criteria and minimum safeguards are fulfilled. In terms of our fuel switch projects ^②, our assumption at the present time is that these plants will be taxonomy-aligned. However, it will only be possible to assess final compliance with the technical screening criteria at a later point in the implementation of these projects. Associated investment will thus be reported as part of a capex plan.

Implementation of the EU Taxonomy Regulation in the EnBW Group

We have accompanied and supported the development and introduction of the taxonomy from the very beginning. In particular, this included our participation in related expert groups and our reporting on selected taxonomy-aligned economic activities in the EnBW Group at an early stage for the 2020 financial year.

Further information on our **experiences with applying the EU sustainable finance taxonomy** can be found here.

[Online ↗](#)




In the 2021 financial year, we then reported in full on the taxonomy alignment of our activities based on all of the final taxonomy criteria that were available at the time the Integrated Annual Report was prepared. We reported on the obligatory key performance indicators revenue, capex and opex as well as voluntarily publishing information on the other performance indicators that are relevant to the ongoing management of the EnBW Group: adjusted EBITDA⁹ and capex including the proportion for entities accounted for using the equity method (expanded capex).

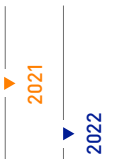
For the 2022 financial year, we have now also included information on the following economic activities:

- The publication of the “Report on the gas grid conversion plan”¹⁰ by the German Technical and Scientific Association for Gas and Water (DVGW) in September 2022 removed any uncertainties that may have existed previously with respect to the interpretation of the criteria for the economic activity 4.14. As a result, we can now verify that the **gas grids** fulfill the criteria for a substantial contribution to climate change mitigation for the current reporting year. The investment can thus be classified as taxonomy-aligned.
- In contrast to 2021, the publication of corresponding taxonomy criteria by the European Commission means that certain **natural gas-fired power plants** can now be classified as taxonomy-aligned. The three CCGT plants planned as part of our fuel switch projects will be operated as combined heat and power (CHP) plants in Heilbronn, Altbach/Deizisau and Stuttgart-Münster. This means that the power plants will not only generate electricity but will also be used for district heat extraction. The electricity generation at the plants is assigned to economic activity 4.29: Electricity is generated here from gaseous fuels in a standalone and technically and financially separate process. The CHP operation of the plants is assigned to economic activity 4.30: Electricity and heat are generated here from gaseous fuels. The existing CHP power plants operated by Stadtwerke Düsseldorf are only taxonomy-eligible and not taxonomy-aligned.
- Moreover, it is now also possible to classify the **district heating grid** as taxonomy-aligned, which could not be reported separately in the previous year because it was considered part of an integrated heat generation and distribution system.
- The criteria sets for nuclear power activities in the delegated act do not affect our power plant in Neckarwestheim because the delegated act only envisages criteria for new, innovative power plants or those operated over the long term. The last remaining active nuclear power plant operated by EnBW in Neckarwestheim will cease generating power at the latest on 15 April 2023 following its period of extended operation agreed by the German government. Therefore, it has no approval for a lifetime extension in the sense of long-term operation and it cannot be classified as taxonomy-eligible.

As the economic activities described above are included for the first time in the 2022 financial year, the information given here on the EU taxonomy is only comparable with the information given in the Integrated Annual Report 2021 to a limited extent. The complete set of information on the taxonomy-eligible and taxonomy-aligned economic activities according to Annex II of the delegated act for the EU taxonomy can be found on p. 151 ff.⁷. The templates for the activities in the areas of nuclear energy and fossil gaseous fuels are presented below (p. 154 ff.⁷).

Activities examined for the EU Taxonomy Regulation

 <p>Smart Infrastructure for Customers</p>	 <p>System Critical Infrastructure</p>	 <p>Sustainable Generation Infrastructure</p>
<ul style="list-style-type: none"> • E-mobility 	<ul style="list-style-type: none"> • Electricity distribution grids • Electricity transmission grids • Water grids • Water supply 	<ul style="list-style-type: none"> • Onshore wind • Offshore wind • Solar • Run-of-river • Biomass • Pumped storage
	<ul style="list-style-type: none"> • Gas distribution grids • Gas transmission grids 	<ul style="list-style-type: none"> • District heating • Electricity generation from gas • Combined heat and power



We only report on activities that are taxonomy-eligible with respect to the EU's environmental objective of "climate change mitigation." Based on the EnBW business model, no activities could be identified that are taxonomy-eligible with respect to the EU's environmental objective of "climate change adaptation." The taxonomy alignment of the economic activities listed above was derived – using the findings from previous years as a basis – by determining that they fulfilled the taxonomy criteria. This was carried out by a central project team, working together with relevant experts from the specialist departments in the EnBW Group. We describe our fundamental approach to the analysis of the taxonomy alignment of our taxonomy-eligible economic activities below. A description of the activity and an overview of how they fulfill the respective technical screening criteria for a substantial contribution to climate change mitigation and do no significant harm to other EU environmental objectives is provided in table form at the end.

Firstly, each taxonomy-eligible business activity was assessed individually to see whether it complies with the criteria for making a substantial contribution to climate change mitigation. This assessment was carried out in principle at the level of the respective plant, insofar as the substantial contribution to climate change mitigation was not considered to have been complied with by the individual activities per se.

No significant harm to the other EU environmental objectives

In the next step, we assessed whether any significant harm was being done to the other five environmental objectives ("climate change adaptation," "the sustainable use and protection of water and marine resources," "the transition to a circular economy," "pollution prevention and control" and "the protection and restoration of biodiversity and ecosystems"). The results of the DNSH criteria assessment for each economic activity can be found in the table [\[p. 113 ff.\]](#). Environmental objectives for which no criteria currently exist were considered to have not been harmed and were thus not explicitly examined.

Compliance with minimum safeguards

In the third and final step, we assessed the economic activities at a Group level with respect to their compliance with the minimum social safeguards for human rights and occupational safety (prequalification process [\[p. 56 f.\]](#), information on occupational safety [\[p. 108 f.\]](#) and the "Report on opportunities and risks" [\[p. 132 ff.\]](#)).

Identifying and classifying economic activities

In the following table, taxonomy alignment is derived at the level of the respective activity. Each activity was initially assessed to see whether it made a substantial contribution to climate change mitigation. In the second step, the activity was analyzed to see whether it did any significant harm to the achievement of the other EU environmental objectives. The analysis of whether the activity could potentially do harm to the second environmental objective "climate change adaptation" was carried out centrally at a Group level in cooperation with the risk management department [\[p. 137 f.\]](#), which is why the following table focuses on the environmental objectives 3 to 6. The activities for which a closer examination of the environmental objectives is necessary are to be found in the respective technical screening criteria. Environmental objectives for which there are currently no assessment criteria for identifying potential harm were thus not assessed.

The **technical screening criteria for the EU taxonomy** can be found here.

[Online ↗](#)

Economic activities according to the EU taxonomy and a description of the activity

4.1 Electricity generation via photovoltaic technology

→ Construction and operation of solar parks to generate electricity

4.3 Electricity generation from wind power

→ Construction and operation of wind farms to generate electricity

4.5 Electricity generation from hydropower¹

→ Construction and operation of run-of-river power plants to generate electricity

4.9 Transmission and distribution of electricity

→ Construction and operation of transmission and distribution grids for electricity

4.10 Storage of electricity¹

→ Construction and operation of pumped storage power plants for the storage of electricity

4.13 Manufacture of biogas and biofuels for use in transport and of bioliquids¹

→ Manufacture of biogas for feeding into the gas grid and operation of CHP power plants with bioenergy

Substantial contribution to climate change mitigation

- In the case of photovoltaic and wind activities and with respect to the requirement for a substantial contribution to climate change mitigation, it is not currently necessary to test compliance with any criteria because energy generation of this type will always remain significantly below the current threshold of 100 g CO₂eq/kWh, even when analyzed over the entire life cycle.
- Hydropower plants make an important contribution to climate change mitigation due to their very low greenhouse gas intensity.
- The reference values from the German Environment Agency (UBA) were used as the basis for assessing the substantial contribution of run-of-river power plants, which at 2.702 g CO₂eq/kWh lie significantly below the taxonomy threshold of a maximum of 100 g CO₂eq/kWh.
- These plants thus comply with the wording of the requirements for economic criteria 4.5 because compliance with the taxonomy threshold for the life cycle emissions could be verified using the UBA reference values.
- The publication of the reference values by the UBA complies with the requirements (which are not specified in more detail) for "verification" by an independent third party, especially as the values are not determined by EnBW.
- The electricity grids make a substantial contribution to climate change mitigation because they are part of the synchronous grid of continental Europe (transmission grid) or its downstream grids (distribution grids).
- The distribution grid in Germany also fulfills the criteria that the majority of the connections made in the last five years were for renewable energies.
- There are no criteria that must be assessed with respect to a substantial contribution to climate change mitigation for pumped storage activities.
- Agricultural biomasses that comply with the sustainability requirements in EU Directive 2018/2001 are used to produce the biogas. Amongst other things, environmental surveys are carried out for this purpose.
- The criterion that no food or feed crops may be used for activity 4.13 only applies to the production of biofuels according to article 2 no. 33 Renewable Energy Directive and not to the production of biogas in general (article 2 no. 28 Renewable Energy Directive).
- The greenhouse gas emission savings (depending on the production route) are at least 65% in comparison to the relative fossil fuel comparator set out in Annex V of EU Directive 2018/2001.
- If processes for the anaerobic digestion of organic materials are used in the plants, the biogas is only used for specific purposes. Monitoring and contingency plans are also in place to minimize methane leakage.

No significant harm to the EU environmental objectives 3 to 6 (insofar as the criteria are relevant)

- The vast majority of components for photovoltaic and wind energy power plants are designed for a very long service life, are recyclable and have a residual value at the end of their period of use (steel, aluminum, copper).
- These plant components can either be recycled within the EnBW Group or sold to third parties for further use.
- Environmental impact assessments (EIA) are carried out in accordance with the legal regulations.
- Prior to the process for reissuing expired permits in accordance with water law, a preliminary environmental impact assessment must be carried out. Depending on the results of this assessment, it may be necessary to subsequently complete a full environmental impact assessment.
- The obligatory implementation of the requirements in the European Water Framework Directive is key, both for the award of new permits according to water law and also potentially at any time when the authorities subsequently issue official directives for existing permits.
- Potential mitigation measures, such as fish ladders that enable fish to descend the river, are implemented in agreement with the responsible authorities subject to appropriate deadlines.
- A waste management plan is in place that ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy.
- Legal regulations are complied with when constructing overground power lines.
- Compliance with the 26th Federal Immission Control Ordinance (BImSchV) ensures fulfillment of the criteria for electromagnetic radiation.
- No oils containing PCBs are used in new equipment. The process to replace oils containing PCBs in old equipment was concluded at the beginning of the 1990s.
- Environmental impact assessments are carried out in accordance with the legal regulations.
- The same procedure is followed as for run-of-river power plants when the process to reissue expired permits according to water law is pending. The same applies to the implementation of the requirements in the European Water Framework Directive and corresponding mitigation measures.
- A waste management plan is in place that ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy.
- In order to do no significant harm to the environmental objectives "the sustainable use and protection of water and marine resources" and "the protection and restoration of biodiversity and ecosystems," there are structural safety measures in place to prevent any pollution of the groundwater.
- General preliminary assessments are also carried out to determine whether the activity is subject to an environmental impact assessment. As this activity is not subject to an EIA, the responsible authorities believe that there is no significant negative impact on the environment.
- Biogas power plants are not constructed in sensitive ecological areas. Bodies representing the public interest can raise their concerns in the resolution procedure for the submitted building applications.
- Pollution prevention and control is ensured by compliance with the legal regulations. In addition, the best available technology is used for any replacement investment.

¹ The KPIs for activities 4.5 and 4.10 and for 4.13 and 4.20 are combined in each case.

Economic activities according to the EU taxonomy and a description of the activity

4.14 Transmission and distribution networks for renewable and low-carbon gases

→ Construction and operation of gas grids

4.15 District heating/cooling distribution

→ Construction and operation of district heating grids

4.20 Cogeneration of heat/cool and power from bioenergy¹

→ Operation of biogas CHP power plants to generate electricity and heat

4.29 Electricity generation from fossil gaseous fuels

→ Construction and operation of gas power plants to generate electricity

Substantial contribution to climate change mitigation

- This criteria set covers investment in new grids for the transport of hydrogen and other low-carbon gases, as well as investment in existing grids to increase the blend of hydrogen or other low-carbon gases in the gas system.
- The district heating grids make a substantial contribution to climate change mitigation because they use more than 50% renewable energies, 50% waste heat, 75% CHP heat or 50% of a combination of these energies and heats and are thus classified as efficient according to the EU regulations.
- The agricultural biomass used in the activity complies with the criteria laid down in EU Directive 2018/2001. Amongst other things, sustainability certificates are obtained for this purpose.
- Forest biomass, sewage sludge and biowaste are not used and thus it is not necessary to assess any criteria in this area.
- The greenhouse gas emission savings from the use of biomass in the combined heat and power plants is at least 80% in relation to the GHG emission-saving methodology and fossil fuel comparator set out in Annex VI to EU Directive 2018/2001.
- Direct GHG emissions of the activity averaged over 20 years are 160 to 549 kg CO₂e/kW depending on the scenario and are thus lower than 550 kg CO₂e/kW of the power plant's capacity.
- The CCGT power plants compensate for shortfalls in the electricity supply from renewable energies and ensure the security of supply. The new power plants are replacing hard coal power plants. The aim is to switch over 100% to hydrogen by 2035 at the latest. A mix with biogases is not planned.
- The generation capacities do not exceed the capacity of the previously installed power plants by more than 15%.
- The power plants are located in Germany. The Federal Republic of Germany has made the commitment to phase out coal-fired generation by 2038 so that the requirements in the EU taxonomy for these activities are fulfilled.
- Measurement equipment to monitor physical emissions is installed in accordance with the legal regulations.

No significant harm to the EU environmental objectives 3 to 6 (insofar as the criteria are relevant)

- The criteria for energy efficient components are complied with by using the best available technology according to the latest standards for the new construction and repair of the gas grid. In particular, this includes the pipelines, fittings and leakage monitoring systems.
- Environmental impact assessments are carried out in accordance with the legal regulations.
- The district heating grid has no impact on water bodies during normal operation. In the event of a leakage, the damaged section is separated locally from the rest of the grid using fittings. The technology does not allow for the emptying of the district heating water into water bodies.
- The criteria for energy-efficient components are complied with by using the best available technology according to the latest standards for the new construction and repair of the district heating grid. In particular, this includes the pipelines, fittings and leakage monitoring systems.
- Environmental impact assessments are carried out in accordance with the legal regulations.
- As is the case for the manufacture of biogas and biofuels, structural safety measures, in particular, are in place to prevent any pollution of the ground-water.
- The process for carrying out EIAs is the same as for the manufacture of biogas and biofuels.
- Biogas power plants are not constructed in sensitive ecological areas. Bodies representing the public interest can raise their concerns in the resolution procedure for the submitted building applications.
- Pollution prevention and control is ensured by compliance with the legal regulations. In addition, the best available technology is used for any replacement investment.
- Preliminary assessments are carried out to determine whether the activity is subject to an environmental impact assessment and any subsequent EIAs are carried out where necessary in a project-specific manner in accordance with the Environmental Impact Assessment Act (UVPG). Otherwise, the respective projects are not approved.
- The BAT conclusions from the EU have been transposed into German law. All of the planned power plants comply with limits at least in line with requirements in the currently valid version of the 13th BImSchV and thus also the BAT conclusions.

¹ The KPIs for activities 4.5 and 4.10 and for 4.13 and 4.20 are combined in each case.

Economic activities according to the EU taxonomy and a description of the activity

4.30 High-efficiency co-generation of heat/cool and power from fossil gaseous fuels

→ Construction and operation of CHP power plants

Substantial contribution to climate change mitigation

- The activity achieves primary energy savings of at least 10% compared with the reference values for the separate production of heat and electricity. Direct GHG emissions are 234 to 252 g CO₂e/kWh of energy output.
- The CCGT power plants compensate for shortfalls in the electricity supply from renewable energies and ensure the security of supply. The new power plants are replacing hard coal power plants. The aim is to switch over 100% to hydrogen by 2035 at the latest. A mix with biogases is not planned.
- The generation capacities do not exceed the capacities of the previously installed power plants.
- A reduction in GHG emissions during the life cycle and in comparison to the previously installed hard coal power plants of 55% is achieved.
- The power plants are located in Germany. The Federal Republic of Germany has made the commitment to phase out coal-fired generation by 2038 so that the requirements in the EU taxonomy for these activities are fulfilled.
- Measurement equipment to monitor physical emissions is installed in accordance with the legal regulations.

No significant harm to the EU environmental objectives 3 to 6 (insofar as the criteria are relevant)

- Preliminary assessments are carried out to determine whether the activity is subject to an environmental impact assessment and any subsequent EIAs are carried out where necessary in a project-specific manner in accordance with the Environmental Impact Assessment Act (UVPG). Otherwise, the respective projects are not approved.
- The BAT conclusions from the EU have been transposed into German law. All of the planned power plants comply with limits at least in line with requirements in the currently valid version of the 13th BImSchV and thus also the BAT conclusions.

5.1 Construction, extension and operation of water collection, treatment and supply systems

→ Construction and operation of water grids

The net average energy consumption of the water grids operated by the EnBW Group is lower than 0.5 kWh/m³ of water.

- The water passing through the grid complies with the requirements of the Drinking Water Ordinance and is monitored by the authorities – the criteria in this ordinance are stricter than those in the taxonomy.
- Environmental impact assessments are carried out in accordance with the legal regulations.

6.15 Infrastructure enabling low-carbon road transport and public transport

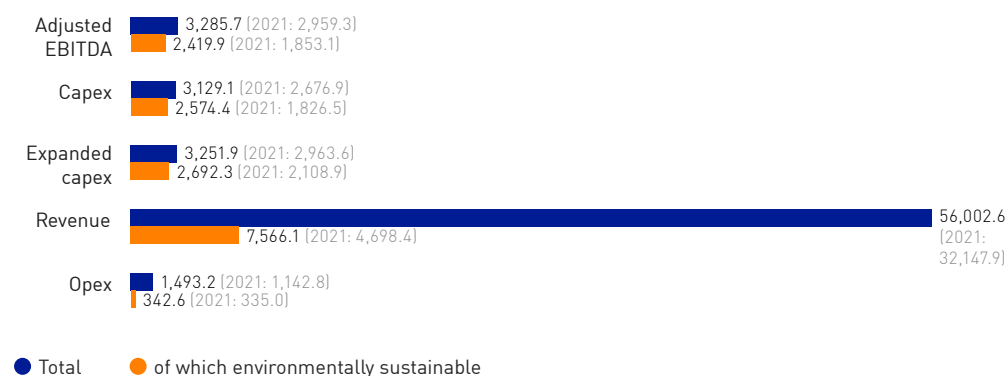
→ Construction and operation of charging infrastructure for e-vehicles

There are no criteria that must be assessed with respect to a substantial contribution to climate change mitigation for activities related to charging infrastructure for e-vehicles.

- Water is only found at our sites in the form of rain water. We do not use any surface waters nor do we extract any groundwater.
- The construction of charging infrastructure for e-vehicles is not included in the activities subject to an environmental impact assessment in Annex 1 to the UVPG: Legislators apparently assume that these activities do not per se do any significant harm to ecosystems and biodiversity. An EIA can be requested during the official approval process, although this has never occurred up to now.

The following graphic provides an overview of the proportions of the adjusted EBITDA⁹, capex, extended capex, revenue and opex accounted for by the taxonomy-aligned economic activities:

Proportion of taxonomy-aligned economic activities of the EnBW Group in € million



The following proportions were determined:

KPIs for the taxonomy-aligned business activities of the EnBW Group 2022

in € million/in %	Total	Proportion of taxonomy-aligned business activities	Proportion of taxonomy-eligible but not taxonomy-aligned economic activities	Proportion of taxonomy non-eligible business activities
Adjusted EBITDA	3,285.7	2,419.9/73.7	125.9/3.8	773.7/22.5
Capex	3,129.1	2,574.4/82.3	2.5/0.1	552.2/17.6
Expanded capex	3,251.9	2,692.3/82.8	2.5/0.1	557.1/17.1
Revenue	56,002.6	7,566.1/13.5	1,639.5/2.9	46,797.0/83.6
Opex	1,493.2	342.6/22.9	2.5/0.2	1,148.1/76.9

KPIs for the taxonomy-aligned business activities of the EnBW Group 2021

in € million/in %	Total	Proportion of taxonomy-aligned business activities	Proportion of taxonomy-eligible but not taxonomy-aligned economic activities	Proportion of taxonomy non-eligible business activities
Adjusted EBITDA	2,959.3	1,853.1/62.6	–	1,106.2/37.4
Capex	2,676.9	1,826.5/68.2	–	850.4/31.8
Expanded capex	2,963.6	2,108.9/71.2	–	854.7/28.8
Revenue	32,147.9	4,698.4/14.6	–	27,449.5/85.4
Opex	1,142.8	335.0/29.3	–	807.8/70.7

Proportion of taxonomy-aligned adjusted EBITDA in the segments 2022

in € million/in %	Total	Proportion of taxonomy-aligned business activities	Proportion of taxonomy-eligible but not taxonomy-aligned economic activities	Proportion of taxonomy non-eligible business activities
Smart Infrastructure for Customers	510.2	-50.6/-9.9	0.0/0.0	560.8/109.9
System Critical Infrastructure	1,046.0	781.2/74.7	0.0/0.0	264.8/25.3
Sustainable Generation Infrastructure	1,934.8	1,689.3/87.3	125.9/6.5	119.6/6.2

Proportion of taxonomy-aligned adjusted EBITDA in the segments 2021 ¹

in € million/in %	Total	Proportion of taxonomy-aligned business activities	Proportion of taxonomy-eligible but not taxonomy-aligned economic activities	Proportion of taxonomy non-eligible business activities
Smart Infrastructure for Customers	344.0	-34.4/-10.0	–	378.4/110.0
System Critical Infrastructure	1,263.0	916.8/72.6	–	346.2/27.4
Sustainable Generation Infrastructure	1,539.7	970.7/63.0	–	568.9/37.0

¹ The figures for the previous year have been restated.

Proportion of taxonomy-aligned expanded capex in the segments 2022

in € million/in %	Total	Proportion of taxonomy-aligned business activities	Proportion of taxonomy-eligible business activities	Proportion of taxonomy non-eligible business activities
Smart Infrastructure for Customers	404.9	174.1/43.0	0.0/0.0	230.8/57.0
System Critical Infrastructure	1,979.7	1,900.3/96.0	0.0/0.0	79.4/4.0
Sustainable Generation Infrastructure	821.4	617.9/75.2	2.5/0.3	201.0/24.5

Proportion of taxonomy-aligned expanded capex in the segments 2021

in € million/in %	Total	Proportion of taxonomy-aligned business activities	Proportion of taxonomy-eligible business activities	Proportion of taxonomy non-eligible business activities
Smart Infrastructure for Customers	296.9	107.2/36.1	-	189.7/63.9
System Critical Infrastructure	1,711.5	1,396.4/81.6	-	315.1/19.4
Sustainable Generation Infrastructure	897.8	605.3/67.4	-	292.5/32.6

The adjusted EBITDA² from taxonomy-aligned activities was €2,419.9 million and thus significantly higher than in the previous year. The adjusted EBITDA from taxonomy-aligned activities in the Smart Infrastructure for Customers segment was almost unchanged in comparison to the previous year and comparatively low because for many business activities there are still no criteria in the EU taxonomy², such as for the sale of commodities. In the System Critical Infrastructure segment, the adjusted EBITDA decreased mainly due to the considerably higher expenses for the grid reserve including redispatch to maintain the security of supply. The proportion of the adjusted EBITDA for the System Critical Infrastructure segment accounted for by taxonomy-aligned activities was almost at the same level as in the previous year. The adjusted EBITDA for the Sustainable Generation Infrastructure segment was significantly higher than in the previous year due to the increased volatility of market prices in relation to the pumped storage power plants, higher generation volumes and margins at our offshore and onshore wind farms as a result of weather and price factors and the construction of new PV parks. As a result, the proportion of the adjusted EBITDA for this segment accounted for by taxonomy-aligned activities increased considerably. The activities in the Renewable Energies area within the Sustainable Generation Infrastructure segment are fully taxonomy-aligned.

The capex for taxonomy-aligned activities was around €750 million higher than the previous year, which corresponds to an increase of around 41%. Approximately €330 million, which is almost half of this increase, is attributable to the inclusion of additional taxonomy-aligned activities in 2022. This comprises the activities related to gas grids, district heating, electricity generation and combined heat and power generation using gas (economic activities 4.14, 4.15, 4.29 and 4.30). The last two activities are related to the investment in our three fuel switch projects² in Baden-Württemberg.

Around 87% of this increase was attributable to additions to property, plant and equipment and additions to non-cash-relevant right-of-use assets from leases. As well as the taxonomy-aligned activities that were added, there was increased investment in the electricity transmission and distribution grids (economic activity 4.9), electricity generation from wind power (economic activity 4.3) and infrastructure enabling low-carbon road transport (economic activity 6.15). The investment made by our Group subsidiary TransnetBW as part of the Network Development Plan Electricity² and in our electricity distribution grids by our grid companies was also higher. In the area of offshore wind power, investment in our EnBW He Dreht wind farm in the German North Sea increased in 2022 in comparison to the previous year. Furthermore, we also increased our investment in the expansion of electromobility.

The proportion of taxonomy-aligned activities in relation to expanded capex in the Smart Infrastructure for Customers segment stood at 43.0% and is thus relatively low because there are still no criteria in the EU taxonomy for many business activities, such as for the sale of commodities. The proportion in the System Critical Infrastructure segment of 96.0% is even higher than in the previous year, which is due to the inclusion of the gas grids this year. The proportion in the Sustainable Generation Infrastructure segment stood at 75.2% and is relatively high. The activities in the Renewable Energies area are fully taxonomy-aligned as in the previous year. The increase in this proportion is mainly attributable to the inclusion of the investment in our three fuel switch projects in Baden-Württemberg.

Revenue from taxonomy-aligned activities of €7,566.1 million in 2022 was significantly higher than in the previous year. This development was primarily due to higher income from the settlement of redispatch measures with other transmission system operators in the System Critical Infrastructure segment that has no impact on the result. The proportion of total revenue accounted for by taxonomy-aligned activities fell slightly in comparison to 2021 because Group revenue from commodity sales and trading activities was higher than in the previous year, mainly as a result of higher prices and the increased volatility on the electricity and gas markets.

The opex for taxonomy-aligned activities of €342.6 million was at the same level as in the previous year. Expenditure on maintenance and repair services was almost unchanged in comparison to 2021.

Accounting policies

The proportion of sustainable **investment (capex)** predominantly refers to assets associated with taxonomy-aligned activities. In accordance with our current interpretation, investment in our fuel switch projects, which are assigned to the economic activities 4.29 and 4.30 and make a contribution to the environmental objective of climate change mitigation, has been included in a capex plan and is reported separately below. The planned investment for these projects was defined using our investment approval process (p. 41⁷) and was presented to the Board of Management for approval. However, the taxonomy alignment of the power plants can only be verified following an evaluation of all of the technical screening criteria as the project progresses. The investment measures have a planning horizon of six years. The expected level of investment in the period 2022 to 2027 is €1.6 billion. To calculate the percentages, investment is included according to the following IFRS standards:

- Additions to property, plant and equipment (IAS 16)
- Additions to intangible assets (IAS 38)
- Additions to investment property (IAS 40)
- Additions to right-of-use assets from leases (IFRS 16)

The numerator for investment taken into account according to the taxonomy comprises the following:

Composition of the capex numerator

in € million	2022	2021
Additions to property, plant and equipment ¹	2,307.2	1,649.6
of which additions as part of a capex plan	(60.9)	–
Additions to intangible assets	123.9	70.3
Additions to right-of-use assets from leases	133.6	106.6
Additions to property held as a financial investment	0.0	0.0
Additions resulting from business combinations	9.7	0.0
Total	2,574.4	1,826.5

¹ This includes additions to provisions recognized for the decommissioning and dismantling of property, plant and equipment in the reporting period of €34.1 million (31/12/2021: €14.6 million).

The additions to calculate the denominator can be found in notes 10 (without consideration of the column “Goodwill”), 11, 12 and 14 (column for “Investment properties”) of the notes to the consolidated financial statements.

To determine the KPI for sustainable **revenue**, the net revenue that makes a contribution to the environmental objective of climate change mitigation is divided by the total net revenue for the Group. Further information on net revenue can be found in the section on external revenue on [p. 75](#)⁷ and in note 1 of the notes to the consolidated financial statements.

Composition of the revenue numerator

in € million	2022	2021
Revenue from contracts with customers	7,231.6	4,342.5
Other revenue	334.5	355.9
Total	7,566.1	4,698.4

The denominator to determine the KPI for **opex** in the sense of the Taxonomy Regulation comprises the following direct, non-capitalized costs:

- Research and development
- Building renovation measures
- Short-term leases
- Maintenance and repair costs

The numerator equals the part of the opex that is related to assets or activities associated with taxonomy-aligned economic activities. The expenditure included in the denominator covers the expenditure categories presented in the following table. The numerator for calculating the opex KPI is determined as follows:

Composition of the opex numerator

in € million	2022	2021
Maintenance and repair costs ¹	341.5	328.8
Short-term leases (not recognized as right-of-use assets)	0.7	5.4
Research and development costs	0.4	0.8
Total	342.6	335.0

¹ Includes building renovation measures.

As well as the KPIs required by the Taxonomy Regulation, we are also voluntarily reporting information on the environmentally sustainable **adjusted EBITDA** and **capex including the proportion for entities accounted for using the equity method** pursuant to IFRS 11 and IAS 28 (**expanded capex**). The sustainable adjusted EBITDA is the proportion of total adjusted EBITDA⁹ that makes a contribution to the environmental objective of climate change mitigation ([p. 76](#)⁷). With this KPI, we can create a direct link to our key performance indicator adjusted EBITDA that is relevant for the management of the company. Detailed information on this performance indicator can be found in the section on adjusted EBITDA on [p. 76 f.](#)⁷.

By reporting the expanded capex, we are disclosing all of our sustainable investment, irrespective of whether it is made within the EnBW Group. The numerator for the KPI for expanded capex is determined by taking the capex numerator from the Taxonomy Regulation and expanding it to include additions for entities accounted for using the equity method, whereby sustainable additions from acquisitions and capital increases are taken into account:

Composition of the expanded capex numerator

in € million	2022	2021
Capex numerator according to EU taxonomy	2,574.4	1,826.5
Additions to entities accounted for using the equity method	117.9	282.4
Total	2,692.3	2,108.9

EnBW AG

The financial statements of EnBW AG have been prepared in accordance with the regulations in the German Commercial Code (HGB), the German Stock Corporation Act (AktG) and the law governing the electricity and gas industries in Germany (German Energy Industry Act – EnWG). The regulations for large corporations apply.

The financial statements as audited by the Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, as well as the management report of EnBW AG contained in the Group management report, will be published in the German Federal Gazette (Bundesanzeiger).

For statements that are necessary to understand the position of EnBW AG and that are not explicitly described in the following sections, especially those relating to the strategy of the company and economic and political conditions, please refer to the information provided for the EnBW Group (p. 33 ff. [↗](#) and 62 ff. [↗](#)).

The annual net profit, which indicates the company's ability to pay a dividend, is an important performance indicator for EnBW AG.

The full **financial statements of EnBW AG** are available to download on our website.

[Online ↗](#)

Results of operations of EnBW AG

Condensed income statement of EnBW AG

in € million ¹	2022	2021	Change in %
Revenue	134,746.7	67,052.9	101.0
Cost of materials	-132,374.8	-66,217.0	-99.7
Amortization and depreciation	-201.9	-471.2	-57.2
Other operating result	-762.2	50.5	-
Earnings before interest and taxes	1,407.8	415.2	239.1
Financial result	-108.1	-384.7	-71.9
Tax	-326.4	16.1	-
Net profit	973.3	46.6	-

¹ In accordance with German commercial law.

EnBW AG reported an annual net profit of €973.3 million. The improvement in comparison to the previous year was mainly influenced by the €992.6 million in higher earnings before interest and taxes, the increase in the financial result of €276.6 million and the decrease in the tax result of €342.5 million.

Earnings before interest and taxes of EnBW AG is primarily determined by the revenues generated from electricity and gas sales, as well as by the associated cost of materials. The increase of €67,693.8 million in revenue was offset by an increase of €66,157.8 million in the cost of materials.

Revenue (after the deduction of electricity and energy taxes) of €134,746.7 million primarily includes revenue from electricity sales of €11,427.5 million and gas sales of €115,185.2 million. Electricity and gas sales comprise both the trading business, involving deliveries to trading partners and stock exchanges, and sales activities in the form of the direct delivery of energy to end customers.

The trading business recorded an increase of €67,495.2 million in revenue in 2022 to €131,689.3 million. This increase was mainly attributable to price effects as a result of the development of gas and electricity prices since March 2022 combined with a slight decrease in gas volumes. The increase overall in revenue in the trading business was offset by the rise in cost of materials of €66,148.4 million to a total of €129,747.3 million.

Revenues from sales activities were split into €1,687.3 million for electricity and €309.8 million for gas, which represented an overall increase of €95.2 million.

In the retail and end-customer sector (B2C), electricity sales of 6.4 billion kWh were 0.2 billion kWh lower than the level in the previous year, which was primarily attributable to the slight decrease in consumption due to the temperature. Revenues in the electricity business segment were at the same level as in the previous year. Gas sales rose slightly to 4.0 billion kWh due to the increase in the contract portfolio and were thus 0.1 billion kWh higher than in the previous year. Alongside the sales trends described above, higher revenues in the gas business were primarily attributable to price effects caused by the situation on the market in the financial year.

The cost of materials includes costs for electricity procurement of €9,428.9 million and costs for gas procurement of €113,848.4 million.

Alongside scheduled amortization and depreciation, the amortization and depreciation item includes impairment losses of €30.7 million, which relate to intangible assets.

The decrease in the other operating result in comparison to the previous year was primarily due to a fall in income from the disposal of assets of €778.7 million, which was mainly attributable in the previous year to intercompany restructuring, and a fall in income from reversals of provisions of €165.3 million, which was mainly related to provisions for onerous contracts for electricity procurement agreements. The rise in personnel expenses in comparison to the previous year by €285.1 million was mainly due to adjustments to the premises underlying the provisions for post-employment benefits. In addition, rents for gas transport increased by €129.6 million and the expenses for gas storage facilities increased by €60.7 million. The currency result also decreased by €38.9 million. In this financial year, services provided by foreign subsidiaries for trading activities of EnBW AG are disclosed in the other operating result for the first time. This was offset to some extent by the increase in reversals of impairment losses by €992.6 million, which mainly relate to conventional generation plants.

The improvement in the financial result was mainly influenced by lower impairment losses on financial assets of €164.4 million as well as the decrease in interest expenses for nuclear provisions of €85.0 million and the decrease in interest expenses for pension provisions of €57.5 million.

The tax expense in the financial year was €326.4 million, while there was a positive tax result of €16.1 million in the previous year. The taxes mainly comprise additions to the provisions for corporate income tax and trade tax of €198.1 million and for tax audit risks of €21.6 million, compared to reversals of provisions for tax audit risks of €31.0 million in the previous year. Advance payments of €22.4 million were made for income tax. The tax result also includes out-of-period income for income taxes of €46.5 million, compared to out-of-period expenses for income taxes of €8.2 million in the previous year. The option of recognizing a surplus of deferred tax assets was not exercised.

Net assets of EnBW AG

Balance sheet of EnBW AG

in € million ¹	31/12/2022	31/12/2021	Change in %
Assets			
Non-current assets			
Intangible assets	313.6	381.3	-17.8
Property, plant and equipment	1,050.0	623.6	68.4
Financial assets	26,869.7	23,802.6	11.9
	28,233.3	24,807.5	12.8
Current assets			
Inventories	2,340.0	674.0	247.2
Receivables and other assets	7,288.0	7,134.7	2.1
Securities	0.0	305.0	-100.0
Cash and cash equivalents	3,142.5	4,275.5	-26.5
	12,770.5	12,389.2	3.1
Prepaid expenses	6,744.7	8,925.3	-24.4
Surplus from offsetting	31.9	128.7	-75.2
	47,780.4	46,250.7	2.8
Equity and liabilities			
Equity			
Subscribed capital	708.1	708.1	-
Treasury shares	-14.7	-14.7	-
Issued capital	(693.4)	(693.4)	-
Capital reserve	776.0	776.0	-
Revenue reserves	2,022.5	1,572.5	22.3
Retained earnings	652.9	427.6	19.4
	4,144.8	3,469.5	12.5
Extraordinary items for investment cost subsidies and grants	25.9	25.5	1.6
Provisions	15,149.9	13,654.5	11.0
Liabilities	23,203.2	21,191.9	9.5
Deferred income	5,256.6	7,909.3	-33.5
	47,780.4	46,250.7	2.8

¹ In accordance with German commercial law.

The net assets of EnBW AG as of 31 December 2022 are significantly influenced by the non-current assets (particularly the financial assets) and the receivables and other assets. These are mostly offset by liabilities and provisions relating to nuclear power and for pensions and similar obligations.

Financial assets primarily consist of shares in affiliated entities of €19,393.5 million, securities held as non-current assets of €2,775.1 million and investments of €1,581.3 million. The increase of €3,067.1 million in financial assets mainly comprises payments into the capital reserves at shares in affiliated entities and intercompany restructuring. This was offset to some extent by the reduction in loans to affiliated entities by €117.9 million and impairment losses of €134.4 million.

Trade receivables of €1,890.9 million mainly comprise receivables from trading activities and consumption accruals for electricity and gas deliveries not yet invoiced.

Receivables from affiliated entities increased by €903.7 million to €2,005.8 million. They mainly comprise receivables from intercompany settlement transactions as part of the centralized financial and liquidity management, as well as claims from profit and loss transfer agreements and short-term loans.

The decrease in other assets by €599.3 million to €3,329.0 million was mainly attributable to a decrease in the collateral to stock markets and trade partners of €672.1 million due to changes in market prices and the resulting adjustments to the hedge strategy.

Cash and cash equivalents of EnBW AG totaling €3,142.5 million largely consist of bank deposits. More details on the development of this item can be found in the section “Financial position of EnBW AG.”

The decrease in prepaid expenses by €2,180.6 million to €6,744.7 million was primarily attributable to deferred earnings components from electricity and gas futures resulting from smaller differences between hedge prices and prices on the reporting date, as well as the adjustments to the hedge strategy.

The provisions for pensions and similar obligations held by EnBW AG to the amount of €6,921.3 million combine obligations from the company pension scheme and other company agreements made by major subsidiaries and EnBW AG. The resulting annual expenses for retirement benefits are reimbursed by the subsidiaries concerned in each case. The increase of €572.7 million in the provisions for pensions and similar obligations was mainly due to the effect of the further decrease in the discount rate and adjustments to underlying premises. In addition, provisions relating to nuclear power of €3,866.5 million are disclosed, which are formed to fulfill public law obligations and requirements in the operating licenses.

Of the liabilities totaling €23,203.2 million, €9,482.9 million have a residual term of more than one year. Overall, there are liabilities of €11,844.0 million to affiliated entities, which primarily result from intercompany settlement transactions within the framework of centralized financial and liquidity management, as well as from loan agreements.

The total increase in liabilities of €2,011.3 million was mainly attributable to the increase in liabilities to affiliated entities and investments of €2,442.1 million. In addition, trade payables increased by €510.5 million, other obligations related to the issuing of promissory notes by €500.0 million and liabilities to banks by €259.3 million. The increase in cash collateral received of €136.3 million offset to some extent the reduction in the variation margins of €1,760.1 million, which was due to changes in market prices and the resulting adjustments to the hedge strategy.

Non-current liabilities exist to the amount of €5,709.9 million to EnBW International Finance B.V. as part of the Debt Issuance Program (DIP) ⁹, of which €3,862.4 million is from the issuing of five subordinated bonds, a private placement of bonds and promissory notes, and €983.2 million is from loan agreements with credit institutions. The main changes in comparison to the previous year were the private placement of bonds totaling €862.4 million, the issuing of promissory notes totaling €500.0 million, taking out two bank loans totaling €596.8 million and repaying two subordinated bonds totaling €992.6 million. Furthermore, two new bonds were issued via EnBW International Finance B.V., each with a volume of €500.0 million.

The decrease in deferred income by €2,652.7 million to €5,256.6 million was primarily attributable to deferred earnings components from electricity and gas futures resulting from smaller differences between hedge prices and prices on the reporting date, as well as the adjustments to the hedge strategy.

The aim is to cover the non-current pension and nuclear provisions with appropriate financial assets within an economically feasible time period. Overall, financial assets of €26,869.7 million are offset by long-term debt of €19,637.0 million.

The liquidity of EnBW AG on the reporting date guarantees the solvency of the company for the payment of current liabilities from the operating business.

Financial position of EnBW AG

In comparison to the reporting date in the previous year, the liquidity of EnBW AG fell from €4,275.5 million by €1,133.0 million to €3,142.5 million.

The cash flows of EnBW AG fundamentally arise from both its own operating business and also the operating business of the subsidiaries with balance payments received and made via the bank accounts of EnBW AG, as part of the intercompany cash pooling system ⁹ within the framework of central financing and liquidity management.

Important business transactions that had an effect on the financial position of EnBW AG in the financial year are summarized below:

In the financial year, capital measures totaling €2,970.0 million were taken at subsidiaries, mainly in the area of the grids and renewable energies, and at VNG AG.

In addition, EnBW issued a non-convertible bond with a volume of €862.4 million and promissory notes of €500.0 million, and took out a bank loan of €596.8 million. Two new bonds with a total volume of €995.9 million and commercial papers with a volume of €712.5 million were also issued via EnBW International Finance B.V. This was offset to some extent by the repayment of two subordinated bonds with a volume of €992.6 million, the repayment of time deposits in the amount of €273.7 million, the repayment of bank loans totaling €70.5 million and the repayment of commercial papers via EnBW International Finance B.V. totaling €240.0 million.

As a result of the significant improvement in the earnings before interest and taxes, there were corresponding cash inflows in the financial year, especially in the trading business.

Other business transactions with a material impact on liquidity were cash outflows from margin payments of €951.8 million, cash outflows in connection with the utilization of the nuclear power and pension provisions of €567.7 million and interest payments to banks of €182.3 million.

These were offset to some extent in the financial year by cash inflows from the sale of securities of €305.0 million, cash inflows from the receipt of dividends of €264.0 million and a reduction of €117.9 million in loans to affiliated entities.

A total of €298.0 million was distributed to the shareholders of EnBW AG in dividends.

Overall assessment of the economic situation and development of EnBW AG

In our judgment, the development of the results of operations, financial position and net assets of EnBW AG as of 31 December 2022 is satisfactory after taking into account the effects described below that are not relevant to the ongoing management of the company. In the previous year, we forecasted an annual net profit of between €150 million and €200 million for 2022. The net profit/loss for 2022 was influenced by negative effects not relevant to the ongoing management of the company of around €250 million. This was offset to some extent by significantly higher earnings before interest and taxes.

The annual net profit for 2022 stands at €973.3 million and was significantly influenced by effects that arose both at EnBW AG itself and at its subsidiaries, which had an impact on EnBW AG due to profit and loss transfer agreements.

The main effects not relevant to the ongoing management of the company were higher additions to provisions for pension obligations of €532.1 million. Furthermore, additions to the provisions relating to nuclear power of €738.4 million (of which €542.8 million was reported as cost of materials of EnBW AG) had a negative effect. Other negative effects arose from impairment losses on financial assets of €261.1 million, impairment losses on intangible assets totaling €30.7 million and additions to the provisions for onerous contracts of €81.6 million.

This was offset to some extent by reversals of impairment losses of €1,018.7 million, reversals of provisions of €232.7 million and income from the sale of investments of €149.8 million.

Based on the annual net profit of €973.3 million and taking into account the profit carried forward of €129.6 million and the transfer into other revenue reserves of €450.0 million, there are retained earnings of €652.9 million.

We anticipate an annual net profit of around €2,000 million in 2023. This will be influenced by positive effects not relevant to the ongoing management of the company of around €950 million. Adjusted for these effects, the annual net profit will be around €1,050 million.

The amount that is ineligible for distribution as dividends, which primarily comprises the valuation of the provisions for pension obligations, is expected to be around €110 million as of 31 December 2023.

Opportunities and risks

As the business performance, economic situation and opportunities and risks relating to the future development of EnBW AG do not deviate from the business performance, economic situation and opportunities and risks relating to the future development of the EnBW Group, the management report of EnBW AG is combined with that of the EnBW Group [\(p. 126 ff.?\)](#).

Comments on reporting

The consolidated financial statements of EnBW AG are prepared in accordance with section 315e (1) HGB using the International Financial Reporting Standards (IFRS) set by the International Accounting Standards Board (IASB), the adoption of which is mandatory in the EU as of the reporting date. As a vertically integrated energy supply company in the sense of EnWG, EnBW AG engages in activities in electricity distribution, activities in gas distribution, other activities within the electricity sector, other activities within the gas sector and other activities outside of the electricity and gas sectors in accordance with section 6b (3) sentence 3 and sentence 4 EnWG.

EnBW share and dividend policy

As a result of the small proportion of EnBW shares in free float, events on the financial markets and the development of the DAX generally only have a minor influence on the development of the EnBW share price. The price of EnBW shares was €76.80 at the start of 2022 and stood at €87.00 by the end of the year.

In the long term, EnBW plans to pay out no more than 40% to 60% of the adjusted EBITDA in dividends. Based on the annual net profit of €973.3 million, and taking into account the profit carried forward of €129.6 million and the transfer into other revenue reserves of €450.0 million, there are retained earnings of €652.9 million and thus dividends will be paid for the 2022 financial year. If approved by the Annual General Meeting, the dividend to be distributed for the 2022 financial year will be €1.10 per share. This corresponds to a dividend payout ratio of 31% of the adjusted Group net profit that is attributable to shareholders.

Information on our **share price, dividends and shareholder structure** can be found on our website.

[Online ↗](#)

Overall assessment of the economic situation of the Group

Our EnBW 2025 strategy is increasingly placing the company's focus onto the infrastructure aspects of existing energy-related business fields and exploiting new growth opportunities above and beyond the energy sector. Our integrated approach that positions the company along the entire value added chain of the energy industry has demonstrated its resilience in times of crisis. Organized in three segments, we want to further strengthen our profitability and continuously improve our sustainability performance at the same time. In 2022, we began implementing the EnBW Sustainability Agenda and made important progress in all 15 measures. The aim is to make the company climate neutral with respect to our own emissions by 2035.

The operating business developed overall at a Group level in 2022 better than expected and forecast at the start of the year: The adjusted EBITDA ^② increased by 11.0% in comparison to the previous year. The result in the Smart Infrastructure for Customers segment was higher than the level in the previous year and the forecasted range, which was due to the positive earnings performance of our subsidiary SENEK and our B2B business at our subsidiaries. The adjusted EBITDA for the System Critical Infrastructure segment decreased, mainly due to higher expenses for the grid reserve including the redispatch to maintain the security of supply, and was thus slightly below our forecasted range. The result in the Sustainable Generation Infrastructure segment rose significantly and exceeded our forecasted range. While the adjusted EBITDA in the Renewable Energies area increased due to higher market prices, better wind conditions and the construction of new power plants, earnings in the Thermal Generation and Trading area increased due to higher market prices and positive earnings contributions from trading activities. The increase in non-operating EBITDA ^② was primarily attributable to income from reversals of impairment losses on our conventional generation plants and from the reversal of provisions for onerous contracts. This was offset to some extent by higher non-operating expenses relating to nuclear power. In addition, the financial result fell. The Group net profit/loss attributable to the shareholders of EnBW AG increased from €363.2 million in 2021 by €1,374.8 million to €1,738.0 million in the reporting period. Earnings per share amounted to €6.42 in the 2022 financial year, compared to €1.34 in the previous year.

The financial position of the company remains sound. Solvency was ensured at all times thanks to the company's available liquidity and its internal financing capability, as well as external sources available for financing. As of 31 December 2022, net debt ^② had risen by €495.7 million compared to the figure posted at the end of 2021. This was mainly due to the high fills levels at the gas storage facilities – filled at increased procurement costs – and the higher collateral. As a result of the rise in retained cash flow ^② and factors that lie outside the company's influence, such as the rise in the interest rate for pension provisions, the debt repayment potential ^② in the 2022 financial year was significantly higher than the target value of between 13.5% and 14.5%. The value spread ^② fell to 1.1% due to the increase in capital costs and thus underperformed the forecasted range.

In the customers and society goal dimension, the Reputation Index for EnBW reached its highest score to date of 58 points in 2022. In a particularly challenging market environment with respect to energy prices, the Customer Satisfaction Index for EnBW customers increased significantly to a very good level. Yello was able to improve the already high satisfaction of its customers to an outstanding level. As in the previous year, supply reliability remained at a very good level in 2022. In the environment goal dimension, we continued with the expansion of renewable energies. The CO₂ intensity of our own electricity generation was almost at the same level as the previous year with a slight increase in the deployment of our coal power plants but also with higher generation from renewable power plants compared to the previous year. In the employees goal dimension, the People Engagement Index (PEI) remained at a very high level in comparison with other companies, while in the area of occupational safety, the key performance indicators for LTIF increased in comparison to the previous year.

Overall, business at the company developed positively in 2022 despite huge uncertainty on the markets and in the political arena. The figures underline the fact that our integrated approach that positions the company along the entire value added chain of the energy industry ensures economic stability even in difficult times.

Forecast

In our forecast we take a fundamental look at the expected growth and development of EnBW in the years 2023 to 2025. It should be noted that the present conditions – such as the high volatility on the markets (p. 71 ff.⁷) – increase the level of uncertainty with which predictions about the future development of the company can be made. The expected economic, political and regulatory conditions are presented in the chapter “General conditions” (p. 62 ff.⁷). Potential factors influencing the forecast are described in detail in the “Report on opportunities and risks” (p. 132 ff.⁷).

Expected trends in the finance and strategy goal dimensions

Investment over a three-year period

In order to continue to play an active role in shaping the energy transition, gross investment of €14.4 billion is planned for the 2023 to 2025 period. This represents on average €4.8 billion per year. 20% of this investment will be on existing projects and 80% on growth projects. The majority of the gross investment (75%) will be in the System Critical Infrastructure segment and the expansion of renewable energies.

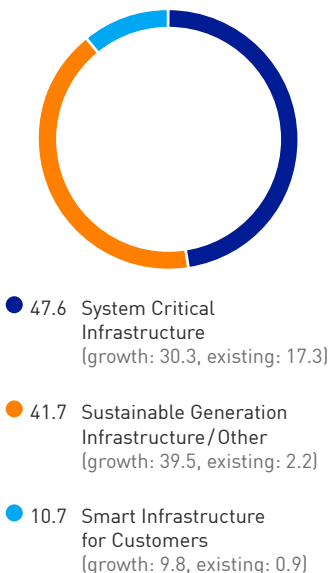
Around 11% of the investment is planned for the **Smart Infrastructure for Customers** segment, of which approximately 10% will be for growth investment and 1% for investment in existing facilities. This investment is mainly intended for the expansion of electromobility, as well as for the expansion of the telecommunications infrastructure.

Around 48% of the investment will flow into the **System Critical Infrastructure segment**. Growth investment will account for approximately 30% of the overall gross investment and the remaining amount of around 17% will be for upgrading the existing grids. In order to make the transmission of renewable energies from the north to the south of Germany possible, funds have been allocated to the transmission grid for the realization of two HVDC projects⁸ ULTRANET and SuedLink that involve our subsidiary TransnetBW and are part of the Network Development Plan⁹. In addition, extensive investment in the expansion and upgrading/renewal of the existing grids is planned by our grid subsidiaries.

Around €6.0 billion or 42% of the investment is planned for the **Sustainable Generation Infrastructure** segment and for other investment (other investment: 1%). 40% of the investment will be on growth themes and only 2% on themes related to existing facilities. Investment of around €3.9 billion for the expansion of renewable energies is planned for the period 2023 to 2025, which corresponds to 27% of the gross investment. The planned investment in renewable energies includes funds for the realization of further offshore wind farms, such as our EnBW He Dreiht wind farm in the German North Sea. After acquiring offshore wind rights in Great Britain, we are planning to construct further offshore projects in Great Britain, for which additional investment has been allocated within the three-year period. In addition, we also plan to invest in the construction of onshore wind farms and photovoltaic parks from our comprehensive project pipeline (p. 34⁷). Furthermore, the planned investment for the Sustainable Generation Infrastructure segment also includes €1.9 billion for the thermal power plants. This is primarily for the implementation of the fuel switch projects⁹ for converting three of our thermal power plants in Baden-Württemberg from coal to gas in order to guarantee the supply of district heating, in particular, from these three sites and maintain the security of supply in Baden-Württemberg in the future. Other investment mainly involves investment in the central IT system.

The investment program of the EnBW Group supports our strategy of expanding renewable energies and ensuring security of supply in the regulated areas of the transmission and distribution grids (electricity and gas), as well as the expansion of charging infrastructure for the benefit of electromobility.

Total investment 2023–2025
in %



The total gross investment volume of around €14.4 billion between 2023 and 2025 will be accompanied by **divestitures** of around €5.6 billion. In order to finance our investments for the energy transition, we plan to continue opening up specific areas of the company for investment by third parties as minority shareholders, mainly in the transmission grid operator TransnetBW and the offshore wind farm He Dreiht. These investment opportunities will be offered in the first half of 2023. Other divestitures will include the receipt of building cost subsidies.

The balance of gross investment and divestitures gives the net investment⁹, which is €8.8 billion or €2.9 billion on average per year.

Adjusted EBITDA and the share of the adjusted EBITDA accounted for by the segments

Development in 2023 (adjusted EBITDA and the share of adjusted EBITDA accounted for by the segments) compared to the previous year

	Earnings performance (adjusted EBITDA) compared to the previous year		Development of the share of adjusted EBITDA for the EnBW Group accounted for by the segments	
	2023	2022	2023	2022
Smart Infrastructure for Customers	€0.4 to €0.5 billion	€510.2 million	5% to 15%	15.5%
System Critical Infrastructure	€1.6 to €1.9 billion	€1,046.0 million	30% to 45%	31.8%
Sustainable Generation Infrastructure	€2.9 to €3.2 billion	€1,934.8 million	55% to 70%	58.9%
Other/Consolidation		€-205.3 million		-6.2%
Total	€4.7 to €5.2 billion	€3,285.7 million		100.0%

The adjusted EBITDA⁹ of the **Smart Infrastructure for Customers** segment will fall in 2023. We believe that volatility will decrease and the market for the B2B and B2C commodity business will normalize. This business will once again be characterized by increasingly stiffer competition. At the same time, we expect stable to slightly improved results from the growth of our new business fields. The share of the adjusted EBITDA for the Group accounted for by this segment is not expected to exceed the level in the previous year.

The adjusted EBITDA of the **System Critical Infrastructure** segment will increase significantly in 2023. The main reason for this development will be the fact that the negative effects for the grid reserve and redispatch in 2022 will no longer exist. Revenue from the use of the grids is expected to increase slightly in comparison to the previous year, as a result of returns on increased investment activity in projects that are included in the Network Development Plan Electricity and Network Development Plan Gas. We expect the share of the adjusted EBITDA for the Group accounted for by this segment to be at least as high as in the previous year.

The adjusted EBITDA of the **Sustainable Generation Infrastructure** segment will increase further in 2023. Renewable energies are expected to contribute more than €1 billion to earnings, which will be about the same level as in the previous year. The forecasts for wind and water yields and thus for the volume of electricity generated are based on the long-term average. As the volumes of electricity generated in 2022 were below this level, especially at the run-of-river power plants, we expect higher volumes in 2023 in comparison to the previous year. The moderate expansion in power plants for the uptake of renewable energies will also make a slightly positive contribution to earnings performance. This will be offset to some extent by falling prices in comparison to 2022 and the measures to levy windfall profits, which came into force on 1 December 2022. We expect a significant increase in earnings at the thermal power plants in 2023 because the extraordinary negative effects at VNG in 2022 will no longer exist. Furthermore, we expect the wholesale market to normalize, which will also mean there will be a relatively moderate negative impact from the windfall profit levy. We expect a stable or increasing share of the adjusted EBITDA for the Group accounted for by this segment.

The adjusted EBITDA for the **EnBW Group** will increase further in 2023 and be between €4.7 billion and €5.2 billion. We also expect the adjusted EBITDA for the Group to be at around the same level in 2024.

The EBITDA⁹ in 2023 and 2024 will develop in line with the adjusted EBITDA. We do not make any forecasts relating to material non-operating effects.

The EBT² relevant to remuneration will be between €2.1 billion and €2.4 billion in 2023 and thus at the same level as in the previous year. EBT in 2024 is expected to reach the same level as in 2023. The accuracy of the forecast for EBT is dependent on exogenous factors relevant to the non-operating result that cannot be planned for, such as impairment losses, the reversal of impairment losses or impending losses on onerous contracts for electricity procurement agreements.

Assuming an adjusted EBITDA in the range of €4.7 billion to €5.2 billion, we expect to achieve a retained cash flow² in 2023 of between €2.5 billion and €3.0 billion. Adjusted for dividend payments (including payments from investments to third parties) and income tax payments, we expect an FFO² relevant to remuneration of between €4.0 billion and €4.5 billion. We expect that the retained cash flow in 2024 will be slightly higher than in 2023.

Debt repayment potential

TOP

Key performance indicator

	2023	2022
Debt repayment potential in %	18–21	23.4

We expect a debt repayment potential² of between 18% and 21% in 2023. The development of the debt repayment potential is dependent on factors within net debt that are outside of the company's sphere of influence, such as the development of interest rates for non-current provisions, the performance of the dedicated financial assets and margin payments from temporary price fluctuations on the market.

Value spread

TOP

Key performance indicator

	2023	2022
Value Spread in %	2.5–3.5	1.1

In the 2023 financial year, it is anticipated that the value spread² will be between 2.5% and 3.5% and thus higher than the level in 2022 due to the increase in adjusted EBITDA. Value spread is then expected to fall in 2024 as a result of the continued high level of investment.

Expected trends in the customers and society goal dimension

TOP

Key performance indicators

	2023	2022
Reputation Index	57–60	58
Customer Satisfaction Index for EnBW/Yello	127–139/ 150–161	139/166
SAIDI electricity in min./year ¹	15–20	16.6

¹ SAIDI electricity includes all unscheduled interruptions to supply that last more than three minutes for the end consumer.

Reputation Index

EnBW will strive to improve its reputation continuously and appreciably over the next few years. The Reputation Index is an important non-financial performance indicator because it is influenced by a whole series of factors important to the future viability of our company. The existing reputation management department and stakeholder team at EnBW can recommend measures for optimizing the reputation of the company.

Customer Satisfaction Index

In our opinion, various external factors could have an increasingly negative impact on the satisfaction of our customers in 2023: For example, the effects of the war between Russia and Ukraine, a comparatively high rate of inflation and the ongoing coronavirus pandemic. There may be other negative effects if a higher demand for energy in Germany, Europe and Asia pushes up the prices for electricity and gas. In addition, more investment in the grid infrastructure is needed to push forward the energy and mobility transitions and maintain the stability of the grids. Increasingly volatile developments on the market and, for example, further market exits or insolvencies of market participants could also have negative effects. It is likely that these effects would also impact customer satisfaction with EnBW.

To improve the satisfaction of our customers, we are thus also expanding our range of sustainable energy industry services and energy solutions even further and targeting our sales activities in this direction. We aim to become climate neutral with respect to our own emissions (Scope 1 and 2 ²) by 2035 and in this context are also making the product portfolio for our customers more sustainable (Scope 3). We are combining traditional energy products (electricity and gas) with household and energy-related products and services for our customers. This includes, for example, continuing with the swift and comprehensive expansion of the quick-charging infrastructure in Germany and extending the EnBW HyperNetwork across Germany and Europe with our partners. We will also further exploit the opportunities offered by digitalization. New and improved digital processes will allow us to offer customized products to our customers and provide them with an even better quality of service. On this basis, we are striving to achieve a Customer Satisfaction Index for EnBW of between 127 and 139 points in the 2023 financial year. Through further digitalization of customer processes, flexible offers and a clear focus on sustainability, Yello is once again striving to achieve a Customer Satisfaction Index of between 150 and 161 points in the 2023 financial year.

SAIDI

The grid subsidiaries of EnBW have always achieved a high level of supply reliability throughout their grid area and for their customers. The corresponding key performance indicator SAIDI Electricity, which states the average duration of supply interruptions per end consumer per year, stood at 16.6 minutes in 2022. We are striving to achieve a value of between 15 and 20 minutes in the 2023 financial year and subsequent years.

Expected trends in the environment goal dimension

TOP

Key performance indicators

	2023	2022
Installed output of renewable energies (RE) in GW and the share of the generation capacity accounted for by RE in %	5.8 – 6.0/ 47.0 – 48.0	5.4/41.7
CO ₂ intensity in g/kWh ¹	-10% – +5%	491

¹ The calculation for this performance indicator does not include nuclear generation and the share of positive redispatch that cannot be controlled by EnBW.

Installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE

The installed output of renewable energies and the share of the generation capacity of the Group accounted for by renewable energies will continue to rise in 2023. This increase will be due to the planned construction of additional onshore wind and PV power plants. The decommissioning of our Neckarwestheim II nuclear power plant will also increase the share of the generation capacity accounted for by RE. In subsequent years, we also expect a continuous increase in the installed output of renewable energies. This will thus increase the share of the generation capacity accounted for by RE further. The expansion in renewable output will be taken into account in the remuneration of the Board of Management in future and will become a component of the Long Term Incentive (LTI).

CO₂ intensity

With respect to our target of reducing the CO₂ intensity of our own electricity generation, 2022 was influenced by the war between Russia and Ukraine, the fact that many of the French nuclear power plants were taken offline and the associated increase in the deployment of our coal power plants, especially in southwest Germany to maintain the security of supply in Germany, but also in France (p. 98ff.⁷). In 2023, we anticipate that the situation with regards to electricity generation in France and to the gas supply in Germany will stabilize and that the nuclear power plants will be shut down in April 2023, which will mean generation at the thermal power plants will be at a similar level to 2022. In combination with wind yields, which are forecast using the long-term average, we anticipate that CO₂ intensity in 2023 will in the best-case scenario fall by 10% or increase in the worst-case scenario by 5% in comparison to 2022. In comparison to the reference year of 2018 used for our target of climate neutrality, this forecast corresponds to a reduction in CO₂ intensity of between 20% and 7%.

Expected trends in the employees goal dimension

TOP

Key performance indicators

	2023	2022
People Engagement Index (PEI) ¹	≥ 78	81
LTIF for companies controlled by the Group ^{2,3,4}	2.1 – 2.3	2.6
LTIF overall ^{2,3}	3.5 – 3.7	4.1

- Variations in the group of consolidated companies (all companies with more than 100 employees are considered [except ITOs]). Companies that were fully consolidated for the first time in the fourth quarter of 2022 were not included in the employee surveys for the PEI.
- LTIF indicates how many LTI occurred per one million working hours performed. Further information on the calculation of this performance indicator can be found on p. 41⁷.
- Variations in the group of consolidated companies (all companies with more than 100 employees, excluding external agency workers and contractors, are considered).
- Companies that were fully consolidated for the first time during the 2022 financial year were not included in the calculations for the LTIF performance indicators. Companies in the area of waste management were not included.

People Engagement Index

The People Engagement Index (PEI) stood at 81 points in the reporting year. We were thus able to maintain the very good result from the previous year (82 points). An international benchmark index compiled using similar questions at numerous companies from various different sectors stood at 75 points in 2022. Taking into account this global benchmark score, we are striving to achieve a target value for the PEI of at least 78 points in 2023.

LTIF

We are committed to our goal of continuously improving occupational safety within the company for both our own employees and those of our partner companies who carry out work on behalf of EnBW. Therefore, we have implemented numerous accident prevention measures. Our activities in 2022 were once again highly influenced by the coronavirus pandemic. The energy crisis has also brought about huge changes for EnBW as an energy supply company. As a critical infrastructure company, we have a responsibility to ensure a reliable supply of energy. Changes to working conditions and their consequences (such as an increased workload) increased the risk of accidents. We believe that this has already been reflected in the increased number of accidents in 2022. To combat this development, we will take additional measures in 2023 – especially in the area of conventional electricity generation. Despite these challenges, we are still striving to reduce the number of accidents and both the LTIF for companies controlled by the Group and LTIF overall in comparison to the previous year. The LTIF for companies controlled by the Group and the number of fatal accidents will be taken into account in the remuneration of the Board of Management in future and will become a component of the Long Term Incentive (LTI).

Overall assessment of anticipated developments by the management

We anticipate a further increase in the adjusted EBITDA⁸ for the Group in 2023 in comparison to the previous year. The shares of earnings accounted for by the different segments will not change significantly. We always strive to maintain a balanced financing structure, solid financial profile and thus solid investment-grade ratings⁹. With respect to our non-financial key performance indicators, we expect a largely stable to positive development in 2023.

Report on opportunities and risks

Principles of the integrated opportunity and risk management system

Opportunity and risk map

Strategic / sustainability		Operative			Financial		Compliance
Strategy	Sustainability	Business activity	Infrastructure	Implementation of growth fields	Financial management	Corporate financing	Compliance
Sustainable Generation Infrastructure	Climate change ● ●	Business processes	Plants / grids / storage / IT	Renewable Energies ● ●	Market prices	Capital market	Corruption ●
Market developments / social trends	Environmental protection ●	Operating activities	Information security / confidentiality	Gas / biogas business	Liquidity management	Ratings	Antitrust law
System Critical Infrastructure	Weather / natural events ●	Products / contracts	Crime / sabotage / terrorism	E-mobility / digitalization	Earnings management		Data protection
Smart Infrastructure for Customers	HR ●	Operational projects		Expansion of the grids	Investment management		Fraud
	Occupational safety / health protection ●	Approvals / licenses / patents					Taxes and levies
	Human rights ●	Legislation / regulation / litigation ●					
	Social issues ●						
	Reputation ● ●						

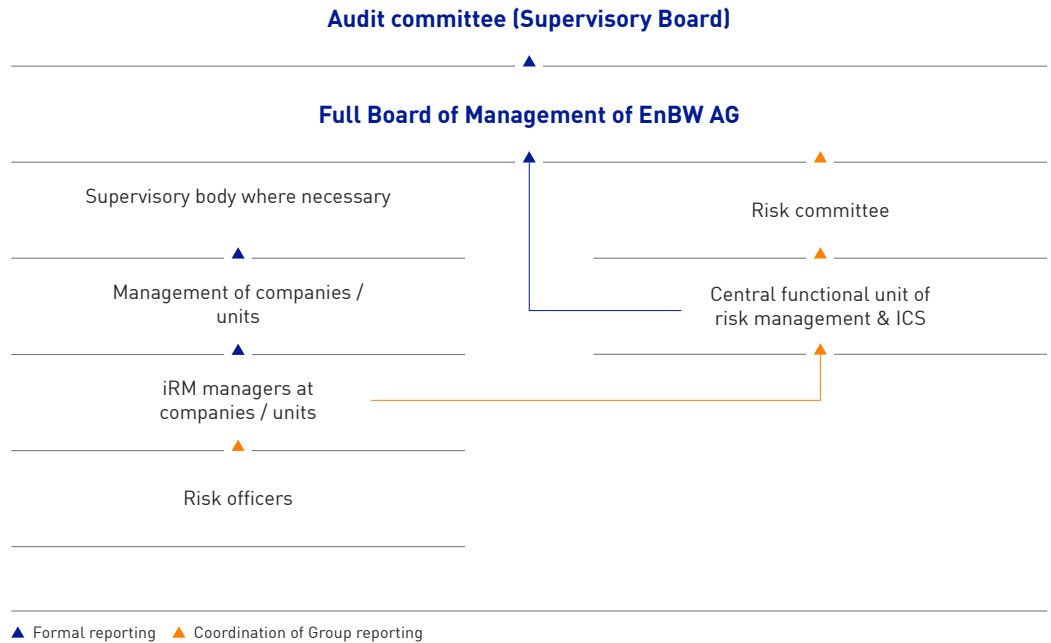
● Task Force on Climate-related Financial Disclosures (TCFD) ● Corporate Social Responsibility (CSR)

The integrated opportunity and risk management system (iRM) of EnBW is based on the internationally established COSO II framework as a standard for risk management systems that span entire companies, as well as the requirements of the IDW. The iRM aims, through a holistic and integrated approach, to effectively and efficiently identify, evaluate and manage opportunities and risks (including monitoring) and report on the opportunity and risk position, as well as to ensure the appropriateness and functionality of related processes. Risk management involves measures for avoiding, reducing or transferring risk through adequate accounting provisions, as well as measures for managing risk tolerance. For this purpose, we define an opportunity/risk as an event that might cause a potential over-attainment/non-attainment of strategic/sustainability, operational, financial and compliance goals in the future. The iRM process also takes into account the guidelines for a non-financial declaration. In order to identify and categorize opportunities and risks, EnBW uses, among other things, the opportunity and risk map that is established throughout the Group. The risk map is used to explicitly identify potential opportunities and risks that affect the sustainable orientation of our company. As well as focusing on the fulfillment of the requirements for a non-financial declaration, the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) are also taken into account.

We constantly improve and enhance the maturity of our integrated opportunity and risk management system. This gives us the chance to react to any legal or regulatory changes and also to exploit any potential for improvement that we may have identified.

Structure and processes of the integrated opportunity and risk management system

Structure and process of the iRM system



The structures and processes of the iRM are established throughout the Group. The central risk management & ICS functional unit is responsible for specifying methods, processes and systems for the whole Group, determining the opportunity and risk position of the Group and for reporting. The central steering body is the risk committee, which – with the involvement of specially selected units/companies – is responsible for clarifying relevant issues from various Group perspectives, as well as for determining the top opportunities/risks.

Internal reports are submitted on a quarterly basis in standardized form. In the case of any significant changes, a special report is immediately issued. The opportunities and risks can have an impact on our key financial performance indicators adjusted EBITDA[Ⓢ], value spread[Ⓢ] and debt repayment potential[Ⓢ] [p. 39 f.⁷]. The possible effects on the key non-financial performance indicators [p. 40 f.⁷] are discussed with those responsible in the specialist areas.

Opportunities and risks are evaluated within the medium-term planning period. A financial valuation of the opportunities and risks is carried out insofar as this is possible, and the expected values and potential ranges given by the results are considered. If they lie above uniformly defined thresholds, the opportunities and risks are generally included in the Group report on opportunities and risks. The so-called top opportunities/risks and long-term opportunities and risks that are of particular importance are then added. The top opportunities/risks are determined using global opportunity and risk trends, value drivers along the value added chain and quantitative characteristics such as relevance classes and monetary limits.

Any opportunities and risks with a probability of occurrence of up to 50% are subject to an individual review to determine whether they should be taken into account in the next planning session. Opportunities and risks with a probability of occurrence of over 50% are usually taken into account in the planning process and, as far as possible, appropriate accounting measures are taken in the consolidated financial statements in accordance with IFRS.

Opportunities and risks are generally evaluated in relation to the current planning period. This is carried out using quantitative methods involving stochastic modeling based on appropriate probability distributions. The resulting distributions enable us to derive the risk dimensions in each case, such as the expected level for the opportunity and risk and the variation in the expected level. Risk

ranges for the 98% confidence level are applied to ensure that possible extreme scenarios for individual opportunities or risks can be identified. This represents larger financial ranges in order to cover potential extreme scenarios with a higher probability.

Building on this, we then assess the risk-bearing capacity. This is done based on the continuous quantification of risks which are aggregated using stochastic simulations to find the total risk position. The total risk position is then measured against the coverage potential. The result is an assessment of the maximum risk that EnBW can tolerate without jeopardizing its ability to continue as a going concern. This risk-bearing capacity can be used as a management instrument and fulfills the requirements of the auditing standard IDW PS 340 new version.

Relevance filter for classifying opportunities and risks

Strategic / sustainability	Operative	Financial	Compliance
Achievement of strategic targets, sustainability targets, e.g., climate protection, environmental protection, reputation	Achievement of business targets, functional processes, retaining added value, customer / external effects	Achievement of financial targets, generally in accordance with medium-term planning or approved (project) budgets	Compliance with legal / official regulations and internal regulations
Relevance class 5 One strategic / sustainability target for the EnBW Group is not achieved	<ul style="list-style-type: none"> One key operational target for the EnBW Group is not achieved The value added is massively disrupted across the company / business units / functional units 	≥€50 million (relevance threshold for functional units and EnBW Group)	Breach of legal / official regulations and / or internal regulations with negative consequences for the EnBW Group
Relevance class 6 Several or all strategic / sustainability targets for the EnBW Group are not achieved	<ul style="list-style-type: none"> Several or all operational targets for the EnBW Group are not achieved Value added throughout the whole Group is massively disrupted 	≥€250 million	Breach of legal / official regulations and / or internal regulations with serious negative consequences for the EnBW Group

Group reporting level

Structure and processes of the accounting-related internal control system

Principles

An accounting-related internal control system (ICS) has been established at EnBW that is designed to ensure proper and reliable financial reporting. In order to guarantee that this ICS is effective, the appropriateness and functionality of the Group-wide control mechanisms are tested regularly at the level of the individual companies and at a Group level.

If any existing weaknesses are identified in the control system and are considered relevant to the financial statements, they are remedied. This accounting-related ICS methodology is based on the COSO II standard.

Once the control mechanisms have reached a standardized and monitored degree of maturity, and no material control weaknesses can be identified, the accounting-related ICS is deemed to be effective. The materiality of control weaknesses is measured as the probability of occurrence and the extent to which there could be a potential misstatement in connection with those financial statement items concerned. The accounting-related risk management system defines measures for identifying and assessing risks that jeopardize the preparation of compliant financial statements as part of the accounting-related ICS.

Despite having established an ICS, there is no absolute certainty that it will attain its objectives or that it will be complete. In individual cases, the effectiveness of the ICS can be impaired by unforeseeable changes in the control environment, fraud or human error.

Structure

The accounting-related ICS at EnBW is organized at both a centralized and decentralized level. All key companies, business units and functional units have an ICS officer. These officers monitor the effectiveness of the ICS and evaluate any control weaknesses that may arise. An effectiveness report is prepared on an annual basis. The ICS officer at Group level assists the companies/units with the implementation of standardized procedures and also consolidates collected data.

Process

Standardized procedures are used to ensure completeness and consistency in the preparation of the financial statements and financial reporting. The accounting-related ICS defines controls designed to ensure compliance with the accounting policies used by the Group, as well as procedures and deadlines for the individual accounting and consolidation processes. During the Group consolidation process, the rigorous implementation of the four-eye principle is observed, while random samples and deviation analyses improve quality. An annual control cycle monitors whether the documentation is up to date and also checks the appropriateness and functionality of the controls. In addition, it identifies and evaluates any control weaknesses that may arise.

A risk-based selection process defines the companies/units, significant items in the financial statements and processes including their associated control measures that are relevant.

The defined processes and controls are recorded in a central documentation system. The effectiveness of the various control activities is then assessed. If any control weaknesses are identified, their effect on the financial statements is evaluated. The results are reported at both company or unit level and at Group level. Furthermore, the Group auditing department performs ICS reviews as part of its risk-oriented audit planning.

Appropriateness and effectiveness of the risk management system and the internal control system (iRM)

A statement on the appropriateness and effectiveness of the iRM process is made annually as part of the internal EnBW Group effectiveness report. The following are examined: the appropriateness and effectiveness of the risk management system at the level of the individual opportunities and risks, signed declarations by the management of important investments and business units and the notification to the internal audit department in the respective reporting year. Findings from the audit of the early risk detection system and the accounting-related ICS carried out by the auditor are presented in the effectiveness report. Financial and non-financial opportunities and risks identified by the system for the iRM process, and also risks identified in the compliance risk assessment are deemed relevant.

All of the individual opportunities and risks that are identified as being material before the application of the envisaged and implemented management instruments are used to assess the appropriateness and effectiveness of the system. Appropriateness is measured using a so-called gross evaluation. This gross evaluation is carried out with the aid of the iRM relevance filter and determines the level of opportunity and risk for each of the four categories: "strategic/sustainability," "operational," "financial" and "compliance." For gross relevance class 5 and above, opportunities and risks are considered appropriate and material enough to be included in the effectiveness report. Risk officers are able to deviate from this classification and can also select a lower relevance class. Management instruments are then documented for the identified opportunities, and risks and the residual level of opportunity and risk (net evaluation) is determined as part of the regular risk reporting process. Ultimately, a self-assessment of the management of the risk is carried out by the risk officer. A second person then examines the management instruments for the specific opportunity/risk to confirm whether the management of the opportunity/risk is effective or not, and so acts as an internal control at the same time. The results flow into the report on the Group effectiveness report.

The managers of the business units and investments finally confirm that they have established a process that is appropriate in accordance with the Group guidelines for complying with the requirements for the ICS and for risk management including compliance management by signing a corresponding declaration. The results from the effectiveness report are passed on to the auditor during the audit of the early risk detection system and also to the internal audit department. The Board of Management reports on the results to the Supervisory Board and substantiates the findings.

As of the reporting date of 31 December 2022, there were no findings in the reporting year that indicated that the risk management and internal control systems were not appropriate and effective in all material respects. It is generally accepted that an internal control system cannot fully guarantee that material misstatements in accounting will be either prevented or detected.



Non-financial declaration

As part of the non-financial declaration, we closely analyze the related opportunities and risks in the areas of compliance, social engagement and procurement, as well as in the customers and society, environment and employees goal dimensions. In order to guarantee that the requirements for a non-financial declaration are fulfilled, the established iRM methods and the associated process are used. In this context, the iRM also identifies opportunities and risks relating to climate protection and thus provides important impetus for the implementation of the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)⁸. You can find further information on this subject on [p. 150⁷](#).

Risks associated with the non-financial declaration

The non-financial declaration describes, among other things, the fundamental opportunities and risks connected with the EnBW business model and the activities based upon it that could have a possible impact on any individual issue. Material individual risks with a very high probability of a serious negative impact in relation to any of the following issues do not exist at EnBW.

Compliance

The observance of relevant legal regulations and internal company rules forms the basis of our business activities. Managing compliance risks at EnBW (with a main focus on corruption, antitrust and data protection risks) is the task of the compliance and data protection management system, which comprises regular risk assessments of this type. Risks related to fighting corruption and bribery are addressed on [p. 45f.⁷](#) in a cross-segment manner.

Corporate citizenship

There are no risks in the area of corporate citizenship. In fact, we take our social responsibility for civic and social engagement seriously ([p. 49f.⁷](#)).

Procurement

Sustainable procurement – purchasing: In the area of procurement, risks cannot be excluded due to increasing levels of complexity. Purchasing utilizes an active risk management system, counters procurement risks and implements the necessary measures for safeguarding against and avoiding risk. These risks are managed using defined processes and, especially in this area, through the prequalification process ([p. 56ff.⁷](#)).

Raw materials procurement – coal and gas: In the area of raw materials procurement and thus in the associated supply chain, there are above all potential human rights and environmental risks. In the procurement of raw materials, a multi-stage process is used to check whether human rights and environmental standards are being observed. All coal suppliers and also potential suppliers are regularly subjected to a screening process. The activities carried out for the procurement of coal are currently being implemented for gas procurement. Other measures that form part of the assessment are carried out in direct cooperation with the compliance department.

In coal mining and the production of natural gas, there are possible human rights risks related to the working and living conditions of people in the coal mining regions and natural gas producing regions. In addition, there are environmental risks for the immediate environment in each of these mining and gas producing regions. An increase in civil society activity in this context can in turn result in an increase in reputational risk. We are in constant contact with representatives from civil society and keep them informed about the advances made and challenges faced in all sustainability topics (p. 58 ff.⁷).

Customers and society goal dimension

Reputation: All opportunities and risks, as well as non-financial issues, can have a positive or negative impact on reputation and thus on the key performance indicator Reputation Index (p. 91⁷). The reputation management department thus identifies opportunities and risks related to reputation, develops measures to protect and improve reputation, advises the Board of Management and management and provides recommendations for action.

Customer proximity: Risks/opportunities exist due to portfolio and volume-related effects caused by the energy crisis (including legislative responses to the energy crisis by the German government). The very volatile market prices in the area of procurement and the potential for increasing competition and rising customer attrition from 2024 onwards if procurement prices fall sharply will also play a role. Opportunities exist above all through the provision of a broader range of customer-specific products and services, such as the expansion of the additional business (GHG certificates, E-Mob bundles⁹, launch of the digital energy consultant), as well as through processes more oriented to the customer. EnBW also continued to expand its range of electromobility products and services, sustainable energy industry services and energy solutions in 2022 and targeted its sales activities in this direction (p. 91 ff.⁷).

Environment goal dimension

Expansion of renewable energies: Risks generally exist in the approval and auction process. These risks can result in delays to the further expansion of renewable energies. Due to the fact that the auctions are held on equal terms, we continue to expect a high level of competition. We measure the expansion of renewable energies with our key performance indicator "installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE" (p. 97 ff.⁷).

CO₂ intensity/climate protection: Risks generally exist in the area of environmental protection due to the operation of power generation and transmission plants with possible consequences for the air, water, soil and nature. The importance of climate protection is taken into account in, for example, the key performance indicator CO₂ intensity (p. 98⁷).

We counter these risks using, among other things, an environmental management system certified according to DIN EN ISO 14001, which has been established at key subsidiaries (p. 96⁷). We take the safety of the population and the protection of the environment very seriously. In this context, risks also exist due to external circumstances, such as extreme weather conditions. We counter these risks using comprehensive organizational and procedural measures to reduce their impact. We ensure that the risks posed by crisis and emergency situations are mitigated quickly, effectively and with a coordinated approach through regular crisis management exercises and other measures. Through our diverse range of activities in the areas of environmental, nature and species protection, we also utilize the opportunity – beyond our core activities – to make a substantial contribution to improving environmental protection. Thanks to the positive public perception of these activities, they can also have a positive impact on our key performance indicator Reputation Index (p. 91⁷).

At the same time, EnBW also faces potential risks due to the ongoing process of climate change. For example, more frequent extreme weather conditions leading to highly fluctuating water levels or limits being placed on emissions locally could have a negative impact, particularly on the operation of power plants and thus the security of supply (electricity grids). The operation of hydropower plants can be restricted by both a lack of, or also an abundance of, water. The output from thermal power plants that must be cooled could possibly be impacted by temperature limits on discharged water. Increasing volatility in the availability of wind, water and sun presents challenges in terms of planning certainty for the operation of power plants and the sale of volumes of electricity (p. 33 ff.⁷). For this reason, the top opportunity/top risk of wind fluctuations has been reported since the Integrated Annual Report 2016, although these opportunities/risks have no material effect on

non-financial issues. In addition, there is uncertainty due to increasing environmental restrictions for the realization of projects for sustainable energy generation and for the operation of power plants. These risks are managed and mitigated in internal processes using targeted control measures.

Alongside changes in physical climate parameters and other developments relating to or governed by environmental factors, regulatory guidelines and the potential changes associated with them, as well as changes in the market, also flow into the risk evaluation process. However, there are also opportunities such as changing customer needs (p. 91 ff.⁷) and an increasing demand for climate-friendly products such as e-mobility. These opportunities and risks are regularly and systematically identified Group-wide. The recommendations from the Task Force on Climate-related Financial Disclosures (TCFD)⁸ are continuously implemented and are communicated in the report on opportunities and risks. Building on the risk map (p. 132⁷), special focus is placed on sustainability aspects – especially climate protection targets – and they are anchored more deeply in the risk evaluation process. We closely examine the significance of sustainability and climate protection themes for the business model and implement measures and set targets to orientate our opportunity and risk management system even more towards climate-related opportunities and risks.

Employees goal dimension

Engagement of employees: Due to the persistent level of competition on the labor market, especially for qualified and highly qualified specialists, there is a fundamental risk when recruiting employees that the company will not be able to secure a sufficient number of employees with the necessary qualifications at the right time. The more intensive measures to strengthen the company's reputation as an employer, the growing interest in jobs in the energy sector and the possibility of tapping into the international job market lessen this risk to some extent. We believe that regular anonymous employee surveys, from which we derive the People Engagement Index (PEI) as a key performance indicator, are an important tool for seizing opportunities early in the areas of employee development and employee loyalty (p. 104 ff.⁷).

Occupational safety: Risks generally exist in the areas of occupational safety and health protection in our business activities. We counter these risks using comprehensive organizational and procedural measures, such as workplace-specific hazard analyses, to protect employees as well as possible against any adverse consequences. We also view these measures as an opportunity to preserve the capacity of our employees to do their work and to maintain the position of EnBW as an attractive employer. Occupational safety is measured in the employees goal dimension in the form of the key performance indicator LTIF for companies controlled by the Group and LTIF overall (p. 108 ff.⁷).

Classification of opportunities and risks

The individual evaluations of the top opportunities/risks tell us – based on their level of opportunity/risk – what effects they could have with a high probability of occurrence on our key performance indicators in the finance goal dimension: adjusted EBITDA⁹, debt repayment potential¹⁰ and value spread¹¹, which will replace the key performance indicator ROCE¹² from the 2022 financial year onwards. The top opportunities/risks are described after the implementation of risk limitation measures. The financial effects are calculated based on a 98% confidence level (which includes the probability of occurrence and the extent of the damage) and break down as follows:

Classification of the level of opportunity/risk

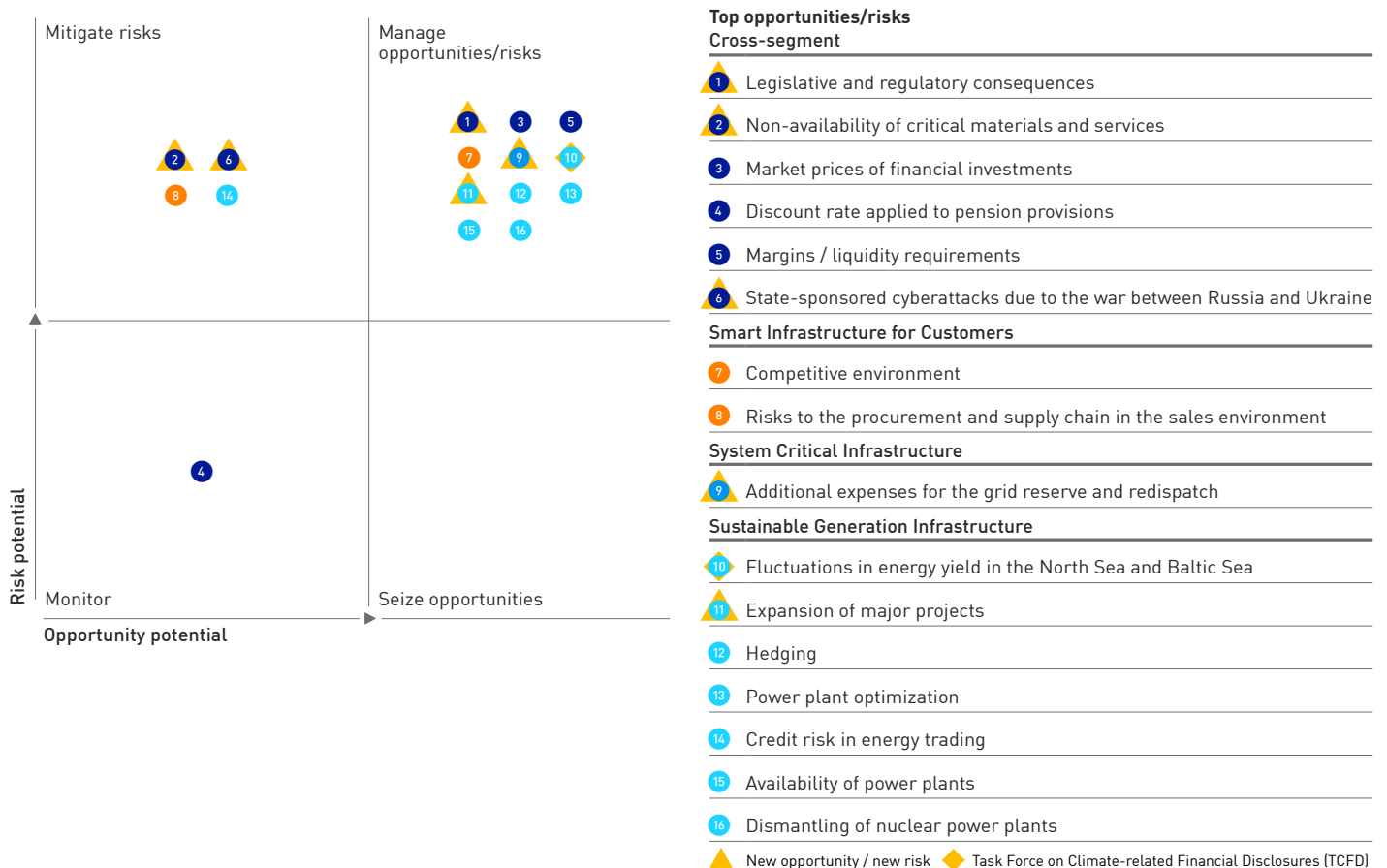
Level	Adjusted EBITDA	Net debt
Low	< €100 million	< €350 million
Moderate	≥ €100 million to < €350 million	≥ €350 million to < €1,200 million
Significant	≥ €350 million to < €600 million	≥ €1,200 million to < €2,000 million
Material	≥ €600 million	≥ €2,000 million

The ranges for the levels of opportunity/risk were adjusted in the 2022 reporting year as there is the potential for greater fluctuations in the financial impact of the opportunities and risks due to the energy crisis.

Opportunity and risk position

The following diagram illustrates how the opportunity and risk position is reported to the Board of Management and the audit committee of the Supervisory Board. The arrangement of the top opportunities/risks in the quadrants indicates how EnBW can employ control measures to exploit the opportunities or to counteract the risks.

Top opportunities/risks as of 31/12/2022



Details on the top opportunities/risks and their potential effects on the relevant performance indicators are listed in the following section.

The following top opportunities/risks were new in 2022:

- Legislative and regulatory consequences
- Non-availability of critical materials and services
- State-sponsored cyberattacks due to the war between Russia and Ukraine
- Additional expenses for the grid reserve and redispatch
- Expansion of major projects

Cross-segment opportunities and risks

Our company faces general risks from legal proceedings due to our contractual relationships with customers, business partners and employees. To a limited extent, we are also conducting legal proceedings relating to topics in the area of corporate law. For this purpose, adequate accounting provisions are made or, in the event of a probability of occurrence of <50%, adequate contingent liabilities. As a consequence, there is also an opportunity of positive effects on earnings if these provisions can be reversed once again. In addition, various court cases, investigations by authorities or proceedings and other claims are pending against EnBW. The chances of these being successful are, however, considered remote or as not sufficiently substantiated and are therefore not reported under contingent liabilities and other financial obligations.

In connection with these types of legal proceedings, we also recognize the water concession risk in Stuttgart. In the court proceedings dealing with the takeover of the water grid after the water concession in the state capital Stuttgart (LHS) expires, LHS and EnBW are still striving to reach an amicable settlement. These court proceedings have been ongoing since 2013 and suspended several times for mediation talks. Unfortunately, it was not possible to reach such an agreement due to a difference of opinion on the valuation. Therefore, there continues to be a risk in 2023 of losing the water grid without receipt of adequate compensation.

Strategic/sustainable opportunities and risks

1 Legislative and regulatory consequences: There is still some regulatory and political uncertainty with respect to the legislative responses of the German government to the energy crisis, which could have an impact on the Group, such as the interpretation of the Electricity Price Brake Act (StromPBG) (p. 64⁷). There is also uncertainty in the following areas in particular: funding of renewable energies, expansion of the grid, the future of the gas infrastructure and the expansion of electromobility. There are both risks and opportunities associated with any change to the legal regulations that have a bearing on EnBW. Any financial impact is described in the more detailed explanations given below for each of the potential individual risks.

2 Non-availability of critical materials and services: Interruptions to global supply chains and the scarcity of materials and personnel in combination with high energy prices could result in a reduction in production and in turn lead to price increases and longer delivery times. There is even the risk that critical products/materials and service providers will not be available to a sufficient extent. Non-availability of these materials and services could significantly hinder operating and economic processes. Any financial impact is described in the more detailed explanations given below for each of the potential individual risks.

Financial opportunities and risks

3 Market prices of financial investments: The financial investments managed through the asset management system⁶ are subject to risks that arise from price losses and other losses in value as a result of the volatile financial market environment. The war between Russia and Ukraine led to a fall in the stock markets in 2022. We expect stable, higher income in 2023 due to the increase in interest rates. Nevertheless, there is still a considerable level of uncertainty about future developments, especially with respect to inflation and rising costs for energy and raw materials. To improve the opportunity/risk ratio of the portfolio, greater focus is currently being given to sustainability criteria in our investments. There is a moderate level of opportunity and risk in 2023 and 2024. This will have an impact on net debt⁶ and thus on the key performance indicator debt repayment potential⁶.

4 Discount rate applied to pension provisions: There is generally opportunity and risk associated with any change in the discount rate applied to the pension provisions because the present value of the pension provisions falls when the discount rate increases and increases when the discount rate falls. As of the reporting date of 31 December 2022, the discount rate was 3.70%, which was up 2.55 percentage points on the rate at the end of 2021 (1.15%). Against the background of the expected development of interest rates, we identify a material level of opportunity and up to a significant level of risk in 2023 and 2024. This will have an impact on net debt and thus on the key performance indicator debt repayment potential.

5 Margin/liquidity requirements: The Group's liquidity planning is subject to an inherent degree of uncertainty, especially with respect to margin payments. Sharp increases in prices and high volatility in energy trading on the commodity markets (EEX/ICE) have led to high cash inflows and outflows as part of margining processes which are beyond the normal margin requirements. There is a material level of opportunity and risk for 2023 with an impact on net debt and thus on the key performance indicator debt repayment potential, as well as on the key performance indicator value spread ⁷ via capital employed ⁷.

6 State-sponsored cyberattacks due to the war between Russia and Ukraine: The war is also being accompanied by attacks in cyberspace and there is a growing risk of state-sponsored cyberattacks. According to information obtained by the Federal Office for Information Security, the threat of possible cyberattacks on critical infrastructure and suppliers could increase in the foreseeable future. On the reporting date, there was no indication that there would be more than a moderate level of risk in this area in 2023 and a low level of risk in 2024. This potential risk would have an impact on the key performance indicator adjusted EBITDA ⁷ and thus an indirect impact on the key performance indicator debt repayment potential via the retained cash flow ⁷ and on the key performance indicator value spread via the adjusted EBIT ⁷.

Compliance opportunities and risks

Compliance risk assessments focus, in particular, on assessing risks and defining appropriate preventative measures in the compliance risk areas of corruption, antitrust law and data protection.

Risks for which we derive measures for fighting corruption and bribery primarily exist in sales activities relating to local authority/political business activities when dealing with public officials. Important preventative measures, especially training and advisory services, are described on [p. 45f.](#)⁷.

The incorrect handling or illicit disclosure or use of personal data poses data protection risks. These risks exist in view of the digital transformation of many business activities. Advisory and awareness services and process controls are in place to guarantee adherence to legal data protection requirements in the Group. Company-specific measures are coordinated via the compliance and data protection department.

Smart Infrastructure for Customers segment

Financial opportunities and risks

7 Competitive environment: There is a risk that the legislative framework could have an impact on the competitive situation and sales activities. This affects all EnBW brands in the electricity, gas and energy solutions business, in combination with the volatile procurement prices on the market and continued strain on supply chains. Moreover, the risk of bad debt has increased further. Opportunities currently exist, for example, in the expansion of the range of electromobility products and services, the provision of a broader range of customer-specific products and services, sustainable energy industry services and energy solutions, and through aligning sales activities more towards these products and services. There is a low level of opportunity and risk with an impact on the key performance indicator adjusted EBITDA in both 2023 and 2024 and thus an indirect impact on the key performance indicator debt repayment potential ⁷ via the retained cash flow and on the key performance indicator value spread via the adjusted EBIT.

8 Risks to the procurement and supply chain in the sales environment: The global availability of materials, such as electronic components and raw materials, is severely restricted and has resulted in additional financial and logistical burdens, especially with respect to the expansion of electromobility. Volatile and high market prices have resulted in higher procurement costs for the commodities electricity and gas. As EnBW holds reserve supplies for B2C customers, insolvencies of other energy suppliers could also pose a financial risk if more customers than planned have to be provided with a basic supply of energy at high procurement prices. There is a low level of risk with an impact on the key performance indicator adjusted EBITDA in 2023 and 2024 and thus an indirect impact on the key performance indicator debt repayment potential via the retained cash flow and on the key performance indicator value spread via the adjusted EBIT.

System Critical Infrastructure segment

Financial opportunities and risks

9 Additional expenses for the grid reserve and redispatch: The federal subsidy for the network user charges in 2023 has neutralized the increased expenses for the grid reserve and redispatch for our transmission grid operator TransnetBW. However, there is still a high level of uncertainty because the situation on the markets remains very volatile. At the same time, these higher expenses will be offset to some extent by revenue from congestion management. There is a low to moderate level of opportunity with an impact on the key performance indicator adjusted EBITDA in both 2023 and 2024 and thus also an indirect impact on the key performance indicator debt repayment potential via the retained cash flow and on the key performance indicator value spread via the adjusted EBIT.

Sustainable Generation Infrastructure segment

Financial opportunities and risks

10 Fluctuations in energy yield in the North Sea and Baltic Sea: There are generally opportunities and risks associated with wind power plants due to fluctuations in the energy yield. As we expand our wind power plants and our wind farm portfolio continues to grow, the variation in the level of opportunity and risk will naturally increase. Findings on the development of wind conditions are continuously examined to identify the possible effects of these risks and they are taken into account in the planning. There is a low level of opportunity and risk with an impact on the key performance indicator adjusted EBITDA in both 2023 and 2024 and thus an indirect impact on the key performance indicator debt repayment potential via the retained cash flow and on the key performance indicator value spread via the adjusted EBIT.

11 Expansion of major projects: There are uncertainties with respect to major projects due to changing regulatory framework conditions. There may also be additional effects due to increasing prices, a scarcity of materials and raw materials and possible shortfalls in personnel. The resulting expenses could have a negative impact in the low four-digit million euro range in 2023 and in the low three-digit million euro range in 2024 on capital employed and thus an impact on the key performance indicator value spread.

12 Hedging ²: When selling generated electricity volumes, EnBW is exposed to the risk of falling electricity prices and the risk of the unfavorable development of fuel prices in relation to electricity prices. The concept underlying our hedging strategy not only limits risk but also seeks to exploit opportunities. The EnBW Group has exposure to foreign exchange risks from procurement and the hedging of prices for its fuel requirements, as well as from gas and oil trading business. There is a low to material level of opportunity with an impact on the key performance indicator adjusted EBITDA in 2024 and thus an indirect impact on the key performance indicator debt repayment potential via the retained cash flow and on the key performance indicator value spread via the adjusted EBIT.

Further information on **financial instruments** can be found in the notes to the consolidated financial statements in note (26) "Accounting for financial instruments."

13 Power plant optimization: Following the conclusion of the hedging of generation activities, the Trading business unit will manage the further deployment of the power plants. This is being carried out as part of power plant optimization on the forward market², through the sale of system services² and through placements on the spot and intraday trading² platforms. We currently identify a high level of volatility due to prices on the market. There is a material level of opportunity and up to a significant level of risk in 2023 and a significant level of opportunity and up to a moderate level of risk in 2024 on adjusted EBITDA² and thus an indirect impact on the key performance indicator debt repayment potential via the retained cash flow² and on the key performance indicator value spread² via the adjusted EBIT².

14 Credit risk in energy trading: There is a risk that trading partners will fail to fulfill their financial obligations or be unable to fulfill them on time. Our credit management department counters this risk by monitoring credit lines very closely, conducting stress tests and introducing measures to reduce its impact. There is a low to moderate level of risk with an impact on the key performance indicator adjusted EBITDA in 2023 and thus an indirect impact on the key performance indicator debt repayment potential via the retained cash flow and on the key performance indicator value spread via the adjusted EBIT.

15 Availability of power plants: There is a general opportunity and risk that exogenous and endogenous factors will have an influence on the planned availability of our power plants and could thus increase or decrease earnings. There is a moderate level of opportunity and a significant risk in 2023 and a moderate level of opportunity and risk in 2024 with respect to the pricing assumptions used for our planning. This will have an impact on the key performance indicator adjusted EBITDA and thus an indirect impact on the key performance indicator debt repayment potential via the retained cash flow and on the key performance indicator value spread via the adjusted EBIT. The fluctuation in the level of opportunity/risk is significantly greater when taking into account the highly volatile prices on the market.

Impairment losses and impending losses on onerous contracts: As a result of changes to the conditions in the energy industry, there is a general risk that impairment losses on power plants and the formation of provisions for impending losses on onerous contracts for long-term electricity procurement agreements could have a negative impact on earnings. As a result of the reversals of impairment losses on the conventional generation plants in the 2022 financial year, there is an increased risk of impairment losses in the future. We anticipate further impairment losses on the offshore wind farms due to the fact that they will have fewer and fewer operating years with EEG funding in the future.

Operative opportunities and risks

16 Dismantling of nuclear power plants: For long-term major projects such as the remaining operation and dismantling of a nuclear power plant, there is a general risk that delays and additional costs may arise over the course of time due to changed framework conditions. Moreover, there is also an opportunity to make lasting cost savings due to synergies over the course of time and due to learning effects for subsequent dismantling activities. During the project planning stage, opportunities and risks were identified that could result in reduced or additional costs, or adjustments to the term of the project. There is a low level of opportunity and risk for both 2023 and 2024 with an impact on net debt² and thus on the key performance indicator debt repayment potential².

Changes compared to the 2021 financial year

The risk related to the availability of nuclear power plants reported as part of the risk "Availability of the power plants" no longer exists as the Neckarwestheim (GKN II) nuclear power plant will only continue to generate power for a short time until 15 April 2023.

The following opportunities/risks are no longer included in the reporting because they were taken into account in the planning, the level of opportunity/risk has reduced or they were reported under other individual themes:

- Supply chain risks in generation and operation
- Possible consequences of the global crisis for system critical infrastructure
- Recognition of costs for high-voltage direct current (HVDC) transmission technology
- Year-end balance on the EEG bank account
- Possible consequences of the war between Russia and Ukraine for the trading sector
- Management of gas assets
- Block II of the Neckarwestheim nuclear power plant – supporting the security of supply

Link to the key performance indicators

The top opportunities/risks can have an impact on our key performance indicators, whereby the effects on the non-financial key performance indicators are potential and long term in nature and more difficult to measure. They have thus been shown less boldly in the following diagram.

Linking the top opportunities/risks with the key performance indicators

Top opportunities/risks	Key performance indicators												
	Financial performance indicators			Strategic performance indicators			Non-financial performance indicators						
	A	B	C	D	E	F	G	H	I	J	K	L	M
Cross-segment													
1 Legislative and regulatory consequences	●	●	●	●	●	●		○				○	○
2 Non-availability of critical materials and services	●	●	●	●	●	●			○			○	○
3 Market prices of financial investments		●											
4 Discount rate applied to pension provisions		●											
5 Margins / liquidity requirements		●	●										
6 State-sponsored cyberattacks due to the war between Russia and Ukraine	●	●	●	●	●	●							○
Smart Infrastructure for Customers													
7 Competitive environment	●	●	●	●			○	○	○	○			
8 Risks to the procurement and supply chain in the sales environment	●	●	●	●			○	○	○				
System Critical Infrastructure													
9 Additional expenses for the grid reserve and redispatch	●	●	●		●			○					
Sustainable Generation Infrastructure													
10 Fluctuations in energy yield in the North Sea and Baltic Sea	●	●	●			●							○
11 Expansion of major projects			●									○	○
12 Hedging	●	●	●			●							
13 Power plant optimization	●	●	●			●							○
14 Credit risk in energy trading	●	●	●			●							
15 Availability of power plants	●	●	●			●	○						○
16 Dismantling of nuclear power plants		●											

● Direct effect
○ Potential / long-term effect
◆ Task Force on Climate-related Financial Disclosures (TCFD)

Overall assessment by the management

The consequences of the war between Russia and Ukraine on economic growth has had a global impact on supply and demand along the supply chains and on raw materials. This has led to highly fluctuating prices in the energy sector with increased liquidity risks and, above all, has led to higher energy procurement costs for electricity and gas sales. The growing threat of state-sponsored cyberattacks around the world continues to pose an increasing risk and has been significantly exacerbated due to the war between Russia and Ukraine. There is also a growing level of uncertainty due to the development of the political and economic framework conditions for the energy sector. These factors are also influencing the deployment and availability as well as the operation of our power plants. In addition, there are planning uncertainties in the area of sustainable energy generation, especially with respect to our wind power plants due to natural fluctuations in the wind yield. This not only harbors risks but also opportunities in the event of, for example, unplanned positive developments in the area of renewable energies or with respect to the availability and marketing of power plant capacities, as well as the area of hedging².

The development of the war between Russia and Ukraine and the sanctions imposed on Russia as a result are being continuously analyzed and evaluated with respect to their potential impact on the EnBW Group using various different scenarios. These effects could have an impact on the following top opportunities/risks: ① Legislative and regulatory consequences, ② Non-availability of critical materials and services, ⑤ Margins/liquidity requirements, ⑥ State-sponsored cyberattacks due to the war between Russia and Ukraine, ⑦ Competitive environment, ⑧ Risks to the procurement and supply chain in the sales environment, ⑪ Expansion of major projects, ⑫ Hedging, ⑬ Power plant optimization, ⑭ Credit risk in energy trading and ⑮ Availability of power plants. We do not believe that the company's ability to continue as a going concern is endangered, despite the fact that deliveries of Russian coal and gas have been halted and sanctions have been imposed on Russia.

No risks currently exist that might jeopardize the EnBW Group as a going concern.

Disclosures pursuant to sections 289a (1) and 315a (1) German Commercial Code (HGB) and explanatory report of the Board of Management

In the following, the Board of Management provides the information prescribed by sections 289a (1) and 315a (1) HGB and explains this in accordance with section 176 (1) sentence 1 AktG.

Composition of the subscribed capital and shares in capital

The composition of the subscribed capital is described and explained in the notes to the annual and consolidated financial statements in the section "Equity." Direct or indirect shares in capital that exceed 10% of the voting rights are described and explained in the notes to the annual financial statements in the sections "Shareholder structure" and "Disclosures pursuant to sections 33 ff. German Securities Trading Act (WpHG)" and the notes to the consolidated financial statements in section "Related parties (entities)." Information and explanations about the company's treasury shares are presented below and can be found in note 20 of the notes to the consolidated financial statements (p. 222⁷).

Restrictions relating to voting rights or transferability of shares

Agreements were reached on 22 December 2015 between, on the one hand, Zweckverband Ober-schwäbische Elektrizitätswerke (Zweckverband OEW) and OEW Energie-Beteiligungs GmbH and, on the other, the Federal State of Baden-Württemberg, NECKARPRI GmbH and NECKARPRI-Beteiligungsgesellschaft mbH, which include clauses relating to restrictions of authorization over EnBW shares held by these parties and a general mutual obligation of both main shareholders to maintain parity investment relationships in EnBW AG with respect to each other. Restrictions relating to voting rights no longer exist to the knowledge of the Board of Management since the aforementioned direct and indirect EnBW shareholders annulled a shareholder agreement on 22 December 2015 that had previously existed between them.

Legal provisions and statutes on the appointment and dismissal of members of the Board of Management and amendments to the Articles of Association

Pursuant to section 84 AktG in conjunction with section 31 MitbestG, responsibility for the appointment and dismissal of members of the Board of Management rests with the Supervisory Board. This competence is stipulated in article 7 (1) sentence 2 of the Articles of Association of EnBW AG. If, under exceptional circumstances, a necessary member of the Board of Management is missing, section 85 AktG requires that a member of the Board of Management be appointed by the court in urgent cases. The Annual General Meeting has the right to make changes to the Articles of Association in accordance with section 119 (1) no. 6 AktG. The specific rules of procedure are contained in sections 179 and 181 AktG. For practical reasons, the right to amend the Articles of Association was transferred to the Supervisory Board where such amendments affect the wording only. This option pursuant to section 179 (1) sentence 2 AktG is embodied in article 18 (2) of the Articles of Association. Pursuant to section 179 (2) AktG, resolutions by the Annual General Meeting to amend the Articles of Association require a majority of at least three quarters of the capital stock represented when passing the resolution, unless the Articles of Association stipulate a different majority, which, however, for any amendment to the purpose of the company can only be higher. Pursuant to article 18 (1) of the Articles of Association, resolutions by the Annual General Meeting require a simple majority of the votes cast, unless legal regulations or the Articles of Association stipulate otherwise. If the law requires a larger majority of the votes cast or of the capital stock represented when passing the resolution, the simple majority suffices in those cases where the law leaves the determination of the required majority to the Articles of Association.

Authority of the Board of Management regarding the possibility to issue or redeem shares

No authorized or conditional capital nor any authorization of the Annual General Meeting pursuant to section 71 (1) no. 8 AktG for the purchase of treasury shares by the company currently exists at EnBW AG. Therefore, the company may only acquire treasury shares on the basis of other reasons justifying such purchases in accordance with section 71 (1) AktG. As of 31 December 2022, the company holds 5,749,677 treasury shares which were purchased on the basis of earlier authorizations in accordance with section 71 (1) no. 8 AktG. The company's treasury shares can be sold on the stock exchange or by public offer to all company shareholders. The use of treasury shares, in particular their sale, in any other way can only occur within the scope of the resolution issued by the Annual General Meeting on 29 April 2004. The treasury shares held by EnBW AG do not grant the company any rights in accordance with section 71b AktG.

Material agreements of the company subject to the condition of a change of control as a result of a takeover bid and the resulting effects

The following material agreements involving EnBW AG and individual companies in the EnBW Group are subject to the condition of a change of control following a takeover bid as defined by sections 289a (1) no. 8 and 315a (1) no. 8 HGB:

The following material financing agreements of EnBW AG will become due for repayment given a change of control, insofar as the purchaser of the shares is not the Federal State of Baden-Württemberg or Zweckverband OEW or another German state-owned public law legal entity:

- sustainability-linked syndicated credit line ⁹ with a volume of €1.5 billion
- committed credit lines with banks with a volume of €1.9 billion
- bilateral bank loans with a volume of around €1.1 billion
- promissory notes with a volume of €0.5 billion
- a bond issued under the Debt Issuance Program with a volume of JPY 20 billion
- a US private placement with a volume of around US\$ 0.9 billion

The following material financing agreements of Stadtwerke Düsseldorf AG (SWD AG) will become due for repayment given a change of control, including an indirect change of control, if, after the change of control, the majority of shares in SWD AG are not held directly or indirectly by German government entities and the City of Düsseldorf does not hold at least 25.05% of the shares in SWD AG:

- promissory notes with a volume of around €0.2 billion
- bank loans/credit lines with a volume of around €0.5 billion

The following material financing agreements of VNG AG will become due for repayment given a change of control, including an indirect change of control, if, after the change of control, the majority of shares in VNG AG are not held directly by German public-sector shareholders or indirectly by these shareholders via controlled legal entities:

- consortium bank loan with a volume of €1.3 billion
- promissory notes with a volume of around €0.3 billion

In the event of a change of control, the financing instruments described above could become due for repayment under the aforementioned conditions, which would mean that the corresponding debt instruments would have to be refinanced – possibly at less favorable conditions.

Compensation agreements pursuant to sections 289a (1) no. 9 and 315a (1) no. 9 HGB

In the event of the premature termination of service on the Board of Management due to a change of control, the possibility of a severance payment for the member of the Board of Management is limited to the pro rata share of annual remuneration(s) for the residual term of the contract. However, the severance payment must not exceed three times the annual remuneration.

Note

Nos. 4 and 5 of sections 289a (1) and 315a (1) HGB were not relevant for EnBW AG in the 2022 financial year.

Indexes and tables

Index for the non-financial declaration of the EnBW Group and EnBW AG

In accordance with sections 315b and 289b German Commercial Code (HGB), the EnBW Group and EnBW AG have been obligated to issue a non-financial declaration since the 2017 financial year. We comply with the requirements by fully integrating the non-financial declaration into the Integrated Annual Report as part of the combined management report of the EnBW Group and EnBW AG. For all of the aspects required by the HGB and also other aspects that are material from the perspective of EnBW, such as standing in society, customer satisfaction and supply quality, we fulfill the obligations by providing information about concepts, results and measures, performance indicators and opportunities and risks.

Non-financial declaration of the EnBW Group and EnBW AG

Description of the business model	p. 24f. [↗]				
Materiality analysis	p. 47f. [↗]				
EU taxonomy	p. 110ff. [↗]				
			TOP	Key performance indicators	
Aspects	Themes	Concepts, results and measures	Target achievement 2021	Forecast 2022	Opportunities and risks
Fighting corruption and bribery	Compliance	p. 45f. [↗] p. 59f. [↗]	–	–	p. 136 [↗]
Social issues	Corporate citizenship	p. 49ff. [↗]	–	–	p. 136 [↗]
Respect for human rights	Procurement	p. 59ff. [↗]	–	–	p. 136f. [↗]
Standing in society	Reputation		TOP Reputation Index		
		p. 47ff. [↗] p. 91 [↗]	p. 91 [↗]	p. 129 [↗]	p. 137 [↗]
Customer satisfaction	Customer proximity		TOP Customer Satisfaction Index		
		p. 47ff. [↗] p. 91ff. [↗]	p. 92 [↗]	p. 129f. [↗]	p. 137 [↗]
Supply quality	Supply reliability		TOP SAIDI Electricity		
		p. 95f. [↗]	p. 96 [↗]	p. 129f. [↗]	p. 137f. [↗]
Environmental issues	Expansion of renewable energies		TOP Installed output of RE and share of generation capacity accounted for by RE		
		p. 24ff. [↗] p. 33ff. [↗] p. 97f. [↗]	p. 97 [↗]	p. 130 [↗]	p. 137 [↗]
	CO ₂ intensity / climate protection		TOP CO ₂ intensity		
		p. 24ff. [↗] p. 33ff. [↗] p. 98ff. [↗]	p. 98 [↗]	p. 130f. [↗]	p. 137f. [↗]
Employee issues	Engagement of employees		TOP People Engagement Index (PEI)		
		p. 104ff. [↗]	p. 104 [↗]	p. 131 [↗]	p. 138 [↗]
	Occupational safety		TOP LTIF for companies controlled by the Group		
		p. 108ff. [↗]	p. 108 [↗]	p. 131 [↗]	p. 138 [↗]

The non-financial declaration is issued jointly for the EnBW Group and EnBW AG and, unless stated otherwise, covers the group of consolidated companies in accordance with the International Financial Reporting Standards (IFRS). Any differences between statements made for the Group and for EnBW AG are clearly identified in the text. Information on the business model can be found in the section "Business model" (p. 24ff. [↗]). We have not identified any material individual risks in the 2022 financial year that have a very high probability of a serious negative impact in relation to the relevant non-financial issues.

Further information on the **GRI content index** can be found on our website.

[Online ↗](#)

EnBW has reported in compliance with the GRI Standards for the period from 1 January to 31 December 2022. An audit will be carried out in the second quarter of 2023 as part of the GRI content index service. Our sustainability reporting also complies with the Communication on Progress requirements for the UN Global Compact and is based to an increasing extent on the UN Sustainable Development Goals². The framework standards and the SDGs have been used as the basis for the non-financial declaration.

Information on the diversity concept can be found in the declaration of corporate management (p. 164 ff.[↗]).

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft has audited the consolidated financial statements and the combined management report including the contents of the non-financial declaration with reasonable assurance and has thus carried out a complete audit (except for the section "Appropriateness and effectiveness of the risk management system and the internal control system (iRM)" in the "Report on opportunities and risks").

Index for the Task Force on Climate-related Financial Disclosures (TCFD)

EnBW started to implement the recommendations of the TCFD² in 2017. This work has continued in the current financial year and is being continuously developed in each of the four key elements. The index also includes other themes besides these where we are working on the further implementation of the TCFD recommendations.

Task Force on Climate-related Financial Disclosures (TCFD)

TCFD element	Themes	Section	Page reference
Governance	<ul style="list-style-type: none"> Corporate management Materiality analysis Investment guidelines 	<ul style="list-style-type: none"> Corporate governance In dialog with our stakeholders Strategy, goals and performance management system 	<ul style="list-style-type: none"> page 43[↗] page 47 f.[↗] page 41 f.[↗]
	<ul style="list-style-type: none"> Climate protection initiatives 	<ul style="list-style-type: none"> The EnBW Group In dialog with our stakeholders General conditions 	<ul style="list-style-type: none"> page 86[↗] page 48 f.[↗] page 64 f.[↗]
	<ul style="list-style-type: none"> Overall assessment by the management 	<ul style="list-style-type: none"> Overall assessment of the economic situation of the Group 	<ul style="list-style-type: none"> page 126[↗]
	<ul style="list-style-type: none"> Board of Management remuneration 	<ul style="list-style-type: none"> Corporate governance 	<ul style="list-style-type: none"> page 43[↗]
Strategy	<ul style="list-style-type: none"> Robustness of business model / scenario analysis Strategy, strategic development 	<ul style="list-style-type: none"> Business model Strategy, goals and performance management system 	<ul style="list-style-type: none"> page 25 f.[↗] page 33 ff.[↗]
	<ul style="list-style-type: none"> Interdependencies 	<ul style="list-style-type: none"> Strategy, goals and performance management system 	<ul style="list-style-type: none"> page 41 f.[↗]
	<ul style="list-style-type: none"> Materiality analysis 	<ul style="list-style-type: none"> In dialog with our stakeholders 	<ul style="list-style-type: none"> page 47 f.[↗]
	<ul style="list-style-type: none"> Green bonds 	<ul style="list-style-type: none"> Strategy, goals and performance management system 	<ul style="list-style-type: none"> page 38[↗]
	<ul style="list-style-type: none"> General conditions, climate protection 	<ul style="list-style-type: none"> The EnBW Group General conditions 	<ul style="list-style-type: none"> page 82 f.[↗] page 64 f.[↗]
Risk management	<ul style="list-style-type: none"> Integrated opportunity and risk management including opportunity and risk map 	<ul style="list-style-type: none"> Report on opportunities and risks 	<ul style="list-style-type: none"> page 132 ff.[↗]
	<ul style="list-style-type: none"> Environment goal dimension: opportunities and risks 	<ul style="list-style-type: none"> Report on opportunities and risks 	<ul style="list-style-type: none"> page 137 f.[↗]
Performance indicators and targets	<ul style="list-style-type: none"> Sustainability ratings 	<ul style="list-style-type: none"> The EnBW Group 	<ul style="list-style-type: none"> page 80 f.[↗]
	<ul style="list-style-type: none"> Key performance indicators and long-term targets 	<ul style="list-style-type: none"> Strategy, goals and performance management system 	<ul style="list-style-type: none"> page 39 f.[↗]
	<ul style="list-style-type: none"> Environment goal dimension: key performance indicators and other performance indicators 	<ul style="list-style-type: none"> The EnBW Group 	<ul style="list-style-type: none"> page 96 ff.[↗]

Key performance indicators for the EU taxonomy

Revenue

No significant harm to other EU objectives (DNSH)																	
	Code	Revenue	Proportion of revenue	Substantial contribution to climate change mitigation	Substantial contribution to adaptation to climate change (substantial contribution criteria)	Climate change mitigation	Climate change adaptation	The sustainable use and protection of water and marine resources	The transition to a circular economy	Pollution prevention and control	The protection and restoration of biodiversity and ecosystems	Minimum social safeguards	Taxonomy-aligned proportion of revenue 2022	Taxonomy-aligned proportion of revenue 2021	Category enabling activities	Category transitional activities	
		in € million	in %	in %	in %	yes/no	yes/no	yes/no	yes/no	yes/no	yes/no	yes/no	in %	in %	E/-	T/-	
A. Taxonomy-eligible activities		9,205.6	16.4														
A.1 Environmentally sustainable activities (taxonomy-aligned)		7,566.1	13.5										13.5	14.6			
Electricity generation via photovoltaic technology	4.1	50.5	0.1	100	0	–	yes	yes	yes	yes	yes	yes	0.1	0.1	–	–	
Electricity generation via wind power	4.3	205.1	0.4	100	0	–	yes	yes	yes	yes	yes	yes	0.4	1.4	–	–	
Transmission and distribution of electricity	4.9	5,220.6	9.3	100	0	–	yes	yes	yes	yes	yes	yes	9.3	9.6	E	–	
Storage of electricity ¹	4.10	1,714.4	3.1	100	0	–	yes	yes	yes	yes	yes	yes	3.1	2.6	E	–	
Production of biogas and biofuels for the transport sector and liquid biofuels ²	4.13	66.9	0.1	100	0	–	yes	yes	yes	yes	yes	yes	0.1	0.2	–	–	
District heating/cooling distribution	4.15	2.9	0.0	100	0	–	yes	yes	yes	yes	yes	yes	0.0	- ³	–	–	
Electricity generation from fossil gaseous fuels	4.29	0.0	0.0	100	0	–	yes	yes	yes	yes	yes	yes	0.0	- ³	–	T	
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	4.30	0.0	0.0	100	0	–	yes	yes	yes	yes	yes	yes	0.0	- ³	–	T	
Construction, expansion and operation of systems to extract, treat and supply water	5.1	202.7	0.4	100	0	–	yes	yes	yes	yes	yes	yes	0.4	0.6	–	–	
Infrastructure for low-carbon road traffic and public transport	6.15	103	0.2	100	0	–	yes	yes	yes	yes	yes	yes	0.2	0.1	E	–	
Revenue from environmentally sustainable activities (taxonomy-aligned) (A.1)																	
A.2 Taxonomy-eligible activities that are not taxonomy-aligned		1,639.5	2.9														
Production of biogas and biofuels for the transport sector and liquid biofuels ²	4.13	0.7	0.0												–	–	
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	4.30	1,638.8	2.9												–	T	
Revenue from taxonomy-eligible activities that are not taxonomy-aligned (taxonomy non-aligned activities) (A.2)																	
Total (A.1 + A.2)		9,205.6	16.4														
B. Taxonomy non-eligible activities		46,797	83.6														
Revenue from non-environmentally sustainable activities (taxonomy-aligned) (B)		46,797	83.6														
Total (A + B)		56,002.6	100.0														

¹ Including 4.5 Electricity generation from hydropower.

² Including 4.20 Combined heat/cooling and power plants with bioenergy.

³ Due to the fact that the economic activity can only be taken into account for the first time in the 2022 financial year, there are no figures stated for the previous year.

Capex

	Code	Capex in € million	Proportion of capex in %	No significant harm to other EU objectives (DNSH)									Taxonomy- aligned proportion of capex 2022 in %	Taxonomy- aligned proportion of capex 2021 in %	Category enabling activities E/-	Category transitional activities T/-
				Substantial contribution to climate change mitigation in %	Substantial contribution to climate change (substantial contribution criteria) in %	Climate change mitigation yes/no	Climate change adaptation yes/no	The sustainable use and protection of water and marine resources yes/no	The transition to a circular economy yes/no	Pollution prevention and control yes/no	The protection and res- toration of biodiversity and ecosystems yes/no	Minimum social safeguards yes/no				
A. Taxonomy-eligible activities		2,576.9	82.4													
A.1 Environmentally sustainable activities (taxonomy-aligned)		2,574.4	82.3									82.3	68.2			
Electricity generation via photovoltaic technology	4.1	94.8	3.0	100	0	–	yes	yes	yes	yes	yes	yes	5.2	–	–	
Electricity generation via wind power	4.3	317.0	10.1	100	0	–	yes	yes	yes	yes	yes	yes	6.1	–	–	
Transmission and distribution of electricity	4.9	1,615.4	51.6	100	0	–	yes	yes	yes	yes	yes	yes	51.3	E	–	
Storage of electricity ¹	4.10	25.3	0.8	100	0	–	yes	yes	yes	yes	yes	yes	0.6	E	–	
Production of biogas and biofuels for the transport sector and liquid biofuels ²	4.13	16.9	0.5	100	0	–	yes	yes	yes	yes	yes	yes	0.3	–	–	
Transmission and distribution networks for renewable and low-carbon gases	4.14	256.3	8.2	100	0		yes	yes	yes	yes	yes	yes	– ³	–	–	
District heating/cooling distribution	4.15	12.2	0.4	100	0	–	yes	yes	yes	yes	yes	yes	– ³	–	–	
Electricity generation from fossil gaseous fuels	4.29	31.3	1.0	100	0	–	yes	yes	yes	yes	yes	yes	– ³	–	T	
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	4.30	29.5	0.9	100	0	–	yes	yes	yes	yes	yes	yes	– ³	–	T	
Construction, expansion and operation of systems to extract, treat and supply water	5.1	20.3	0.6	100	0	–	yes	yes	yes	yes	yes	yes	0.8	–	–	
Infrastructure for low-carbon road traffic and public transport	6.15	155.3	5.0	100	0	–	yes	yes	yes	yes	yes	yes	4.0	E	–	
Capex from environmentally sustainable activities (taxonomy-aligned) (A.1)																
A.2 Taxonomy-eligible activities that are not taxonomy-aligned		2.5	0.1													
Production of biogas and biofuels for the transport sector and liquid biofuels ²	4.13	0.1	0.0											–	–	
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	4.30	2.4	0.1											–	T	
Capex from taxonomy-eligible activities that are not taxonomy-aligned (taxonomy non-aligned activities) (A.2)																
Total (A.1 + A.2)		2,576.9	82.4													
B. Taxonomy non-eligible activities		552.2	17.6													
Capex from non-environmentally sustainable activities (taxonomy-aligned) (B)		552.2	17.6													
Total (A + B)		3,129.1	100.0													

¹ Including 4.5 Electricity generation from hydropower.

² Including 4.20 Combined heat/cooling and power plants with bioenergy.

³ Due to the fact that the economic activity can only be taken into account for the first time in the 2022 financial year, there are no figures stated for the previous year.

Opex

	No significant harm to other EU objectives (DNSH)												Taxonomy-aligned proportion of opex 2022 in %	Taxonomy-aligned proportion of opex 2021 in %	Category enabling activities E/-	Category transitional activities T/-	
	Code	Opex	Proportion of opex	Substantial contribution to climate change mitigation	Substantial contribution to adaptation to climate change (substantial contribution criteria)	Climate change mitigation	Climate change adaptation	The sustainable use and protection of water and marine resources	The transition to a circular economy	Pollution prevention and control	The protection and restoration of biodiversity and ecosystems	Minimum social safeguards					
		in € million	in %	in %	in %	yes/no	yes/no	yes/no	yes/no	yes/no	yes/no	yes/no					
A. Taxonomy-eligible activities		345.1	23.1														
A.1 Environmentally sustainable activities (taxonomy-aligned)		342.6	22.9										22.9	29.3			
Electricity generation via photovoltaic technology	4.1	5.9	0.4	100	0	-	yes	yes	yes	yes	yes	yes	0.4	-0.4	-	-	-
Electricity generation via wind power	4.3	60.7	4.1	100	0	-	yes	yes	yes	yes	yes	yes	4.1	6.9	-	-	-
Transmission and distribution of electricity	4.9	230.5	15.4	100	0	-	yes	yes	yes	yes	yes	yes	15.4	19.6	E	-	-
Storage of electricity ¹	4.10	14.4	1.0	100	0	-	yes	yes	yes	yes	yes	yes	1.0	1.2	E	-	-
Production of biogas and biofuels for the transport sector and liquid biofuels ²	4.13	14.4	1.0	100	0	-	yes	yes	yes	yes	yes	yes	1.0	1.1	-	-	-
District heating/cooling distribution	4.15	0.9	0.0	100	0	-	yes	yes	yes	yes	yes	yes	0.0	- ³	-	-	-
Electricity generation from fossil gaseous fuels	4.29	0.0	0.0	100	0	-	yes	yes	yes	yes	yes	yes	0.0	- ³	-	-	T
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	4.30	0.0	0.0	100	0	-	yes	yes	yes	yes	yes	yes	0.0	- ³	-	-	T
Construction, expansion and operation of systems to extract, treat and supply water	5.1	16.4	1.1	100	0	-	yes	yes	yes	yes	yes	yes	1.1	1.2	-	-	-
Infrastructure for low-carbon road traffic and public transport	6.15	-0.6	0.0	100	0	-	yes	yes	yes	yes	yes	yes	0.0	-0.3	E	-	-
Opex from environmentally sustainable activities (taxonomy-aligned) (A.1)																	
A.2 Taxonomy-eligible activities that are not taxonomy-aligned		2.5	0.2														
Production of biogas and biofuels for the transport sector and liquid biofuels ²	4.13	0.1	0.0												-	-	-
High-efficiency co-generation of heat/cool and power from fossil gaseous fuels	4.30	2.4	0.2												-	-	T
Opex from taxonomy-eligible activities that are not taxonomy-aligned (taxonomy non-aligned activities) (A.2)																	
Total (A.1 + A.2)		345.1	23.1														
B. Taxonomy non-eligible activities		1,148.1	76.9														
Opex from non-environmentally sustainable activities (taxonomy-aligned) (B)		1,148.1	76.9														
Total (A + B)		1,493.2	100.0														

¹ Including 4.5 Electricity generation from hydropower.

² Including 4.20 Combined heat/cooling and power plants with bioenergy.

³ Due to the fact that the economic activity can only be taken into account for the first time in the 2022 financial year, there are no figures stated for the previous year.

Revenue

Template 1 Nuclear and fossil gas related activities

Row	Nuclear energy related activities	
1.	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	NO
2.	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	NO
3.	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	YES
Row	Fossil gas related activities	
1.	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	YES
2.	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	YES
3.	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	NO

Template 2 Taxonomy-aligned economic activities [denominator]

Row	Economic activities	Amount and proportion (the information is to be presented in monetary amounts and as percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		in € million	%	in € million	%	in € million	%
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0.0	0.0	0.0	0.0	-	-
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0.0	0.0	0.0	0.0	-	-
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	7,566.1	13.5	7,566.1	13.5	-	-
8.	Total applicable KPI	56,002.6	100.0	56,002.6	100.0	-	-

Template 3 Taxonomy-aligned economic activities (numerator)

Row	Economic activities	Amount and proportion (the information is to be presented in monetary amounts and as percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		in € million	%	in € million	%	in € million	%
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0.0	0.0	0.0	0.0	-	-
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0.0	0.0	0.0	0.0	-	-
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI	7,566.1	100.0	7,566.1	100.0	-	-
8.	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI	7,566.1	100.0	7,566.1	100.0	-	-

Template 4 Taxonomy-eligible but not taxonomy-aligned economic activities

Row	Economic activities	Amount and proportion (the information is to be presented in monetary amounts and as percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		in € million	%	in € million	%	in € million	%
1.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
2.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
3.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
4.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
5.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	1,638.8	2.9	1,638.8	2.9	-	-
6.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
7.	Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	0.7	0.0	0.7	0.0	-	-
8.	Total amount and proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI	1,639.5	2.9	1,639.5	2.9	-	-

Template 5 Taxonomy non-eligible economic activities

Row	Economic activities	in € million	%
1.	Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
2.	Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
3.	Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	406.0	0.7
4.	Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
5.	Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
6.	Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
7.	Amount and proportion of other taxonomy-non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	46,391.0	82.9
8.	Total amount and proportion of taxonomy-non-eligible economic activities in the denominator of the applicable KPI	46,797.0	83.6

Capex

Template 1 Nuclear and fossil gas related activities

Row	Nuclear energy related activities	
1.	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	NO
2.	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	NO
3.	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	YES
Row	Fossil gas related activities	
1.	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	YES
2.	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	YES
3.	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	NO

Template 2 Taxonomy-aligned economic activities (denominator)

Row	Economic activities	Amount and proportion (the information is to be presented in monetary amounts and as percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		in € million	%	in € million	%	in € million	%
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	31.3	1.0	31.3	1.0	-	-
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	29.5	0.9	29.5	0.9	-	-
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	2,513.5	80.3	2,513.5	80.3	-	-
8.	Total applicable KPI	3,129.1	100.0	3,129.1	100.0		

Template 3 Taxonomy-aligned economic activities (numerator)

Row	Economic activities	Amount and proportion (the information is to be presented in monetary amounts and as percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		in € million	%	in € million	%	in € million	%
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	31.3	1.2	31.3	1.2	-	-
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	29.5	1.1	29.5	1.1	-	-
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI	2,513.5	97.6	2,513.5	97.6	-	-
8.	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI	2,574.4	100.0	2,574.4	100.0	-	-

Template 4 Taxonomy-eligible but not taxonomy-aligned economic activities

Row	Economic activities	Amount and proportion (the information is to be presented in monetary amounts and as percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		in € million	%	in € million	%	in € million	%
1.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
2.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
3.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
4.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
5.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	2.4	0.1	2.4	0.1	-	-
6.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
7.	Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	0.1	0.0	0.1	0.0	-	-
8.	Total amount and proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI	2.5	0.1	2.5	0.1	-	-

Template 5 Taxonomy non-eligible economic activities

Row	Economic activities	in € million	%
1.	Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
2.	Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
3.	Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	53.2	1.7
4.	Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
5.	Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
6.	Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
7.	Amount and proportion of other taxonomy-non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	499.0	15.9
8.	Total amount and proportion of taxonomy-non-eligible economic activities in the denominator of the applicable KPI	552.2	17.6

Opex

Template 1 Nuclear and fossil gas related activities

Row	Nuclear energy related activities	
1.	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	NO
2.	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	NO
3.	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	YES
Row	Fossil gas related activities	
1.	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	YES
2.	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	YES
3.	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	NO

Template 2 Taxonomy-aligned economic activities [denominator]

Row	Economic activities	Amount and proportion (the information is to be presented in monetary amounts and as percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		in € million	%	in € million	%	in € million	%
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0.0	0.0	0.0	0.0	-	-
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	0.0	0.0	0.0	0.0	-	-
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	342.6	22.9	342.6	22.9	-	-
8.	Total applicable KPI	1,493.2	100.0	1,493.2	100.0	-	-

Template 3 Taxonomy-aligned economic activities (numerator)

Row	Economic activities	Amount and proportion (the information is to be presented in monetary amounts and as percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		in € million	%	in € million	%	in € million	%
1.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
2.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
3.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
4.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0.0	0.0	0.0	0.0	-	-
5.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	0.0	0.0	0.0	0.0	-	-
6.	Amount and proportion of taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the numerator of the applicable KPI	-	-	-	-	-	-
7.	Amount and proportion of other taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the numerator of the applicable KPI	342.6	100.0	342.6	100.0	-	-
8.	Total amount and proportion of taxonomy-aligned economic activities in the numerator of the applicable KPI	342.6	100.0	342.6	100.0	-	-

Template 4 Taxonomy-eligible but not taxonomy-aligned economic activities

Row	Economic activities	Amount and proportion (the information is to be presented in monetary amounts and as percentages)					
		CCM + CCA		Climate change mitigation (CCM)		Climate change adaptation (CCA)	
		in € mil- lion	%	in € mil- lion	%	in € mil- lion	%
1.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
2.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
3.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
4.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
5.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	2.4	0.2	2.4	0.2	-	-
6.	Amount and proportion of taxonomy-eligible but not taxonomy-aligned economic activity referred to in Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	-	-	-	-	-	-
7.	Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	0.1	0.0	0.1	0.0	-	-
8.	Total amount and proportion of taxonomy eligible but not taxonomy-aligned economic activities in the denominator of the applicable KPI	2.5	0.2	2.5	0.2	-	-

Template 5 Taxonomy non-eligible economic activities

Row	Economic activities	in € million	%
1.	Amount and proportion of economic activity referred to in row 1 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.26 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
2.	Amount and proportion of economic activity referred to in row 2 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.27 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
3.	Amount and proportion of economic activity referred to in row 3 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.28 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	50.5	3.3
4.	Amount and proportion of economic activity referred to in row 4 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.29 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
5.	Amount and proportion of economic activity referred to in row 5 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.30 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
6.	Amount and proportion of economic activity referred to in row 6 of Template 1 that is taxonomy-non-eligible in accordance with Section 4.31 of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of the applicable KPI	–	–
7.	Amount and proportion of other taxonomy-non-eligible economic activities not referred to in rows 1 to 6 above in the denominator of the applicable KPI	1,097.6	73.5
8.	Total amount and proportion of taxonomy-non-eligible economic activities in the denominator of the applicable KPI	1,148.1	76.9

Declaration of the legal representatives

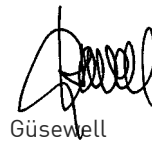
We assure to the best of our knowledge that, in accordance with the applicable accounting principles, the annual and consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the company and the Group, and that the combined management report gives a true and fair view of the business development including the result and situation of the company and the Group and also describes the significant opportunities and risks relating to the anticipated development of the company and the Group.

Karlsruhe, 13 March 2023

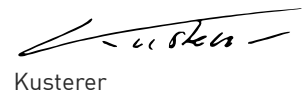
EnBW Energie Baden-Württemberg AG



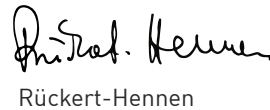
Schell



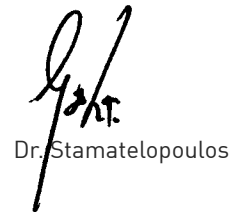
Güsewell



Kusterer



Rückert-Hennen



Dr. Stamatelopoulos

Declaration of corporate management

165	Board of Management and Supervisory Board
171	Diversity
172	Shareholders and Annual General Meeting
172	Compliance
173	Remuneration of the Board of Management and the Supervisory Board
173	Transparency
173	Financial reporting and the audit
174	Declaration of compliance

Good corporate governance is an essential part of the corporate culture at EnBW Energie Baden-Württemberg AG (EnBW). We are convinced that responsible and transparent corporate governance strengthens the trust and confidence that customers, capital providers, employees and the general public place in the company, thereby contributing to its long-term success. The Board of Management and Supervisory Board have the responsibility of managing and supervising the company above and beyond merely fulfilling statutory requirements, but to do so in accordance with recognized benchmarks for good corporate governance and in harmony with the principles of a social market economy, guaranteeing the continued existence of the company and ensuring a sustainable increase in its added value. As the member of the Board of Management responsible for corporate governance, Colette Rückert-Hennen monitored compliance with the German Corporate Governance Code (DCGK) at EnBW and reported extensively to the Board of Management and Supervisory Board on all current themes pertaining to corporate governance. Both boards acknowledged the report from Colette Rückert-Hennen and subsequently approved the company's declaration of compliance, which is reproduced in full at the end of this report.

In this declaration of corporate management, the Supervisory Board and Board of Management report on the corporate governance of the company (corporate governance report) above and beyond the legal requirements according to sections 289f (2) and 315d HGB.

The corporate governance report is based on the new version of the DCGK from 18 April 2022, which was published in the German Federal Gazette on 27 June 2022, because this version of the code was definitive in the reporting period. References to the DCGK in this declaration refer to the version from 18 April 2022 unless there is an explicit reference to the previous version of the DCGK from 16 April 2019.

Board of Management and Supervisory Board

Close and trusting cooperation for the good of the company is considered an integral part of the EnBW culture by the Board of Management and Supervisory Board.

The Board of Management jointly manages the company on its own responsibility. In the reporting period, the Board of Management comprised five members up to the end of 30 September 2022, one of which held the position of Chairman. The Board of Management comprised four members in the period from 1 October 2022 until the end of 14 November 2022. The position of Chairperson of the Board of Management was temporarily vacant during this period. The four members of the Board of Management jointly managed the duties of the Chairperson of the Board of Management in this period. Since 15 November 2022, the Board of Management has once again comprised five members, one of which holds the position of Chairman. The Board of Management is tasked with defining the company goals and developing the strategic orientation of the EnBW Group, agreeing this with the Supervisory Board and implementing it accordingly. In addition, the Board of Management ensures Group-wide compliance with statutory regulations and internal guidelines, as well as appropriate risk management and risk controlling.

Important aspects of cooperation within the Board of Management are defined in its rules of procedure. These regulate, among other things, the frequency at which the meetings of the Board of Management led by the Chairman are held multiple times a month and stipulate that all important questions relating to the management of the Group and any cross-departmental issues will be addressed at these meetings. Furthermore, the rules of procedure include a rule that resolutions will be taken by the Board of Management on a majority vote basis, whereby the Chairman has the casting vote in the event of a tie.

The **curricula vitae for all members of the Board of Management** can be found on our website.

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In the reporting period, the Chairman of the Board of Management up to the end of 30 September 2022 was Dr. Frank Mastiaux. Andreas Schell has been the Chairman of the Board of Management since 15 November 2022. Further details on the members of the Board of Management and the division of responsibilities can be found in the information provided on [p. 13 f.](#), as well as in the section "Corporate governance" under "Management and supervision" on [p. 43](#) of the Integrated Annual Report 2022.

The standard retirement age set for members of the Board of Management at EnBW is 63 years old. In the reporting period and also currently, the members of the Board of Management did not and do not hold more than three positions on supervisory boards at non-Group listed companies or on supervisory bodies at non-Group companies that have comparable requirements. As in the past, there were also no known conflicts of interests for the members of the Board of Management in the 2022 financial year. EnBW did not enter into any significant transactions with individuals or companies that are related to a member of the Board of Management in the reporting period.

In the reporting period, the Board of Management discussed the Six-Monthly Financial Report and the quarterly statements with the audit committee of the Supervisory Board before publication.

The Supervisory Board of EnBW is comprised of 20 members, half of which are representatives elected by the shareholders and half by employees. The Chairman of the Supervisory Board is Lutz Feldmann.

The elected employee and shareholder representatives began their term of office at the conclusion of the Annual General Meeting of EnBW on 5 May 2021. The defined term of office for the elected members of the Supervisory Board ends at the conclusion of the ordinary Annual General Meeting in 2026.

There was a change to the composition of the Supervisory Board in the reporting period. Jürgen Umlauf (employee representative) stepped down from his position as a member of the Supervisory Board due to retirement with effect from the end of 7 November 2022. Klarissa Lerp was appointed by the court to replace him as a member of the Supervisory Board with effect from 8 November 2022.

Although the declaration of corporate management only reports on the situation as of the reporting date and thus exclusively provides information on relevant subject matter in the reporting period, we want to provide the additional information that the process to elect employee representative members of the Supervisory Board of EnBW Energie Baden-Württemberg AG in accordance with the German Co-Determination Act, which started in October 2020 and was temporarily interrupted due to the coronavirus pandemic, was concluded on 8 February 2023. In the election of the delegates in accordance with the Third Electoral Code to the German Co-Determination Act on 8 February 2023, the current members of the Supervisory Board Achim Binder, Ulrike Weindel, Klarissa Lerp, Stefan Paul Hamm, Michaela Kräutter and Dr. Bernd-Michael Zinow were reelected and the candidates Joachim Rudolf, Bernad Lukacin, Christina Ledong and Thorsten Pfirmann were elected as members of the Supervisory Board for the first time. The four newly elected members of the Supervisory Board replace the former members Dietrich Herd, Thomas Landsbek, Dr. Nadine Müller and Jürgen Schäfer, who all stepped down from the Supervisory Board on 8 February 2023 following the election of their successors.

Further details on the Supervisory Board and its composition can be found in the information provided on [p. 297 ff.](#) and [301 f.](#), as well as in the section "Corporate governance" under "Management and supervision" on [p. 44](#) of the Integrated Annual Report 2022.

The key task of the Supervisory Board is to advise and supervise the Board of Management on its management of the company. In general, all members of the Supervisory Board have the same rights and obligations and are not bound by orders or instructions. Important aspects of the cooperation within the Supervisory Board are defined in its rules of procedure. These rules require the Supervisory Board to meet regularly for ordinary meetings, as well as for extraordinary meetings as necessary, that are chaired by the Chairman. The members of the Board of Management generally participate in the meetings, although the Supervisory Board can also convene without the Board of Management if necessary. The Board of Management regularly, comprehensively and promptly informs the Supervisory Board in accordance with the rules of procedure for the Supervisory Board about, in particular, all of the issues listed in section 90 of the German Stock Corporation Act (AktG), all important financial and non-financial performance indicators and the risks faced by the company and the Group and their development, strategy, planning, the accounting process, the appropriateness and effectiveness of the internal control system, risk management system and the internal auditing system, compliance and other important matters.

Between the meetings of the Supervisory Board, there is ongoing communication between the Chairman of the Supervisory Board and the Board of Management, particularly with the Chairman of the Board of Management, in order to discuss issues relating to the strategy, planning, business performance, risk situation, risk management and compliance within the company. He is immediately

informed about important events that are material for the assessment of the situation, development and management of the company by the Chairman of the Board of Management. If necessary, the Chairman of the Supervisory Board then reports to the Supervisory Board and may also convene an extraordinary meeting.

The **report to the Annual General Meeting** is accessible to the general public here.

[Online ↗](#)

In addition, the rules of procedure for the Supervisory Board also define business activities and measures that may only be carried out by the Board of Management with the approval of the Supervisory Board. Furthermore, resolutions are also passed by the Supervisory Board on a majority vote basis, whereby the Chairman of the Supervisory Board has the casting vote in the event of a tie in accordance with the Articles of Association of EnBW. If ordered by the Chairman of the Supervisory Board, resolutions can also be passed outside of meetings, if this is not opposed by a majority of the members of the Supervisory Board. The Supervisory Board provided detailed information on its main activities and the contents of its discussions in the 2022 financial year in its report to the Annual General Meeting. The rules of procedure for the Supervisory Board are not published on the Internet.

Another important task of the Supervisory Board is to appoint and, if necessary, dismiss the members of the Board of Management. In this context, the Supervisory Board works together with the Board of Management to ensure appropriate long-term succession planning for the Board of Management. This is the task of the personnel committee. It consults regularly and in close communication with the Chairman of the Board of Management on issues relating to the up-to-dateness and further development of the Board of Management structure, the division of responsibilities and ensuring the Board of Management remits can be filled after the end of the term of office, taking into account the current terms of office. In advance of any decision to appoint a new member of the Board of Management, a requirement profile is developed in good time as necessary and a comprehensive selection process is usually carried out with the aid of specialist support.

In order to improve the efficiency of its work and to handle complex issues, the Supervisory Board has formed specialist committees:

- **Nomination committee:** Dr. Danyal Bayaz, Dr. Dietrich Birk, Lutz Feldmann (Chairman), Dr. Wolf-Rüdiger Michel, Gunda Röstel, Lothar Wölfle
- **Audit committee:** Stefanie Bürkle, Michaela Kräutter, Thomas Landsbek, Dr. Hubert Lienhard, Dr. Wolf-Rüdiger Michel, Gunda Röstel (Chairwoman), Jürgen Schäfer, Ulrike Weindel
- **Personnel committee:** Dr. Danyal Bayaz, Achim Binder, Lutz Feldmann (Chairman), Stefan Paul Hamm, Dietrich Herd, Lothar Wölfle
- **Finance and investment committee:** Dr. Danyal Bayaz, Achim Binder, Dr. Dietrich Birk, Lutz Feldmann (Chairman), Stefan Paul Hamm, Dietrich Herd, Lothar Wölfle, Dr. Bernd-Michael Zinow
- **Mediation committee** (pursuant to section 27 (3) German Co-determination Act (MitbestG)): Dr. Danyal Bayaz, Lutz Feldmann (Chairman), Dietrich Herd, Klarissa Lerp
- **Digitalization committee:** Dr. Hubert Lienhard (Chairman), Marika Lulay, Dr. Nadine Müller, Jürgen Schäfer, Harald Sievers, Ulrike Weindel
- **Ad hoc committee:** Dietrich Herd, Gunda Röstel, Harald Sievers, Dr. Bernd-Michael Zinow (Chairman)
- **Special committee** (since 29 September 2022): Dr. Danyal Bayaz, Achim Binder, Lutz Feldmann (Chairman), Stefan Paul Hamm, Dietrich Herd, Gunda Röstel, Lothar Wölfle, Dr. Bernd-Michael Zinow

In order for the Supervisory Board to optimally perform its functions, it formed a special committee at its meeting on 29 September 2022 with immediate effect that will serve until the end of the day of the Annual General Meeting of EnBW Energie Baden-Württemberg AG on 3 May 2023. This special committee is responsible, in particular, for examining the impact of the war between Russia and Ukraine on the business of EnBW and its subsidiaries. The special committee comprises four members of the Supervisory Board who are shareholder representatives and four members who are employee representatives.

In accordance with the DCGK, the nomination committee exclusively comprises shareholder representatives and proposes suitable candidates to the Supervisory Board for election as members of the Supervisory Board at the Annual General Meeting.

The audit committee is responsible, in particular, for monitoring accounting, the accounting process, the appropriateness and effectiveness of the internal control system, the risk management system, the internal auditing system, the audit and compliance. It presents a justified recommendation for

the appointment of the auditor to the Supervisory Board, which includes at least two candidates if the company intends to issue an invitation to tender for the audit mandate in accordance with article 16 (3) EU Regulation 537/2014. The audit committee monitors the independence of the auditor and is also responsible for supervising the additional services provided by the auditor, the award of the audit mandate to the auditor, the definition of areas of focus for the audit, monitoring the quality of the audit and negotiating the auditor's fees with the auditor.

The Chairwoman of the audit committee, Gunda Röstel, is independent and is not a former member of the Board of Management of EnBW. As the long-standing Commercial Director of Stadtentwässerung Dresden GmbH and Authorized Officer of Gelsenwasser AG, she possesses expertise in the field of accounting and special knowledge and experience in the application of accounting principles and internal control and risk management systems. As a result, and also through her position as Chairwoman of the audit committee for several years, she also possesses expertise in the field of auditing. She has special knowledge and experience in this field that also covers the aspect of sustainability reporting and its auditing, which has already been practiced at EnBW for several years with the participation of Mrs. Röstel. In her position as the Chairwoman of the audit committee over the last few years, she has gained even more expertise in the aforementioned fields. As a long-standing chief executive and member of management boards at various companies and in his role as a member of the audit committee over many years, Dr. Hubert Lienhard also has expertise in the fields of accounting and auditing, including special knowledge and experience in the application of accounting principles and with internal control and risk management systems, as well as in the area of auditing including sustainability reporting and its auditing.

The roles of the other committees of the Supervisory Board and their specific activities in the past financial year are described in the Report of the Supervisory Board for the 2022 financial year.

The chairpersons of the committees report on the work carried out in their committees at the latest at the next plenary meeting of the Supervisory Board. No separate rules of procedure exist for the Supervisory Board committees; they are subject to the rules of procedure for the Supervisory Board and all relevant procedural rules contained therein.

The Supervisory Board has set specific objectives for its composition that take into account the company's situation and has developed a competency profile for the entire Supervisory Board, whereby the special rules defined in the German Co-determination Act and associated legislation were and are taken into account for employee representatives. The primary aim is to guarantee that the members collectively possess the knowledge, skills and specialist experience required to properly perform their functions.

The objectives for the composition of the Supervisory Board that are currently valid and were valid during the entire reporting period appropriately take into account the international activities of the company, potential conflicts of interest, an appropriate number of independent members in the estimation of the Supervisory Board, age limits for members of the Supervisory Board apart from the exception described below, a maximum time limit for the period of service on the Supervisory Board and diversity, whereby the special rules defined in the German Co-determination Act and associated legislation were and are taken into account for employee representatives.

In the past reporting year, the Supervisory Board also examined the independence criteria defined in the German Stock Corporation Act and the DCGK. The Supervisory Board came to the conclusion that these criteria have – as in the past – been satisfied and that it comprised and still comprises a sufficient number of independent members and reflects the shareholder structure, whereby it is of the opinion that all shareholder representatives on the Supervisory Board are independent in the sense of the DCGK and this proportion of members is appropriate. Refer to the overview on [p. 297f.](#) of the Integrated Annual Report 2022 for the names of the members of the Supervisory Board elected by the shareholders. Alongside the successfully achieved objective of continuing to ensure a majority of independent members, the Supervisory Board will take care to avoid any conflicts of interest also in future.

The Supervisory Board does not believe that it is necessary to define quantitative objectives with respect to internationality due to the structure and business activities of the company. The newly added recommendation in the DCGK in 2022 that the competency profile for the Supervisory Board should also cover expertise on sustainability issues that are significant to the company has already been fulfilled

The full version of the [Report of the Supervisory Board](#) is published here.

[Online](#) [↗](#)

by the competency profile for the EnBW Supervisory Board since 2017. The rules of procedure for the Supervisory Board stipulate that candidates proposed to the Annual General Meeting for the election of shareholder representatives as members on the Supervisory Board should generally not be older than 70 at the time of the election. This general age limit was exceeded in the reporting period by Dr. Hubert Lienhard. However, there are no doubts surrounding the suitability of Dr. Hubert Lienhard as a member of the Supervisory Board. On the contrary, the membership of Dr. Hubert Lienhard on the Supervisory Board also clearly serves the interests of the company. As the Supervisory Board is aware that exceptions may be desirable because long-term members of the Supervisory Board bring long-standing knowledge and experience to the board, it has ultimately defined a maximum time limit for the period of service on the Supervisory Board of three full election periods, which was not reached or exceeded during the reporting period or currently by any member of the Supervisory Board.

The Supervisory Board has not defined any further diversity targets beyond the legal regulations that apply to the company for the minimum proportion of women and men and the previously described objectives for its composition.

The competency profile of the Supervisory Board stipulates that the eight fields of competency of particular significance to the company shown in the diagram must be covered to an appropriate extent by the members of the Supervisory Board in its entirety.

The Supervisory Board possesses the knowledge and skills required to perform its functions. The objectives for its composition were fully taken into account by the Supervisory Board during the reporting period with respect to its composition and the appropriate coverage of its competency profile. The Supervisory Board is convinced that the competency profile is appropriately covered when each of the eight fields of competency of particular significance to the company are covered by several members of the Supervisory Board. However, it does not strive to ensure that every field of competency is covered by all members of the Supervisory Board (which would correspond to a coverage rate of 100%) as this would be unrealistic for a Supervisory Board with a diverse composition. In the 2022 financial year, the Supervisory Board in its entirety had the following coverage rates for the eight fields of competency, whereby the Supervisory Board successfully covered its defined competency profile:

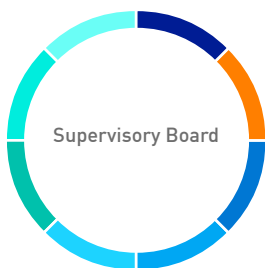
Field of competency	Coverage by members of the Supervisory Board
Finances and accounting	55%
Strategy and innovation	45%
Law, corporate governance and compliance	35%
Communication	40%
Business fields	45%
Board of Management and HR issues	65%
Regulation and politics	55%
Sustainability and environment	60%

In its future proposals to the Annual General Meeting for the election of members, the Supervisory Board will continue to take into account the objectives for its composition and will strive to ensure that the competency profile continues to be covered by the Supervisory Board in its entirety.

The curricula vitae for all members of the Supervisory Board have been published on the company website and provide information on the relevant knowledge, skills and experience of the members and have been supplemented by an overview of their main activities in addition to their position on the Supervisory Board. These curricula vitae are updated on an annual basis for all members of the Supervisory Board.

The members of the Supervisory Board are all able to dedicate the expected amount of time required for their activities on the Supervisory Board. The Supervisory Board will also ensure for its future proposals to the Annual General Meeting for the election of new members of the Supervisory Board that all candidates are able to dedicate the expected amount of time required for their activities on the Supervisory Board. In the 2022 financial year, all members of the Supervisory Board participated in more than half of the meetings of the Supervisory Board and the majority of the members of the Supervisory Board participated in more than half of the meetings of the committees on which the

Competency profile of the Supervisory Board



- Finances and accounting
- Strategy and innovation
- Law, corporate governance and compliance
- Communication
- Business fields
- Board of Management and HR issues
- Regulation and politics
- Sustainability and environment

The **curricula vitae for all members of the Supervisory Board** can be found on our website.

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member serves; this was also noted in the Report of the Supervisory Board to the Annual General Meeting. Participation via telephone and videoconference is also valid, although this form of participation was not a normal occurrence for any member of the Supervisory Board in accordance with the suggestion in the DCGK, except for those meetings of the Supervisory Board in which all members participated via an electronic form of communication. In the reporting period, some meetings of the Supervisory Board and also some meetings of its committees were held in digital form, i.e., via telephone and videoconferences, in order to avoid unnecessary personal contact during the ongoing coronavirus pandemic.

In its proposals made to the Annual General Meeting for the forthcoming by-election of members, the Supervisory Board will also disclose the personal and business relationships of each candidate with the company, the company's corporate bodies and with shareholders holding a major interest in the company, whereby this information will be limited to information that the Supervisory Board considers material in order for a shareholder to cast their vote objectively.

No former members of the Board of Management of EnBW were members of the Supervisory Board during the reporting period nor are they currently members. The members of the Supervisory Board also did not perform any advisory or board functions for important competitors of EnBW during the reporting period nor do they currently.

Every member of the Supervisory Board is bound to act in the interests of the company. In making decisions, members may not pursue personal interests or take advantage of business opportunities intended for the company. Conflicts of interest, particularly those that could arise due to advisory or board functions for customers, suppliers, lenders or other third parties, must be disclosed to the Supervisory Board. In such cases, the Supervisory Board will disclose any conflicts of interest that have arisen and how they were handled in its report to the Annual General Meeting. Any material conflict of interest relating to a member of the Supervisory Board that is not merely of a temporary nature will result in the termination of their position. Advisory and other service agreements and contracts for work between a member of the Supervisory Board and EnBW require the approval of the Supervisory Board.

The Supervisory Board regularly assesses how effectively the Supervisory Board as a whole and its committees are performing their duties (self-assessment). In the reporting period, the Supervisory Board carried out a self-assessment at its meeting on 29 September 2022. To prepare for the review, the members of the Supervisory Board completed a comprehensive questionnaire on content-related and organizational themes as in previous years and discussed, among other things, the results of the questionnaires in detail. In addition, the implementation of the findings drawn from the efficiency review from the previous year were examined.

The members of the Supervisory Board are responsible for participating in any necessary basic and further training measures required for their tasks and are supported appropriately and as necessary by the company in this area. This not only includes providing them with regular information on themes and developments related to the current situation of the company with respect to legal issues, the energy industry, financial industry or other relevant aspects, as well as other subjects relevant to the work on the Supervisory Board, but also comprises corresponding on-site appointments and events. In 2022, an e-learning platform from an external service provider designed for supervisory boards was used. The members of the audit committee also took part in a training course on the subject of "EnBW trading" at the end of their meeting on 11 May 2022. In addition, two members of the Supervisory Board participated in an online training seminar on the subject of "cryptic balance sheet items and their impact." Klarissa Lerp, who was newly appointed as a member of the Supervisory Board from 8 November 2022, received documentation on all of the important rules relating to the work of the Supervisory Board that are relevant to her mandate when she assumed her new position.

In accordance with the corresponding suggestion in the DCGK, the Chairman of the Supervisory Board is prepared to enter into discussions with investors on specific issues relating to the Supervisory Board. Discussions of this type were not held in the reporting period.

The actions of the Board of Management and the Supervisory Board are governed by statutory regulations and internal Group guidelines (compliance). The Board of Management also reported continuously on compliance issues in the 2022 financial year and discussed them in detail with the

Supervisory Board and the audit committee of the Supervisory Board. More detailed information on this area will be provided in the “Compliance” section below. Information on the relevant corporate governance practices that go above and beyond the legal requirements and the recommendations and suggestions in the DCGK will also be given there.

The **Articles of Association** are accessible to the general public here.

[Online ↗](#)

Further information – above and beyond that provided above – on the procedures of the Board of Management and Supervisory Board and its committees, as well as on corporate governance practices, can be found in the section “Corporate governance” under “Management and supervision” on p. 43f. [↗](#) of the Integrated Annual Report 2022, in the “Report of the Supervisory Board” on p. 9ff. [↗](#) of the Integrated Annual Report 2022 and in articles 7 to 13 and 19 of the Articles of Association.

Diversity

The Supervisory Board has decided that all of the statutory and self-defined regulations for its composition (objectives for the composition, competency profile, legal targets for the proportion of women, age limit, maximum time limit for the period of service, see here the information above in the section “Board of Management and the Supervisory Board” on p. 168ff. [↗](#)) will form the diversity concept in the sense of section 289f (2) no. 6 HGB. The primary goal of this concept is to ensure that the Supervisory Board can properly perform its tasks and is helped in this process by the diversity of its composition. This concept is implemented through the election of shareholder representatives by the Annual General Meeting. In the reporting period, the objectives defined in the concept were achieved.

The proportion of women on the Supervisory Board in its entirety continuously stood at least at 30% in the reporting period. This figure is calculated from the proportion of women among the shareholder representatives of 30% and the proportion of women among the employee representatives of 40%. The proportion of women on the Supervisory Board of EnBW in its entirety of 35% is in line with the minimum statutory requirement of 30%. The shareholder and employee representatives resolved before the last election of members to the Supervisory Board to veto the overall fulfillment of this statutory minimum proportion by the shareholder and employee representatives combined in accordance with section 96 (2) sentence 3 AktG for the length of the current election period, so that the minimum proportion in accordance with the legal requirements must be fulfilled by both sides. This should make it possible to better plan the composition of the Supervisory Board.

In terms of the composition of the Board of Management, the Supervisory Board also takes diversity into account when appointing new members of the Board of Management, while acknowledging the limited number of members of the Board of Management. Therefore, it has resolved that the standard age limit for the Board of Management defined by the Supervisory Board together with the target for the proportion of women will form the diversity concept in the sense of section 289f (2) no. 6 HGB. The primary goal of this concept is to ensure that the Board of Management can properly perform its tasks and is strengthened here by the diversity of its composition. This concept is implemented through the appointment of members of the Board of Management by the Supervisory Board. In the reporting year, the objectives defined in the concept were achieved.

For the period from 1 July 2017 until 30 June 2022, the Supervisory Board had set the target of one woman on the Board of Management that should be achieved at least by the end of this defined time period. This target was and has been met since the start of the term of office of Colette Rückert-Hennen on 1 March 2019. No target was defined for the period from 1 July 2022 onwards because there is no longer any obligation to set a target for the Board of Management according to the legal regulation in section 111 (5) sentence 9 AktG.

The Board of Management has set the goal of further increasing the proportion of women at both management levels below the Board of Management in the period from 1 January 2021 to 31 December 2025. At both the first level (top management) and second level (upper management), the proportion of women should increase to at least 20%. This target was not yet achieved in the reporting period in top management. However, it was possible to increase the proportion of women from 7.7% in the previous year to 11.1% in the reporting period, which was due to the appointment of more

women to management positions. In upper management, the proportion of women increased from 21.3% in the previous year to 23.1% in the reporting period, which meant that the set target was achieved at the second level. We will continue to develop measures based on the HR strategy to achieve and stabilize the set targets.

Shareholders and Annual General Meeting

All **documents for the Annual General Meeting** are accessible to the general public on our website.

[Online ↗](#)

The shareholders of EnBW exercise their rights at the Annual General Meeting, including their right to vote. Prior to the Annual General Meeting, EnBW publishes the agenda and all of the relevant reports and documents that shareholders may require to evaluate it. These include the current annual report for the last completed financial year, which is available in an easily accessible format on the Internet. Any counter motions to items on the agenda of the Annual General Meeting received by the specified deadline are also made publicly available on the website.

Our shareholders have the opportunity to use a proxy appointed by the company if they are not able to personally attend the Annual General Meeting.

In accordance with section 1 (1) and (2) of the German law on COVID-19 measures, the ordinary Annual General Meeting 2022 took place in purely virtual form without the physical presence of shareholders or their proxies. Video and audio of the Annual General Meeting were broadcast online for shareholders and their representatives via a password-protected Investor Portal. In addition, the Annual General Meeting was broadcast live on the Internet as it was in the last few years until the end of the speech by the Chairman of the Board of Management.

Compliance

Compliance as an expression of all measures required for the observance of statutory regulations and internal guidelines is regarded as an essential management and supervisory task at EnBW. Since 2009, the compliance department has established a Group-wide compliance organization and defined the necessary rules and processes. The compliance department is responsible for the prevention, detection and sanctioning of corruption, the prevention of violations against competition and antitrust laws and the prevention of money laundering. The area of data protection is the responsibility of the department of legal market, data protection and digital business models.

The regular in-person training events – which were replaced by online training events in the reporting year – cover the latest compliance and data protection issues. One of the main focuses of the compliance activities is conveying a compliance culture. Providing advice and completing regular risk assessments are also part of the compliance activities. In cooperation with the internal audit department, control measures to ensure compliance with internal guidelines are implemented. The selective internationalization of EnBW is being accompanied by the compliance and data protection departments.

The most important compliance functions for the Group are represented on the compliance committee. The compliance department uses this body to coordinate the Group-wide compliance activities. Implementation of the centrally defined compliance measures in the decentralized units is controlled through the compliance forum, which is comprised of compliance officers from the most important Group companies and business units.

Preventative compliance measures are defined using a Group-wide compliance risk assessment on an annual basis as part of the compliance and data protection program of EnBW. These include communication and training measures, the introduction and development of rules and processes, central management of guidelines and business partner auditing. The compliance culture is an aspect taken into account in all of the compliance activities. In particular, training measures are not only designed to convey knowledge but also to reinforce attitudes among employees for compliance-conforming activities, so that they can make their own contribution to the avoidance of compliance breaches.

Internal and external whistleblowers can report compliance breaches and suspected cases to the compliance department or an ombudsman for EnBW as an external contact. The ombudsman can guarantee whistleblowers absolute confidentiality and anonymity with respect to EnBW. Reported compliance breaches and suspected cases are then handled by the compliance committee task force using a standardized process. The Head of Compliance reports on the status of the implementation of measures and on current compliance breaches to the Board of Management and audit committee of the Supervisory Board every quarter. An annual report is prepared for the Supervisory Board.

The compliance management system (CMS) is aligned to the risk situation of the company and continuously updated and examined.

Remuneration of the Board of Management and the Supervisory Board

The remuneration of the Board of Management and the Supervisory Board are both presented in a detailed remuneration report. This can be found in a separate report on the company website. We refer you to this report at this point. The system of variable remuneration for the Board of Management that was resolved by the Supervisory Board in 2022 and approved by the Annual General Meeting on 5 May 2022 is described in detail in the remuneration report for the Board of Management. The documents described above that have to be made accessible according to sections 289f and 315d HGB are publicly available for download on the EnBW website. This declaration of corporate management is also publicly available there.

The **remuneration report** is available as a separate report **together with other documents** on our website.

[Online ↗](#)

Transparency

EnBW ensures the transparency stipulated in the DCGK at all times by keeping shareholders, the capital market, financial analysts, shareholder associations and the interested public up to date on material business changes at the company. In order to provide consistent information in good time to all interested groups, the company mainly relies on the Internet.

In particular, EnBW provides information on its business situation in the Integrated Annual Report, interim financial information, the press conference on the annual results, telephone conferences for investors and analysts to accompany the publication of quarterly and annual results and at other events such as investor conferences. The corresponding documents are publicly available on the EnBW website. The financial calendar also published on our website provides adequate notice of the publication dates for the Integrated Annual Reports and interim financial information, as well as the date of the Annual General Meeting, the press conference for the annual results and investor conferences.

If specific information on a matter relating to EnBW or the shares and bonds issued by EnBW which is not public knowledge should become available outside the regular reporting framework that could significantly influence the stock prices of these securities, we announce this insider information in the form of ad hoc notifications. In the 2022 financial year, ad-hoc notifications were published on 9 September 2022 and 10 October 2022.

In the 2022 financial year, EnBW did not receive any notices about transactions involving EnBW shares, EnBW bonds, emission allowances or related financial instruments concerning persons in managerial positions or those persons closely related to them. There were also no securities subject to disclosure requirements held by any members of the Board of Management or the Supervisory Board.

Financial reporting and the audit

Financial reporting at EnBW is carried out in accordance with the International Financial Reporting Standards (IFRS). The Annual General Meeting on 5 May 2022 elected Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, as auditor of the financial statements and the

Information on the business situation of EnBW is made available to the public on our website.

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consolidated financial statements for the 2022 financial year and as auditor for the review of the condensed financial statements and interim management report contained in the Six-Monthly Financial Report, as well as for all reviews of additional interim financial information in the sense of section 115 (7) of the German Securities Trading Act (WpHG) in the 2022 financial year. At the same time, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft was elected as the auditor for the review of all additional interim financial information in the sense of section 115 (7) WpHG in the 2023 financial year, insofar as such a review is carried out before the next Annual General Meeting.

The audit committee and its Chairwoman also commissioned Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft to audit the non-financial declaration published for the reporting period.

The Board of Management discussed the interim financial information with the audit committee before its publication. The consolidated financial statements for the 2022 financial year were made available to the public within 90 days of the end of the financial year and the Quarterly Statements and the Six-Monthly Financial Report for the 2022 financial year were made available within 45 days after the end of the relevant reporting period.

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft was commissioned by the audit committee and its Chairwoman to perform the audit. The audit committee ensured in advance of the Annual General Meeting on 5 May 2022 that there was no doubt concerning the independence of the auditing firm to be commissioned and received a declaration of independence before submitting the proposal for the appointment of the auditor. This declaration also included the scope of other services, especially in the consultancy sector, which were provided to EnBW and its Group companies in the past financial year or have been contractually agreed for the following financial year. The agreement with the auditor stipulates that the audit committee must be informed immediately about any grounds for exclusion or conflicts of interest that arise during the audit unless such grounds are immediately eliminated. In addition, it was also agreed that the auditor would immediately inform the audit committee on all facts and events significant to the tasks of the Supervisory Board that come to the attention of the auditor during the performance of the audit and that the auditor would inform the Supervisory Board or make a corresponding note in the audit report if facts were uncovered during the performance of the audit that demonstrate that the declaration of compliance issued by the Board of Management and Supervisory Board in accordance with section 161 AktG is incorrect. Furthermore, it was ensured in accordance with article 5 EU Regulation 537/2014 that neither the auditor nor any member of his network provided prohibited non-audit services to EnBW or EnBW Group companies. The audit committee discussed the audit risk assessment, audit strategy, audit planning and audit results with Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft. The Chairwoman of the committee regularly discussed the progress of the audit with the auditor and reported his findings to the committee. Both the audit committee and its Chairwoman regularly consulted with the auditor, sometimes without the presence of the Board of Management. EnBW did not have any share option programs or similar securities-based incentive schemes for the company in the reporting period nor does it currently have such programs or schemes.

Declaration of compliance

In accordance with section 161 AktG, the Board of Management and the Supervisory Board of EnBW Energie Baden-Württemberg AG declared on 8 December 2022 that: "Since its last declaration of compliance on 7 April 2022, EnBW Energie Baden-Württemberg AG complied with the recommendations of the Government Commission for the German Corporate Governance Code in the version published in the German Federal Gazette on 16 December 2019 until 26 June 2022, with the exception of the stated deviations.

Since 27 June 2022, EnBW Energie Baden-Württemberg AG has complied with the recommendations of the Government Commission for the German Corporate Governance Code in the version from 28 April 2022 as published in the German Federal Gazette with the exception of the following deviations and will also comply with the recommendations in this version of the Code in future with the following exceptions:

Publication of the rules of procedure of the Supervisory Board (Recommendation D.1 DCGK)

The procedures of the Supervisory Board and the composition and procedures of the committees of the Supervisory Board are described in detail in the declaration of corporate management according to section 289f (2) no. 3 HGB, which is published on an annual basis. In addition, the annual, written Report of the Supervisory Board according to section 171 (2) AktG reports in detail on the work of the Supervisory Board and its committees. Against this background, the Board of Management and Supervisory Board do not consider it expedient to also publish the rules of procedure of the Supervisory Board as they contain details on the rules at a technical level that will not provide any information of additional value to shareholders, which is why the recommendation in D.1 of the Code is not followed.

Disclosure of the composition of a peer group of other third-party entities to assess the total remuneration of the members of the Board of Management (Recommendation G.3 sentence 1 DCGK)

A horizontal comparison of other third-party entities as proposed by the recommendation in G.3 sentence 1 of the Code would result in a considerable administrative burden with respect to the procurement and evaluation of data, especially as the composition of a specific peer group would be subject to constant change. A horizontal comparison would thus be associated with considerable costs on a regular basis due to the commissioning of external consulting services.

Therefore, it is preferable to not always automatically carry out a specific peer group comparison each time remuneration is defined or examined, even if a horizontal comparison per se or a specific peer group comparison are generally expedient, and thus to continue only carrying out this process from time to time to compare the customariness of the total remuneration of the members of the Board of Management to other third-party entities.

Should a horizontal comparison be carried out from time to time based on a company-specific peer group comparison, the Board of Management and Supervisory Board believe that it is not expedient to publish the composition of the peer group because the composition of the peer group may allow conclusions to be drawn about the strategic considerations of the Supervisory Board, which should not be accessible to competitors. In the interests of the company, the recommendation in G.3 sentence 1 of the Code is, therefore, not followed.

Subsequent changes to target values or comparison parameters (Recommendation G.8 DCGK)

Section G.8 of the Code recommends that there should not be any subsequent changes to target values or comparison parameters. As a result of unforeseeable developments that could not be influenced by the Board of Management, the Supervisory Board decided in the past to appropriately adjust the agreed target values for the long-term variable remuneration components for members of the Board of Management (LTI) to avoid inequitable results caused by these extraordinary situations and thus restore the incentive function of the LTI. This was last made transparent in the declaration of compliance on 7 April 2022. The Supervisory Board is convinced that the aim of the recommendation in section G.8 of the Code of not lowering the target values for the variable remuneration, even when it is clear that they will not be achieved or will not be achieved as planned, is not affected in a case in which an unpredictable external effect has a direct impact on the target values. In the case of unforeseeable developments such as a regulatory change, it is important to note that failure to achieve the originally defined target values is not due to circumstances that can be influenced by the members of the Board of Management. Consequently, it was appropriate in the past to adjust the target values for both EnBW Energie Baden-Württemberg AG and also for the members of the Board of Management and this will also remain appropriate in the future within the strict conditions outlined here. The members of the Board of Management should be awarded adequate remuneration for their work, which is why, in the interests of the company, the recommendation in G.8 of the Code is not followed.

Comprehensibility of the target achievement for members of the Board of Management (Recommendation G.9 sentence 2 DCGK)

The law for the implementation of the European Union's second shareholder rights directive ("ARUG II") introduced a new remuneration report in section 162 AktG that contains detailed information on the remuneration of the members of the Board of Management, including minimum and maximum values for the performance indicators for the STI and LTI. Publication of further information on any

additional qualitative criteria that are defined annually by the Supervisory Board for the STI remuneration would reveal sensitive company information about strategic targets. This information should not be accessible to competitors, which is why in the interests of the company the recommendation in G.9 sentence 2 of the Code is not followed.

Granting of variable remuneration to the Board of Management in company shares (Recommendation G.10 sentence 1 DCGK)

Section G.10 of the Code recommends that the variable remuneration for members of the Board of Management should be predominantly invested in company shares or granted as share-based remuneration. Based on the fact that only 0.39% of the share capital of EnBW Energie Baden-Württemberg AG is in free float and the EnBW share is thus a narrow-market security with reduced liquidity on the stock exchange, it is not expedient to implement this recommendation at the company. Therefore, the recommendation in G.10 sentence 1 of the Code is not followed.

Accessibility of the long-term variable remuneration components for members of the Board of Management (Recommendation G.10 sentence 2 DCGK)

In its recommendation in G.10 sentence 2, the Code proposes that the measurement period for the long-term variable remuneration components for members of the Board of Management is extended to four years. The intention behind this rule is to create greater incentive for sustainable business activities. The long-term variable remuneration components for members of the Board of Management of EnBW Energie Baden-Württemberg AG are based on a three-year measurement period. For the Board of Management and Supervisory Board, it is not clear why this should be necessary and the Commission has not given any further justification as to why a four-year period should create a greater incentive for sustainable business activities or why, for any other reason, a four-year period should be advantageous at all in comparison to a three-year period.

Due to the fact that the three-year period applied up to now has proven successful in the last few years and an extension is not considered expedient, the recommendation in G.10 sentence 2 of the Code is not followed.”

This declaration of compliance and the declarations from previous years are published here.

[Online ↗](#)

The declaration was also published separately. This page also includes a link to the download center where all of the declarations of compliance of EnBW published since 2002 are available.

Karlsruhe, 13 March 2023

EnBW Energie Baden-Württemberg AG

On behalf of the Board of Management

Colette Rückert-Hennen

On behalf of the Supervisory Board

Lutz Feldmann

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Income statement

in € million	Notes	2022	2021	Change in %
Revenue including electricity and energy taxes		56,524.0	32,695.0	72.9
Electricity and energy taxes		-521.4	-547.1	-4.7
Revenue	(1)	56,002.6	32,147.9	74.2
Changes in inventories		51.9	56.6	-8.3
Other own work capitalized		305.3	220.3	38.6
Other operating income	(2)	7,348.0	2,256.1	-
Cost of materials	(3)	-51,148.4	-25,951.0	97.1
Personnel expenses	(4)	-2,591.8	-2,457.5	5.5
Impairment losses ¹	(26)	-112.3	-53.4	110.3
Other operating expenses	(5)	-5,382.1	-3,415.5	57.6
EBITDA		4,473.2	2,803.5	59.6
Amortization and depreciation	(6)	-2,332.0	-2,644.7	-11.8
Earnings before interest and taxes (EBIT)		2,141.2	158.8	-
Investment result	(7)	276.8	180.0	53.8
of which net profit/loss from entities accounted for using the equity method		(23.9)	(59.0)	(-59.5)
of which other profit/loss from investments		(252.9)	(121.0)	(109.0)
Financial result	(8)	-22.6	174.5	-
of which finance income		(1,039.2)	(661.1)	(57.2)
of which finance costs		(-1,061.8)	(-486.6)	(118.2)
Earnings before tax (EBT)		2,395.4	513.3	-
Income tax	(9)	-551.5	-72.1	-
Group net profit		1,843.9	441.2	-
of which profit/loss shares attributable to non-controlling interests		(105.9)	(78.0)	(35.8)
of which profit/loss shares attributable to the shareholders of EnBW AG		(1,738.0)	(363.2)	-
EnBW AG shares outstanding (million), weighted average		270.855	270.855	0.0
Earnings per share from Group net profit (€) ²	(25)	6.42	1.34	-

¹ According to IFRS 9.

² Diluted and basic; in relation to profit/loss attributable to the shareholders of EnBW AG.

Statement of comprehensive income

in € million ¹	Notes	2022	2021	Change in %
Group net profit		1,843.9	441.2	-
Revaluation of pensions and similar obligations	(21)	2,388.9	645.1	-
Entities accounted for using the equity method	(13)	-0.1	1.0	-
Income taxes on other comprehensive income	(9)	-610.0	-268.9	126.9
Total of other comprehensive income and expenses without future reclassifications impacting earnings		1,778.8	377.2	-
Currency translation differences		66.1	86.1	-23.2
Cash flow hedge	(26)	1,548.4	438.7	-
Financial assets at fair value in equity	(14)	-232.4	-31.7	-
Entities accounted for using the equity method	(13)	2.8	1.8	55.6
Income taxes on other comprehensive income	(9)	-400.7	-101.3	-
Total of other comprehensive income and expenses with future reclassifications impacting earnings		984.2	393.6	-
Total other comprehensive income		2,763.0	770.8	-
Total comprehensive income		4,606.9	1,212.0	-
of which profit/loss shares attributable to non-controlling interests		(83.8)	(221.4)	-62.1
of which profit/loss shares attributable to the shareholders of EnBW AG		(4,523.1)	(990.6)	-

¹ Further information is available in the notes under (20) "Equity."

Balance sheet

in € million	Notes	31/12/2022	31/12/2021
Assets			
Non-current assets			
Intangible assets	(10)	3,218.2	3,417.0
Property, plant and equipment	(11), (12)	22,705.3	20,364.4
Entities accounted for using the equity method	(13)	1,134.0	1,017.9
Other financial assets	(14)	6,560.1	6,744.3
Trade receivables	(15)	329.4	330.2
Other non-current assets	(16)	2,957.6	2,243.5
Deferred taxes	(22)	79.4	1,115.2
		36,984.0	35,232.5
Current assets			
Inventories	(17)	3,835.7	2,290.3
Financial assets	(18)	1,348.3	1,174.1
Trade receivables	(15)	5,591.3	5,952.5
Other current assets	(16)	15,261.0	19,916.7
Cash and cash equivalents	(19)	6,475.6	6,653.1
		32,511.9	35,986.7
Assets held for sale	(24)	7.8	54.0
		32,519.7	36,040.7
		69,503.7	71,273.2
Equity and liabilities			
Equity	(20)		
Shares of the shareholders of EnBW AG			
Subscribed capital		708.1	708.1
Capital reserve		774.2	774.2
Revenue reserves		7,272.7	5,742.1
Treasury shares		-204.1	-204.1
Other comprehensive income		412.1	-2,372.9
		8,963.0	4,647.4
Non-controlling interests		3,806.3	3,851.9
		12,769.3	8,499.3
Non-current liabilities			
Provisions	(21)	10,483.9	14,089.5
Deferred taxes	(22)	958.1	1,018.3
Financial liabilities	(23)	11,927.3	9,182.5
Other liabilities and subsidies	(23)	4,695.2	4,240.7
		28,064.5	28,531.0
Current liabilities			
Provisions	(21)	3,346.8	2,676.5
Financial liabilities	(23)	963.9	2,067.9
Trade payables	(23)	8,443.3	6,475.8
Other liabilities and subsidies	(23)	15,915.9	23,022.7
		28,669.9	34,242.9
		69,503.7	71,273.2

Cash flow statement

in € million ¹	Notes	2022	2021
1. Operating activities			
Group net profit		1,843.9	441.2
Income tax	(9)	551.5	72.1
Investment and financial result	(7), (8)	-254.2	-354.5
Amortization and depreciation	(6)	2,332.0	2,644.7
Change in provisions	(21)	36.2	-103.9
Result from disposals of assets	(2), (5)	-3.4	5.8
Other non-cash-relevant expenses/income	(2), (3), (5)	-1,248.3	-402.1
Change in assets and liabilities from operating activities		-1,224.9	5,495.1
Inventories		(-2,624.8)	(867.6)
Net balance of trade receivables and payables	(15), (23)	(2,470.9)	(1,246.7)
Net balance of other assets and liabilities	(16), (23)	(-1,071.0)	(3,380.8)
Income tax paid	(9), (16), (23)	-227.9	-200.6
Cash flow from operating activities		1,804.8	7,597.8
2. Investing activities			
Capital expenditure on intangible assets and property, plant and equipment	(10), (11)	-2,770.7	-2,361.9
Disposals of intangible assets and property, plant and equipment	(10), (11)	57.9	73.1
Cash received from subsidies for construction cost and investments	(23)	106.4	94.8
Cash paid for the acquisition of companies and interests in entities accounted for using the equity method as well as in joint operations	(13)	-110.4	-287.0
Cash received from the sale of companies and interests in entities accounted for using the equity method as well as in joint operations	(13)	24.7	0.9
Cash paid for investments in other financial assets ²	(14), (18)	-2,450.5	-729.2
Cash received from the sale of other financial assets ²	(14), (18)	1,788.3	164.1
Change in securities and financial investments ²	(18), (23)	192.4	-186.5
Interest received	(8)	122.4	148.7
Dividends received	(7)	304.6	209.3
Cash flow from investing activities ²		-2,734.9	-2,873.7
3. Financing activities			
Interest paid	(8)	-318.8	-314.5
Dividends paid ²	(20)	-399.4	-356.4
Cash received for changes in ownership interest without loss of control	(20)	303.3	229.1
Cash paid for changes in ownership interest without loss of control		-1.6	-5.1
Increase in financial liabilities	(23)	12,898.1	3,523.5
Repayment of financial liabilities	(23)	-11,219.8	-2,025.7
Repayment of lease liabilities	(23)	-183.3	-185.4
Cash received for capital increases in non-controlling interests	(20)	43.0	11.5
Cash paid for capital reductions in non-controlling interests	(20)	-42.8	-16.4
Other cash paid at non-controlling interests ²	(18)	-344.1	-245.9
Cash flow from financing activities ²		734.6	614.7
Net change in cash and cash equivalents	(19)	-195.5	5,338.8
Change in cash and cash equivalents due to changes in the consolidated companies	(19)	0.3	29.0
Net foreign exchange difference	(19)	17.8	32.4
Change in cash and cash equivalents due to risk provisions	(19)	-0.1	0.1
Change in cash and cash equivalents	(19)	-177.5	5,400.4
Cash and cash equivalents at the beginning of the period	(19)	6,653.1	1,252.7
Cash and cash equivalents at the end of the period	(19)	6,475.6	6,653.1

¹ Further information is available in the notes under (33) "Notes to the cash flow statement."

² The figures for the previous year have been restated. Further information is available in the notes under (33) "Notes to the cash flow statement."

Statement of changes in equity

in € million¹

	Other comprehensive income										Total
	Subscribed capital and capital reserve ²	Revenue reserves	Treasury shares	Revaluation of pensions and similar obligations	Currency translation differences	Cash flow hedge	Financial assets at fair value in equity	Entities accounted for using the equity method	Shares of the shareholders of EnBW AG	Non-controlling interests	
Notes				(20), (21)		(20), (26)	(14), (20)	(13), (20)			
As of 01/01/2021	1,482.3	5,629.7	-204.1	-2,922.9	-23.7	-78.5	29.5	-4.7	3,907.6	3,861.2	7,768.8
Total other comprehensive income				363.6	66.7	214.5	-20.2	2.8	627.4	143.4	770.8
Group net profit		363.2							363.2	78.0	441.2
Total comprehensive income	0.0	363.2	0.0	363.6	66.7	214.5	-20.2	2.8	990.6	221.4	1,212.0
Dividends		-270.9							-270.9	-258.2	-529.1
Acquisition of subsidiaries with non-controlling interests									0.0	1.6	1.6
Change in non-controlling interests due to the sale of shares		20.6							20.6	93.3	113.9
Change in non-controlling interests due to the acquisition of shares		-0.5							-0.5	-3.3	-3.8
Other changes ³									0.0	-64.1	-64.1
As of 31/12/2021	1,482.3	5,742.1	-204.1	-2,559.3	43.0	136.0	9.3	-1.9	4,647.4	3,851.9	8,499.3
Total other comprehensive income				1,759.8	51.6	1,134.8	-163.9	2.7	2,785.0	-22.1	2,762.9
Group net profit		1,738.0							1,738.0	105.9	1,843.9
Total comprehensive income	0.0	1,738.0	0.0	1,759.8	51.6	1,134.8	-163.9	2.7	4,523.0	83.8	4,606.8
Dividends		-297.9							-297.9	-193.2	-491.1
Change in non-controlling interests due to the sale of shares		90.8							90.8	197.9	288.7
Change in non-controlling interests due to the acquisition of shares									0.0	-1.8	-1.8
Other changes ³		-0.3							-0.3	-132.3	-132.6
As of 31/12/2022	1,482.3	7,272.7	-204.1	-799.5	94.6	1,270.8	-154.6	0.8	8,963.0	3,806.3	12,769.3

1 Further information is available in the notes under (20) "Equity."

2 Of which subscribed capital €708.1 million (31/12/2021: €708.1 million, 01/01/2021: €708.1 million) and capital reserve €774.2 million (31/12/2021: €774.2 million, 01/01/2021: €774.2 million).

3 Of which capital increases by minority shareholders of €43.0 million (previous year: €11.5 million). Of which capital reductions by minority shareholders of €177.3 million (previous year: €86.1 million).

Notes to the 2022 financial statements of the EnBW Group

General principles

In accordance with section 315e (1) German Commercial Code (HGB), EnBW Energie Baden-Württemberg AG (EnBW), as the highest-level parent company in the EnBW Group, prepares the consolidated financial statements according to the International Financial Reporting Standards (IFRS), the adoption of which is mandatory in the European Union as of the reporting date. The interpretations promulgated by the International Financial Reporting Interpretations Committee (IFRIC) are also taken into account. IFRS and interpretations whose application is not yet mandatory are not adopted. The consolidated financial statements therefore comply with those IFRS and interpretations issued by the International Accounting Standards Board (IASB), which have been endorsed by the EU.

The consolidated financial statements are presented in millions of euros (€ million). The income statement as well as the statement of comprehensive income, the balance sheet, the cash flow statement and the statement of changes in equity of the EnBW Group are presented separately. There may be rounding differences in both individual and total figures.

In the interest of clarity, items have been combined in the income statement and in the balance sheet, and disclosed separately and explained in the notes. Rounding differences may occur due to the methods used to carry out the calculations.

The income statement has been prepared using the nature of expense method.

Significant events in the reporting period are described in the section “The EnBW Group” of the management report.

The consolidated financial statements are prepared as of the reporting date of the parent company’s financial statements. The parent company’s financial year is the calendar year.

The registered office of the company is in Karlsruhe, Germany. The address is EnBW Energie Baden-Württemberg AG, Durlacher Allee 93, 76131 Karlsruhe. It is entered at the District Court of Mannheim under HRB no. 107956.

EnBW’s principal activities are described in the segment reporting.

EnBW’s Board of Management prepared and released the consolidated financial statements for issue on 13 March 2023.

Consolidation principles

The financial statements of the domestic and foreign companies included in the consolidation were prepared in a standardized manner in accordance with the accounting policies that are applicable at EnBW. Business combinations are accounted for using the acquisition method. The cost of a business combination is measured based on the fair value of the assets acquired and liabilities assumed or entered into as of the acquisition date. Non-controlling interests are measured at the proportionate fair value of the identified assets and the liabilities assumed. Incidental acquisition costs are expensed as incurred. If the business combination is achieved in stages, the acquisition-date fair value of the acquirer’s previously held equity interest in the acquiree is remeasured to fair value at the acquisition date through profit or loss when the acquirer obtains control. Any excess of the cost of a business combination plus the amount of any non-controlling interest in the acquiree over the acquired identifiable assets, assumed liabilities and contingent liabilities is reported as goodwill if positive or, if negative, is reassessed and recognized through profit or loss.

A change in the ownership interest in an entity that continues to be fully consolidated is accounted for as an equity transaction. All remaining interests are remeasured at fair value upon loss of control.

Receivables, liabilities and provisions between the consolidated entities are netted. Intercompany income is set off against the corresponding expenses. Intercompany profits and losses are eliminated unless they are not of minor importance.

Consolidated companies

In accordance with the full consolidation method, all subsidiaries under the control of the Group are included. The Group controls an associate if it is exposed to risks or has rights to variable returns as a result of its involvement in the associate, and the Group has the ability to use its power over the associate in a way that affects the amount of the returns from the associate. In the full consolidation process, the assets and liabilities of a subsidiary are included in the consolidated financial statements in their entirety.

The equity method is used when there is a joint arrangement in the form of a joint venture or a significant influence may be exercised over the business policy of the associate, but the entity does not qualify as a subsidiary. At the time of acquisition they are recognized at cost and subsequently recognized according to the amortized proportionate net assets. The carrying amounts are increased or reduced each year by the proportionate profit or loss, dividends paid or other changes in equity. This means that when shareholdings are being measured, only the company's proportional equity, rather than its assets and liabilities, is shown in the consolidated financial statements. Any goodwill is included in the stated value of the shareholding in question. Any negative differences are recognized in profit or loss in the investment result.

Joint arrangements that are classified as joint operations are reported based on the proportion of the assets, liabilities, income and expenses which are attributable to us in compliance with the respective applicable IFRS.

Interests in subsidiaries, joint ventures or associates that, in the Group's opinion, are of minor significance, or which are not controlled due to their participation structure, are recognized at amortized cost. Indicators for determining the materiality of subsidiaries are the revenue, earnings and equity of these companies. Investments of <20% are recognized at fair value.

There are no reciprocal shareholdings in the EnBW Group as defined by section 19 (1) German Stock Corporation Act (AktG).

The consolidated companies are as follows:

Type of consolidation

Number of companies	31/12/2022	31/12/2021
Fully consolidated companies	235	231
Entities accounted for using the equity method	26	25
Joint operations	3	3

Changes in the consolidated companies

Of the companies included in the consolidated financial statements by way of full consolidation, 8 (previous year: 10) domestic companies and 1 (previous year: 11) foreign companies were consolidated for the first time in the reporting year. No domestic companies were deconsolidated as in the previous year and 2 (previous year: 3) foreign companies were deconsolidated. Gains and losses on deconsolidation were immaterial in both the reporting year and the previous year. In addition, 2 (previous year: 1) domestic companies and 1 (previous year: 3) foreign company were merged.

Changes in the shareholdings in fully consolidated companies 2022

Sale of interest in SunInvest GmbH & Co. KG

EnBW sold 49.9% of its shareholding in SunInvest GmbH & Co. KG, Stuttgart, to Windpark Uetze Ost GmbH & Co. KG, Munich, on 30 September 2022. Our shareholding in SunInvest GmbH & Co. KG fell to 50.1% as a result of this transaction. SunInvest GmbH & Co. KG will continue to be included as a fully consolidated company in the consolidated financial statements of EnBW. The proceeds from the disposal of the shares were €301.5 million and were paid to EnBW in cash and cash equivalents. Transaction costs of €7.5 million were incurred. The value transferred to the non-controlling interest was €195.7 million. The difference between the disposal proceeds (after transaction costs and taxes) and the value transferred to the non-controlling interest of €91.3 million was recognized in equity under revenue reserves.

in € million	2022
Consideration received (less costs to sell and taxes)	287.0
Shares allocated to non-controlling interests	195.7
Non-operating amount recognized under revenue reserves	91.3

Changes in the shareholdings in fully consolidated companies 2021

Sale of interest in WindInvest GmbH & Co. KG

EnBW sold 49.9% of its shareholding in WindInvest GmbH & Co. KG, Stuttgart, to Akunalux S.à r.l., Luxembourg, on 31 March 2021. Our shareholding in WindInvest GmbH & Co. KG fell to 50.1% as a result of this transaction. WindInvest GmbH & Co. KG will continue to be included as a fully consolidated company in the consolidated financial statements of EnBW. The proceeds from the disposal of the shares were €127.3 million and were paid to EnBW in cash and cash equivalents. Transaction costs of €3.1 million were incurred. The value transferred to the non-controlling interest was €93.2 million. The difference between the disposal proceeds (after transaction costs and taxes) and the value transferred to the non-controlling interest of €20.6 million was recognized in equity under revenue reserves.

in € million	2021
Consideration received (less costs to sell and taxes)	113.8
Shares allocated to non-controlling interests	93.2
Non-operating amount recognized under revenue reserves	20.6

Changes in accounting policies

First-time adoption of amended accounting standards

The International Accounting Standards Board (IASB) and the IFRS Interpretation Committee (IFRIC) have adopted the following new standards, amendments to existing standards, and interpretations:

First-time adoption of amended accounting standards

Announcement	Title	Mandatory adoption for the EnBW Group	Expected impact on the EnBW consolidated financial statements
Amendments to IAS 16	Property, plant and equipment	1/1/2022	No material impact.
Amendments to IAS 37	Provisions, Contingent Liabilities and Contingent Assets	1/1/2022	No material impact.
Amendments to IFRS 3	Reference to the Conceptual Framework	1/1/2022	No material impact.
Amendments to IFRS 16	Covid-19-Related Rent Concessions beyond 30 June 2021	1/1/2022	No material impact.
Collective standard for the amendment of various IFRS	Improvements to the IFRS Cycle 2018–2020	1/1/2022	No material impact.

Effects of new accounting standards that are not yet mandatory

The IASB and IFRIC have published the following standards and interpretations. Their application in the future is subject to their endorsement by the EU into European law.

Effects of new accounting standards that are not yet mandatory

Announcement	Title	Mandatory adoption for the EnBW Group	Expected impact on the EnBW consolidated financial statements
Amendments to IAS 1	Classification of Liabilities as Current or Non-current	1/1/2024	No material impact.
Amendments to IAS 1	Disclosure of Accounting Policies	1/1/2024	No material impact.
Amendments to IAS 1	Non-current Liabilities with Covenants	1/1/2024	No material impact.
Amendments to IAS 8	Definition of Accounting Estimates	1/1/2023	No material impact.
Amendments to IAS 12	Income Taxes: Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction	1/1/2023	No material impact.
Amendments to IFRS 16	Lease Liability in a Sale and Leaseback	1/1/2024	No material impact.
Amendments to IFRS 17	Insurance Contracts and Amendments to IFRS 17	1/1/2023	No material impact.
Amendments to IFRS 17	Initial Application of IFRS 17 and IFRS 9 – Comparative Information	1/1/2023	No material impact.

Significant accounting policies

Intangible assets

Intangible assets acquired for a consideration are carried at amortized cost and, except for goodwill, are amortized using the straight-line method over their useful life. The amortization period of purchased software ranges from 3 to 5 years; the amortization period of concessions for power plants is between 15 and 65 years. Customer relationships are amortized over their expected useful life of between 4 and 30 years. Concession agreements in the areas of electricity, gas, district heating and water are in place between individual entities in the EnBW Group and the municipalities. Concession agreements are amortized over their term (generally 20 years).

Internally generated intangible assets are recognized at cost if it is probable that a future economic benefit from the use of the assets will flow to the company and the cost of the asset can be reliably determined. If the recognition criteria are not satisfied, costs are expensed immediately through profit or loss in the year in which they were incurred. At the EnBW Group, these assets relate to software programs that are amortized on a straight-line basis over a useful life of five years.

The useful lives and amortization methods are reviewed regularly.

In accordance with the provisions of the IFRS, goodwill from business combinations is not amortized, but tested for impairment at least once a year and whenever there is any indication that the recoverable amount may be lower than the carrying amount.

Property, plant and equipment

Items of property, plant and equipment are measured at cost. Items that are subject to wear and tear are depreciated using the straight-line method over the expected useful life of their individual components. Depreciation is recorded pro rata temporis in the year of addition.

Maintenance and repair costs are recorded as expenses. Renewal or maintenance expenses which lead to future economic benefits of an asset are capitalized.

Construction cost subsidies and household connection costs, as well as investment grants and subsidies, are not deducted from the cost of the asset concerned, but recognized on the liabilities side of the balance sheet.

The power plants also contain the present value, net of depreciation, of the estimated cost of decommissioning. In the case of nuclear power plants, these costs include the cost of decommissioning and dismantling the contaminated facilities.

Depreciation on our major items of property, plant and equipment is computed using the following uniform Group-wide useful lives:

Useful life

in years

Buildings	25–50
Power plants	10–50
Electricity distribution plants	25–45
Gas distribution plants	5–55
Water distribution plants	15–40
District heat distribution plants	15–30
Telecommunications distribution facilities	4–20
Other equipment, factory and office equipment	4–14

The useful lives and amortization methods are reviewed regularly.

Property, plant and equipment are derecognized upon disposal or when no further economic benefits are expected from their continued use or sale. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the income statement in the period the asset is derecognized.

Borrowing costs

If a qualifying asset necessarily takes a substantial period of time (more than twelve months) to be made ready for its intended use, the borrowing costs incurred until it is ready for its intended use that are directly attributable to its acquisition or production are capitalized as part of the respective asset. Where there are specific debt financing arrangements, the respective borrowing costs incurred are recognized. Where the debt financing arrangements are not specific, borrowing costs are capitalized using a uniform rate within the Group of 1.5% (previous year: 1.9%). Borrowing costs totaling €26.1 million were capitalized in the current financial year (previous year: €24.1 million).

Leases

A lease according to IFRS 16 is an agreement that conveys the right to use an asset for a period of time in exchange for the payment of a consideration. The rights of use to the leased assets must, in general, be reported for all leases in which the EnBW Group is the lessee. These are recognized under property, plant and equipment. Correspondingly, the payment obligations from leases must be reported as lease liabilities. In subsequent valuations, the right-of-use assets are depreciated over the term of the lease. The lease liabilities, which are reported under other liabilities, are determined based on the present value of the payment obligations arising from the lease and recognized accordingly using the effective interest method. The lease payments considered in this process are discounted using the interest rate implicit in the lease, insofar as this can be determined. Otherwise, the payments are discounted using the incremental borrowing rate. In the case of power purchase agreements (PPA), the EnBW Group purchases generated electricity and the associated guarantees of origin from a renewable energy power plant that belongs to the supplier. This arrangement is considered to be a lease according to IFRS 16 if EnBW substantially all of the output produced by the power plant and can also direct the use of the power plant.

For more information, please refer to note (12) "Leases."

In the case of short-term leases and leases involving low-value assets, the option of using the simplified approach is utilized and the lease payments are recognized as an expense in the income statement. Moreover, the option not to separate lease and non-lease components is utilized, except in the case of leases for vehicles, real estate and gas caverns.

Leases where the EnBW Group as lessor transfers substantially all the risks and rewards of ownership of the leased asset to the lessee are classified as finance leases. In this case, a receivable is recognized for the amount of the net investment in the lease. The payments made by the lessee are split into repayments for the principal and interest income and recognized accordingly using the effective interest method. All other leases are classified as operating leases. The leased asset is reported under property, plant and equipment and depreciated over its useful life. The payments made by the lessee are recognized as income on a straight-line basis over the term of the lease.

Impairment losses/reversals of impairment losses

The carrying amounts of intangible assets, property, plant and equipment and investment properties are tested for impairment when circumstances or events indicate that there could be an impairment or increase in value. If such indications exist, the recoverable amount of the asset concerned is determined through impairment testing. The recoverable amount is the higher of the fair value less costs to sell and the value in use.

The fair value is determined on the basis of a business valuation model and reflects the best estimate of the amount at which a third party would acquire the asset. The business valuation models utilize cash flow plans approved by the Board of Management that are based on, among other things, the medium-term plans valid as of the date of the impairment test. The three-year medium-term plans are created at the level of the individual business units and consolidated to form plans for the Group. These plans are based on past experience and on estimates concerning future market developments, in general, as well as in specific sectors. A longer detailed planning period is utilized if necessitated by commercial or regulatory requirements, or in the case of finite evaluations especially in the Sustainable Generation Infrastructure segment.

Key assumptions underlying the determination of fair value less costs to sell include projections of future electricity and gas prices, raw materials prices, company-specific investing activities, the regulatory framework as well as growth and discount rates. In the case of extended detailed planning periods, the future development of the European electricity and gas markets is modeled using different scenarios. All of the assumptions described above are based on internal and external estimates and also take climate-related effects into account. For example, the impact of the German climate targets and the company's own climate targets are taken into account in the scenarios for determining expected long-term commodity prices.

Discounting is carried out based on the weighted average cost of capital (WACC⁹). The cost of equity is determined from the expected return on a long-term risk-free federal bond plus a company-specific risk premium. Borrowing costs are derived using the basic interest rate plus a risk premium. The risk premium takes into account an adequate risk premium for a peer group, while the discount rates used for the individual cash-generating units take into account the equity structures of a peer group and a country-specific risk.

The value in use corresponds to the present value of the future cash flows expected to be derived from an asset or cash-generating unit. A cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. If it is not possible to determine the recoverable amount for an individual asset, the recoverable amount is determined for the cash-generating unit to which the asset can be allocated. In order to take account of expected price-related and volume-related growth, constant growth rates of 0.0% to 1.5% (as in the previous year) are used to extrapolate the cash flows beyond the detailed planning period for all cash-generating units that have an unlimited time period as a basis.

For further information on the scenarios, please refer to the section "Disclosures on climate change."

For more information, please refer to note (10) "Intangible assets."

Goodwill arising from business combinations is allocated to the cash-generating units or groups of cash-generating units that are expected to achieve synergies from the business combination.

The recoverable amount of these cash-generating units or groups of cash-generating units is tested for impairment at least once a year. An additional test is performed whenever there is any indication that the carrying amount may not be recoverable.

If the recoverable amount of an asset falls short of its carrying amount, an impairment loss is recognized in profit or loss immediately. For impairment losses on cash-generating units to which goodwill has been allocated, the goodwill is reduced first. If the impairment loss exceeds the carrying amount of the goodwill, the difference is allocated proportionally to the remaining non-current assets of the cash-generating unit.

If the reason for a previously recognized impairment loss no longer exists at a later date, the impairment loss is reversed. The increased carrying amount of the asset attributable to a reversal may not exceed the carrying amount that would have been determined had no impairment loss been recognized in previous years (amortized cost).

An impairment loss recognized for goodwill may not be reversed in a subsequent period. Accordingly, impairment losses on goodwill are not reversed.

Investment properties

Investment properties include land and buildings which are held to earn rental income or for capital appreciation and are not used by EnBW itself. Investment properties are measured at cost less depreciation and, for the term of their finite useful life, are depreciated over a term of 25 to 50 years using the straight-line method.

Financial assets

For financial assets, a differentiation is made between debt instruments and equity instruments. Debt instruments are split into three business models: "hold," "hold to collect and sell" and "other." The business models determine the measurement categories for the debt instruments. The "hold" business model includes trade receivables, lease receivables and loans, which are generally held to maturity and are thus allocated to the "measured at amortized cost" measurement category. Trade receivables mainly comprise contracts with customers. Receivables are recognized as such at the time a good is delivered or after the conclusion of an associated performance period, because this is the point in time at which there is an unconditional claim to receipt of the consideration and only the passage of time is required until the payment is due. As in the previous year, loans subject to market interest rates are recognized at nominal value and low-interest or interest-free loans at present value. The "hold to collect and sell" business model comprises fixed-income and floating-rate interest securities. These are allocated to the "measured at fair value through profit or loss" or "measured at fair value in equity" measurement categories. A cash flow characteristics test in accordance with IFRS 9 is carried out for these securities to test whether the cash flows arise exclusively to make interest and redemption payments on the outstanding amount. The securities that do not pass the cash flow characteristics test are measured at fair value in equity, otherwise the securities are measured at fair value through profit or loss. The "other" business model comprises all debt instruments that are not allocated to the "hold" or "hold to collect and sell" business models. As a result, these debt instruments are allocated to the "measured at fair value through profit or loss" measurement category.

Equity instruments are allocated to the “measured at fair value through profit or loss” measurement category. The option of measuring equity instruments at fair value in equity without recycling is not currently being utilized.

To determine the fair value, the market price on the reporting date is taken for publicly listed financial assets. If no active market exists, the fair value is determined using the most recent market transaction or using a valuation method (such as the discounted cash flow method or the multiplier method). If the input parameters for such a valuation cannot be reliably determined with the amount of effort appropriate for the materiality of the equity instrument, the valuation is carried out at acquisition costs. Trade receivables usually have short terms to maturity. Consequently, their carrying amounts as of the reporting date approximate their fair value. Receivables that bear off-market interest or are interest free with remaining terms to maturity of more than one year are reported in the balance sheet at present value. For other current assets, it is assumed, as in the previous year, that the fair value approximates the carrying amount. For non-current other assets, the market value is determined by discounting the expected future cash flows. Financial assets are derecognized when the contractual claims to the cash flows expire or have been effectively transferred. In order to give proper consideration to the growing importance of climate risks, our fund managers use sustainability principles, including the UN Principles for Responsible Investment (UN PRI), when selecting each individual investment. Especially climate risks are generally taken into account in the respective investment processes. At the same time, transition of investments in compliance with the regulations in the Sustainable Finance Disclosure Regulation (SFDR) will significantly increase transparency in the future.

Impairment of financial assets

The impairment model according to IFRS 9 incorporates forward-looking expectations and is based on expected credit losses. Financial assets that belong to the “measured at amortized cost” or “measured at fair value in equity” measurement categories are impaired using the 3-stage impairment model according to IFRS 9. For financial assets in the “measured at amortized cost” or “measured at fair value in equity” categories, a risk provision is determined at the time of acquisition in the amount of the expected loss within one year (12-month PD) (**risk provision stage 1**).

If there has been significant deterioration in the borrower’s credit rating, the calculation horizon is extended to cover the lifetime of the receivable (**risk provision stage 2**).

The default risk has significantly increased/deteriorated resulting in a **transfer to risk provision stage 2** when the following criteria are met:

- A payment is more than 30 days past due, whereby an earlier transfer based on findings from the claims management process is also fundamentally possible.
- There has been a significant deterioration in the credit rating. As long as the absolute default risk is classified as low, the asset is generally not transferred to stage 2. It can be assumed in this process that a financial instrument has a “low default risk” if it fulfills the criteria to achieve an “investment grade” credit rating.

In order to evaluate whether there has been a significant change in the default risk, any actual or expected significant changes are also examined, taking into account, among other things, the following factors:

- external or internal credit rating of the financial instrument
- business/financial or economic framework conditions
- operating result of the borrower
- regulatory/economic or technological environment of the borrower
- financial support from a parent company
- payment history
- quality of the guarantees provided by a shareholder
- information on delayed payments

If the credit rating has deteriorated so much as to jeopardize payment or the borrower has actually defaulted, the asset is transferred to **risk provision stage 3**. The risk provision is also calculated here based on the expected losses over the lifetime of the receivable. In contrast to the previous stages, any interest income is now recognized on the basis of the net carrying amount after impairment and using the effective interest rate, and no longer on the basis of the gross carrying amount.

Default is assumed if the payment is 90 days or more past due or if the payment is no longer considered likely due to other events (such as opening insolvency proceedings).

The expected credit loss is determined by multiplying the credit risk parameters "Exposure at Default" (EaD), "Probability of Default" (PD) and "Loss Given Default" (LGD). The probability of default over a given time horizon is based on external ratings (if available). Due to the low number of defaults with respect to financial assets, the loss given default is calculated based on a weighted estimate by experts.

For trade receivables, receivables from investments and lease receivables with no significant financing component according to IFRS 15, the simplified approach for determining impairments according to IFRS 9 is used irrespective of their term. Accordingly, the expected loss over the whole lifetime is always used as the risk provision (risk provision stage 2).

When using the simplified approach, the expected loss is determined using default rates. Portfolios with the same risk characteristics are defined and then used to derive historical credit default rates. The following criteria are used to form the portfolios: the same type of contractual conditions for the assets, comparable counterparty characteristics and similar credit ratings for the assets in the portfolio. The expected loss rates are calculated based on historical defaults for each customer group. The historical loss rates are adjusted to reflect the current economic environment and forward-looking information on macroeconomic factors that could have an impact on the payment behavior of our customers. Gross domestic product has been identified as the most relevant factor in this area. In exceptional cases, the default probability is taken from default probabilities that are available externally instead of using historical data. If there is objective evidence that the credit rating for the asset has deteriorated, it is transferred to risk provision stage 3.

As in the previous year, receivables are generally written off when the receivable is deemed irrecoverable. Possible factors could be:

- an unsuccessful enforcement order
- filing for insolvency proceedings or opening the subsequent insolvency proceedings or refusal to open the insolvency proceedings due to a lack of assets
- a declaration about the ineligibility of the receivable in a court order

However, receivables may only be written off when there is no liability that could be offset against it. Impairment loss expenses are netted as a separate item on the income statement.

Inventories

Inventories are recorded at cost. As a rule, they are measured at average prices. Pursuant to IAS 2, costs of conversion contain the direct costs and an appropriate portion of the necessary materials and production overheads including depreciation. Costs of conversion are determined on the basis of normal capacity utilization. Borrowing costs are not capitalized as a component of costs of conversion. Appropriate allowance is made for risks relating to reduced usability. Where necessary, the lower net realizable value compared to the carrying amount is recognized. Reversals of impairment losses on inventories are deducted from the cost of materials.

The nuclear fuel rods disclosed in the inventories are measured at amortized cost. Consumed nuclear fuel rods are recognized under cost of materials based on their actual consumption.

Inventories acquired for trading purposes are recognized at fair value less costs to sell.

Emission allowances

Emission allowances acquired for production purposes are recognized at cost as inventories. Emission allowances acquired for trading purposes are recognized as other assets at fair value through profit or loss, and any fluctuation in fair value is recognized directly in profit or loss.

The obligation to return emission allowances is accounted for under other provisions. The carrying amount of the provision is determined based on the carrying amount of the existing emission allowances. If further emission allowances are needed, they are accounted for at their fair value as of the reporting date.

Treasury shares

Own equity instruments which are repurchased (treasury shares) are deducted from equity. No gain or loss is recognized in the income statement on the purchase, sale, issue or cancellation of the Group's own equity instruments.

Non-controlling interests

Non-controlling interests comprise the positions within net assets attributable to minority shareholders and the gains or losses and other components of the overall result attributable to these shareholders.

The value of non-controlling interests is calculated pro rata based on the identifiable net assets. Non-controlling interests are presented separately from the equity of the shareholders of the parent company within Group equity.

Provisions for pensions and similar obligations

For defined benefit plans, provisions for pensions and similar obligations are determined using the projected unit credit method in accordance with IAS 19. This method considers current and future pension benefits known at the reporting date as well as future anticipated salary and pension increases. Actuarial gains and losses are recorded in their entirety in the financial year in which they arise. They are reported outside of the income statement in the statement of comprehensive income as part of the cumulative changes not impacting income and recorded directly in equity. There will be no recognition in profit and loss in subsequent periods. Plan assets of funds established to cover the pension obligations are deducted from the provision. The service cost is disclosed in personnel expenses, while the net interest portion of additions to the provision and the return on plan assets are recorded in the financial result. Payments for defined contribution plans are recognized as personnel expenses.

Provisions relating to nuclear power

The Act for the Reorganization of Responsibility in Nuclear Waste Management, which came into force in the middle of June 2017, establishes new rules for the roles and financial responsibilities of the German government and operators. According to the new law, operators are responsible for the decommissioning and dismantling of their nuclear power plants, as well as for the conditioning and proper packaging of the radioactive waste. The provisions accumulated for these purposes will remain with the companies. The transport, intermediate storage and final storage of the waste is the responsibility of the German government, who has been provided with the money to finance these tasks by the operators of the nuclear power plants. The evaluation of the provisions is carried out mainly on the basis of estimates, which for the decommissioning and dismantling of nuclear power plants, as well as for the conditioning and packaging of radioactive waste, are primarily derived from sector-specific appraisals. The provisions are recognized at the discounted settlement amount at the time they originated.

Other provisions

Other provisions take account of all legal or constructive obligations towards third parties resulting from past events that are identifiable at the reporting date, to the extent that it is probable that they will lead to an outflow of resources in future and their amount can be reliably estimated. The provisions are recognized at their settlement amount. They are measured at the estimated future amount or the amount most likely to be incurred.

The non-current provisions are stated at the future amount needed to settle the obligation discounted to the reporting date. This does not apply to provisions for pensions and similar obligations. These are subject to special rules in accordance with IAS 19.

When measuring the value of provisions related to the windfall profit levy, the option of applying the forward market correction according to section 17 StromPBG was utilized.

Deferred taxes

Deferred taxes are recorded in accordance with the temporary concept (IAS 12) on all temporary differences between the tax accounts and the IFRS balance sheet of the individual entities. Deferred taxes from consolidation entries are recognized separately. Deferred tax assets are recognized on deductible temporary differences and carryforwards of unused tax losses if it is reasonably certain that they will be recovered.

Deferred taxes are calculated on the basis of the tax rates that apply or that are expected to apply in the individual countries at the time of utilization. A tax rate of 29.7% was applied for German Group companies (previous year: 29.4%). Tax assets and tax liabilities are netted with each other by consolidated tax group or entity if the conditions to do so have been satisfied.

Financial liabilities

Financial liabilities are recorded at fair value upon initial recognition. After initial recognition, they are measured at amortized cost. Lease liabilities are recognized under other liabilities at the present value of the outstanding lease payments.

The fair value of bonds listed on the capital market is the nominal value multiplied by the quoted price as of the reporting date. For current financial liabilities, it is assumed that the fair value corresponds to the carrying amount. For non-current financial liabilities, the market value is determined by discounting the expected future cash outflows. If these financial liabilities are subject to floating interest rates, the carrying amount corresponds to the fair value. Financial liabilities are derecognized when the contractual obligations have been fulfilled or extinguished.

Trade payables and other liabilities

Trade payables and other liabilities are recognized at the amount repayable. Trade payables primarily have short terms to maturity. Consequently, their carrying amounts as of the reporting date approximate their fair value. For current other liabilities, it is assumed that the fair value corresponds to the carrying amount. For non-current other liabilities, the market value is determined by discounting the expected future cash outflows. The construction cost subsidies and household connection costs carried as liabilities are reversed to revenue in some cases based on the use of the subsidized item of property, plant and equipment, and in other cases according to the electricity and gas grid fee ordinance. As a rule, the period of reversal for construction cost subsidies is between 20 and 45 years. Investment cost subsidies are reversed over the depreciation period of the subsidized assets. The reversal is offset openly against depreciation.

Other liabilities includes lease liabilities that are recognized at the present value of the outstanding lease payments.

Assets held for sale and liabilities directly associated with assets classified as held for sale

Assets held for sale are individual non-current assets and groups of assets that can be sold in their present condition, whose sale is highly probable and that satisfy all the criteria defined in IFRS 5. The item “liabilities directly associated with assets classified as held for sale” includes liabilities that are part of a group of assets held for sale.

Assets classified as assets held for sale for the first time are measured at the lower of carrying amount and fair value less costs to sell, and depreciation on such assets ceases.

Gains or losses from measuring individual assets and groups of assets held for sale are disclosed as profit or loss from continuing operations until they are finally sold.

Derivatives

Derivatives ⁹ are measured at fair value in accordance with IFRS 9. Both the counterparty’s credit default risk and that of the company itself are taken into account in the calculation of fair value. Default risk with respect to an individual counterparty is calculated on the basis of the net risk position. In the case of derivatives for which net recording is not permitted, the credit default risk calculated on the basis of the net position is recorded in proportion to the fair value before the value adjustment. In accordance with the net approach, this involves allocating the value adjustment solely to the derivatives’ asset or liability surplus that arises. The derivatives are recognized under other assets and other liabilities and subsidies.

Derivatives are measured using quoted prices in active markets such as stock market prices. Where such prices are not available, the fair values are determined by reference to generally accepted valuation techniques. Quoted prices in active markets are used as inputs wherever possible. If they are not available either, entity-specific planning assumptions are considered in the valuation.

If they are contracts that were entered into and continue to be held for the purpose of the receipt or delivery of a non-financial item, in accordance with the entity’s expected purchase, sale or usage requirements (own use), they are not recognized as derivatives under IFRS 9, but as executory contracts in accordance with IAS 37.

Derivatives are allocated to the “measured at fair value through profit or loss” measurement category unless hedge ⁹ accounting is used.

For derivatives used in a hedge, the accounting treatment of changes in fair value depends on the nature of the hedge.

In the case of changes in the fair value of cash flow hedges which are used to offset future cash flow risks arising from existing hedged items or highly probable forecast transactions, the unrealized gains and losses are initially recognized directly in equity (other comprehensive income) in the amount of the hedged item covered. Amounts are reclassified to the income statement when the hedged item impacts profit or loss.

In the case of a fair value hedge used to hedge the fair value of reported assets or liabilities, the gains or losses from the measurement of derivatives and the associated hedged items are recognized in profit or loss.

Foreign currency risks from investments with a foreign functional currency are secured by hedges of a net investment in a foreign operation. Unrealized exchange rate differences are initially recognized in equity and reclassified to profit or loss when the foreign operation is sold.

Hedging relationships are designated in accordance with the risk management goals and strategies explained in note (26) "Accounting for financial instruments." The economic relationship between the hedging instrument and the hedged transaction, as well as the evaluation of the expected effectiveness of the hedge, are documented at the beginning. Primary and derivative financial instruments will be netted in the balance sheet if an unconditional right to offset exists, or when there is an intention to offset or realize the asset and settle the liability.

Contingent liabilities

Contingent liabilities are possible obligations to third parties or present obligations where the probability of an outflow of resources is remote or the amount cannot be determined reliably. Contingent liabilities outside of company acquisitions are not recognized.

Financial guarantees

Financial guarantees are contracts where EnBW is required to make specified payments to reimburse the holder for a loss incurred because a debtor fails to meet its payment obligations under the financial guarantee. Financial guarantees are measured at fair value upon initial recognition. After initial recognition, the financial guarantees are measured at the higher of amortized cost and the best estimate of the present obligation as of the reporting date.

Revenue recognition

According to IFRS 15, revenue is recognized when control over a good or service has been transferred to the customer. Revenue is measured according to the consideration defined in the contract with the customer, whereby sales deductions such as price discounts or variable components must be taken into account. Amounts collected on behalf of third parties are excluded from this process. Revenue is recognized net of VAT and after the elimination of intercompany sales. Costs for obtaining contracts are immediately recognized as an expense when they arise, insofar as the amortization period for the assets is one year or less. If the amortization period is longer, they are capitalized. The amortization template works in line with the transfer of the good or service to the customers and is based on the average customer-retention period. An adjustment to the transaction price to take account of a significant financing component is not required because no contracts have currently been concluded where the time period between the transfer of the promised good or service to the customer and the payment by the customer exceeds one year, or such contracts fall under the scope of IFRS 15.62.

Please refer to note (1) "Revenue" for more details on the accounting policies.

Exercise of judgment and estimates when applying accounting policies

The preparation of the consolidated financial statements requires judgments and estimates to be made in applying the accounting policies that affect the reported amounts of assets and liabilities, revenue and expenses, and the disclosure of contingent liabilities. The coronavirus pandemic and the material uncertainties associated with it were taken into account where relevant when exercising judgment and making estimates. In the 2022 financial year, as in the previous year, there were no material adjustments to the carrying amounts of assets and liabilities due to the coronavirus pandemic.

Please refer to note (21) "Provisions" for more information on provisions.

In the second quarter, EnBW revised its expectations with respect to the medium and long-term price trends in the relevant procurement and sales markets. EnBW also revised its expectations with respect to energy industry conditions and anticipated price trends on relevant markets in response to the clearly defined and accelerated climate protection policies introduced by the new German government elected in 2021, the implementation of the EU Green Deal through effective regulations and the changes in the gas market as a result of the war between Russia and Ukraine. The anticipated prices for gas, coal, CO₂ and electricity have increased as a result. It is possible that climate protection policies could further reduce the service lives of conventional power plants. This would have an impact on the valuation of the power plants and the impending losses from long-term electricity procurement agreements. For further information on the impact of climate change, please refer to the section "Disclosures on climate change." The exercise of judgment and estimates when assessing the impact of the war between Russia and Ukraine and the associated substantial uncertainties are explained further in the section "Impact of the war between Russia and Ukraine."

We refer you to the note (2) "Other operating income" and note (6) "Amortization and depreciation" for more information.

Judgment must be exercised, in particular, in the process of applying the accounting policies:

- Whether certain commodity futures contracts should be accounted for as derivatives as defined by IFRS 9 or executory contracts in accordance with the provisions of IAS 37.
- Financial assets must be allocated to the “measured at amortized cost,” “measured at fair value through profit or loss” or “measured at fair value in equity” measurement categories according to IFRS 9.
- Judgment is required for determining the transaction price for the transfer of goods and services. In particular, this includes the existence of any variable considerations (e.g., discounts), which are subtracted from the transaction price. Judgment is also required for measuring the level of any variable considerations. These estimates are based, in particular, on the contractual conditions and past empirical values. Judgments made about the recognition of revenues over time are based on the selection of a suitable measure of progress for services, in particular. As the customer generally benefits from the service evenly over time, the revenue is recognized on a straight-line basis.
- Judgment must be exercised when including companies in the consolidated companies for the EnBW Group.

Please refer to the full list of shareholdings in note (38) “Additional disclosures” for more information on the consolidated companies.

These estimates are based on assumptions and forecasts which, by their very nature, are uncertain and may be subject to change. The key future-oriented assumptions and other sources of uncertainty as of the reporting date, concerning estimates which have given rise to a considerable risk that material adjustments of carrying amounts of assets and liabilities may be required in the next financial year, are explained below:

Goodwill: A review is carried out on every reporting date to identify whether there are any indications of impairment and goodwill is tested for impairment at least once a year. The impairment test involves estimates that concern, above all, future payment surpluses. The underlying assumptions are described in the section “Significant accounting policies” under “Impairment losses/reversals of impairment losses.” To determine the recoverable amount, an appropriate discount rate must be chosen. Future changes in the overall economic, industry or company situation may reduce payment surpluses or the discount rate, and thus potentially lead to an impairment of goodwill.

Property, plant and equipment: Property, plant and equipment are tested for impairment when circumstances or events indicate that there could be an impairment or increase in value. For our power plants in particular, in addition to technical progress and damage, a change in expectations regarding short, medium and long-term electricity prices and the service life of the power plants may lead to impairment losses or their reversal. The underlying assumptions are described in the section “Significant accounting policies” under “Impairment losses/reversals of impairment losses.” A suitable interest rate must be used when performing the impairment tests. If this interest rate changes, for example due to a change in the macroeconomic or industry situation, recognition of impairment losses or reversals of impairment losses may also be necessary.

Impairment of financial assets: In order to determine impairments on financial assets, assumptions about the default risk are made that influence the loss rates. The assumptions are made based on the historical experiences of the Group and flow into the calculation of the impairments as input factors. Changes to market conditions and forward-looking estimates before the end of the relevant reporting period are also taken into account in the calculations. The most important assumptions and input factors are described in the section “Significant accounting policies.”

Determining the fair value of financial assets and financial liabilities: The fair value of financial assets and financial liabilities is determined by reference to quoted market prices, insofar as the financial instruments are traded on an active market, or by using valuation techniques such as the discounted cash flow method. Where the parameters used in the valuation techniques are not supported by observable market data, assumptions need to be made which can affect the fair value of financial assets and financial liabilities.

Contracts for the purchase and sale of LNG: It is necessary to assess whether contracts for the purchase and sale of LNG fulfill the criteria for a financial instrument according to IFRS 9. Based on the development of the global LNG market, it must be determined whether a sufficiently liquid market exists for the fulfillment of LNG contracts on a net basis. Even in view of the latest developments on the LNG market, we still believe in line with our previous assessments that there is no active market. Therefore, the contracts do not fall under the scope of IFRS 9 and are instead recognized in the respective reporting period.

Pension provisions: When calculating pension provisions, differences compared to the actual obligations incurred over time may arise from the selection of underlying assumptions, such as the discount rate or trends, use of demographic probabilities based on the 2018 G Heubeck mortality tables and accepted approximation methods for future pension increases from the statutory pension insurance fund.

Nuclear provisions: The provisions for the decommissioning and dismantling of the power plants, as well as for the conditioning and packaging of radioactive waste, are based mainly on external appraisals that are updated annually. These appraisals are based on cost estimates of the settlement value for each obligation. The uncertainty inherent in the estimates is due primarily to departures from the assumed cost development and changes in payment dates. Changes in the discount rate could also lead to an adjustment of the nuclear provisions.

Provisions for onerous contracts: Provisions for onerous contracts are generally set up for onerous procurement and sales agreements. A change in the expected market prices on the procurement or sales side or in the discount rates may lead to an adjustment of the provisions for onerous contracts. The underlying assumptions for determining the expected market price are described in the section "Significant accounting policies."

Acquisition accounting: For acquisition accounting purposes, all identifiable assets, liabilities and contingent liabilities acquired in a share purchase are recognized at fair value as of the date of acquisition for first-time consolidation purposes. Estimates are used to calculate the fair value of these assets and liabilities as of the date of acquisition. Land and buildings as well as other equipment, factory and office equipment are generally measured by independent appraisers. Marketable securities are recognized at market price. If the purchase price agreement includes contingent considerations, accounting for those purchase price components also requires estimates.

The measurement of intangible assets is based on the nature of the intangible asset as well as the complexity of determining fair value. Fair value is therefore determined on the basis of an independent external valuation appraisal.

Income tax: Estimates are also needed to capitalize tax assets, to set up tax liabilities and to assess the temporary differences arising from differences in the accounting treatment of certain items in the financial statements between the consolidated balance sheet in accordance with IFRS and the tax accounts. Capitalization of tax assets and the setting up of tax liabilities are fundamentally only recognized if the relevant payments are likely. Deferred tax assets or liabilities are recognized on temporary differences. Deferred tax assets are, in principle, only recognized when the future tax advantages will probably be realized or where deferred tax liabilities exist. Deferred tax assets are recognized for all carryforwards of unused tax losses to the extent that it is probable that taxable profit will be available against which the loss carryforwards can be utilized. The judgment exercised by management regarding the anticipated timing and level of future taxable profits, as well as

regarding future tax planning strategies, is significant in determining the amount of deferred tax assets that can be recognized. If considered material, changes to climate-relevant matters are also taken into account when determining future taxable profit. In December 2021, the OECD published guidance on the new, global minimum tax rate and the German government intends to implement it in 2023. We are still waiting for the precise legislation and detailed regulations so that we will be able to assess the overall consequences more accurately.

Entities accounted for using the equity method: IFRS financial statements were not available to us for all entities. Therefore, these entities were accounted for using the equity method based on an estimate of the HGB-IFRS differences. Investments that are accounted for using the equity method in the consolidated financial statements are tested for impairment when circumstances or events indicate that there could be an impairment loss or increase in value. The impairment test involves estimates that concern, above all, future payment surpluses. To determine the recoverable amount, an appropriate discount rate must be chosen. Future changes in the overall economic, industry or company situation may reduce payment surpluses or the discount rate, and thus potentially lead to an impairment of the investments.

Potential effects due to changes in estimates in other areas are explained in the respective sections.

Impact of the war between Russia and Ukraine

The war between Russia and Ukraine is continuing to cause uncertainty on the energy market. This has resulted in, among other things, rising prices on the gas and electricity markets and higher procurement costs. In addition, it has resulted in interruptions to the supply chain and rising inflation rates.

Due to the looming threat of a gas shortage, our coal-fired power plants have been deployed more frequently to ensure the security of supply. In combination with the current price trends, their profitability will improve in the short to medium-term. The described effects would have a particular impact on the items revenue, cost of materials and other operating expenses, as well as on income.

The ongoing developments are being continuously analyzed and evaluated with respect to their potential impact on the EnBW Group using various different scenarios.

VNG Handel & Vertrieb (VNG H&V) had two natural gas supply contracts with a total annual volume of 100 TWh that were affected by the restrictions in supply. The replacement volumes of gas had to be procured at massively higher prices on the gas markets. Negotiations with the suppliers and the Federal Republic of Germany resulted in a settlement and a compensation payment of €460.0 million. Overall, a negative impact on earnings of €1.1 billion was accounted for in the annual financial statements. The supply relationships ended with effect from 31 December 2022.

In addition, an investment of VNG Gasspeicher GmbH and the Russian company Gazprom export LLC was impaired by €84.6 million. The investment operates a natural gas storage facility. The partners ceased payment of the storage fees for the facility during the course of the year due to the sanctions on Russia. Furthermore, loans to this entity (accounted for using the equity method) of €105.5 million were written off.

In order to adequately reflect the indirect consequences of the war between Russia and Ukraine and the expected losses on financial instruments as a result, we have amended the impairment model for financial instruments to include an additional risk premium. Despite the volatile market conditions, we remain committed to our strategic alignment.

Please refer to the management report for more information.

Disclosures on climate change

EnBW is transforming itself from an energy supply company into a sustainable and innovative infrastructure partner. Sustainability is an important element of our business model and acts as a compass for our strategic alignment. As an energy company, EnBW can make a particularly effective contribution to climate protection. The Group aspires to reduce its greenhouse gas emissions by 70% by 2030 and become climate neutral with respect to own emissions (Scope 1 and 2^②) by the end of 2035 at the latest. In October 2021, EnBW announced its intention to set science-based targets according to the Science Based Targets initiative (SBTi). This process is due to be concluded in spring 2023. We aim to follow a 1.5 degree-aligned path for decarbonizing Scope 1 and 2 emissions and a well below 2 degrees^②-aligned path for Scope 3 emissions. Further information can be found in the management report under “Our climate protection goals.”

In view of the growing importance of climate-related risks, EnBW’s strategic considerations take into account the requirements of the energy transition and the profound changes that will take place due to the transformation towards climate neutrality with the effects they will have on all business sectors and private households. We place particular focus on the expansion of renewable energies, electricity consumption, the expansion of the grids, grid stability and the security of supply. The main focus of these investments will be the expansion of the grids, especially the central SuedLink and ULTRANET projects of our grid subsidiary TransnetBW for the future energy supply in Germany, the expansion of renewable energies, such as the planned realization of the EnBW He Dreiht offshore wind farm and the construction of H₂-ready gas power plants in Altbach/Deizisau, Stuttgart-Münster and Heilbronn, and further developments in the Smart Infrastructure for Customers segment: for example, in the areas of broadband^②, telecommunications and electromobility. We will use sustainability criteria as the benchmark for our future decisions even more resolutely than before and align our growth accordingly. In this context, we examine the requirements with respect to climate protection, possible implementation paths and the implications for the business model. This acts as an important basis for assessing the opportunities and risks for our business that will arise due to climate change and the dynamic regulatory environment associated with it.

In order to evaluate these opportunities and risks, we use real developments to derive four realistic future scenarios that take into account all of the different aspects of the energy transition. These scenarios are primarily characterized by two dimensions: climate protection and the sustainable economic growth that is achievable in the long term. In this context, climate protection means the transformation towards a climate-neutral company. The economic growth that can be sustainably achieved is a key variable influencing, e.g., the demand for electricity or commodity prices.

The scenarios that are relevant to EnBW differ according to the rate of transformation towards a climate-neutral company. Scenarios 1 and 2 assume “normal” economic growth within the scope of so-called potential growth. In scenario 1, there will be a slight delay in achieving the goal of climate neutrality because it will not be possible to comprehensively solve the practical challenges associated with the implementation of the energy transition. In scenario 2, the climate targets defined in the EU Green Deal^② will be largely achieved up to the middle of the century. In scenario 3, it is assumed that there will be higher growth because climate protection has been given a lower priority. In scenario 4, weaker economic growth is assumed. In this scenario, the transformation to climate neutrality will be achieved at the slowest pace.

Based on the assumptions made for specific variables, possible paths for how the energy markets (especially electricity and gas) will develop in the long term are derived for the four scenarios. In the process, we predict the wholesale market prices for electricity in simulated calculations using computer models. These simulations also take into account physical risks, such as the influence meteorological fluctuations may have on the electricity market due to the availability of wind and sunlight, and thus make it possible to incorporate potential changes to the physical environment due to climate change into the calculations. The scenarios can thus provide us with quantitative descriptions that serve as the basis for assessing the business of EnBW and, in particular, also allow us to evaluate the opportunities and risks associated with climate change.

During the course of 2022, EnBW revised its expectations with respect to energy industry conditions and the medium and long-term price trends in the relevant procurement and sales markets, especially in response to the clearly defined and accelerated climate protection policies introduced by the German government and the detailed implementation of the EU Green Deal.

We refer you to the sections “Significant accounting policies” and “Exercise of judgment and estimates when applying accounting policies” as well as note [34] “Additional disclosures on capital management” for more information.

The EnBW consolidated financial statements as of 31 December 2022 were prepared taking into consideration the opportunities and risks related climate change and to the goals for our strategy, sustainability and climate protection, including climate neutrality. Material and foreseeable effects with an impact on assets, liabilities, income and expenses were taken into account in the financial statements.

The underlying assumptions are consistent with the assumptions for assessing the robustness of the business model and the assumptions made in the risk management system.

Currency translation

In the separate financial statements of the entities, business transactions in foreign currency are translated at the rate of the transaction date. Non-monetary items are measured at the rate prevailing when they were first recorded. Monetary items are translated at the closing rate as of the reporting date. Translation differences from monetary items that are allocable to operating activities are recognized in other operating income or other operating expenses with effect on profit or loss. Translation differences from financing activities are disclosed in the interest result.

The reporting currency of EnBW, which is also the functional currency, is the euro (€). The financial statements of the Group entities are translated to euros. Currency translation is performed in accordance with IAS 21 “The Effects of Changes in Foreign Exchange Rates” using the modified closing rate method. Under this method, the assets and liabilities of entities that do not report in euros are translated at the mean rate prevailing on the reporting date, while expenses and income are translated at the average annual rate. The companies concerned are commercially independent foreign entities. Differences from the currency translation of assets and liabilities compared to the translation of the previous year, as well as translation differences between the income statement and the balance sheet, are recognized directly in equity under other comprehensive income. The same procedure is applied by analogy for foreign entities accounted for using the equity method.

Currency translation was based on the following exchange rates, among others:

€1	Closing rate		Average rate	
	31/12/2022	31/12/2021	2022	2021
Swiss franc	0.98	1.03	1.01	1.08
Pound sterling	0.89	0.84	0.85	0.86
US dollar	0.94	1.13	1.05	1.18
Czech koruna	24.12	24.86	24.56	25.65
Japanese yen	140.66	130.38	138.00	129.85
Danish krone	7.44	7.44	7.44	7.44
Polish zloty	4.68	4.60	4.68	4.56
Swedish krona	11.12	10.25	10.63	10.15

Notes to the income statement and the balance sheet

(1) Revenue

Revenue from contracts with customers is recognized when control over a good or service has been transferred to the customer. The electricity and energy tax paid by the entities is deducted from revenue in the income statement. In the interest of a more accurate presentation of the business development, income and expenses from energy trading businesses are disclosed net. The net disclosure means that revenue from energy trading businesses is reported net of the related cost of materials. For the 2022 financial year, the net energy trading revenue amounted to €273,779.5 million (previous year: €136,941.7 million).

Alongside revenue from contracts with customers, there is other revenue from ordinary business activities. This is how it breaks down:

in € million	2022	2021
Revenue from contracts with customers	55,657.0	31,777.0
Other revenue	345.6	370.9
Total	56,002.6	32,147.9

The change in revenue is explained in more detail in the management report in the section “The EnBW Group” and mainly relates to revenue from contracts with customers. The section “Impact of the war between Russia and Ukraine” describes the effects of the war on revenue.

The following table shows a breakdown of revenue by region and products for the different segments of the EnBW Group.

External revenue by region

2022 in € million	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Genera- tion Infrastructure	Other/ Consolidation	Total
Revenue from contracts with customers by region	18,772.8	6,335.7	30,541.0	7.5	55,657.0
Germany	(15,009.1)	(6,171.2)	(19,410.9)	(7.5)	(40,598.7)
European currency zone excluding Germany	(638.3)	(3.7)	(10,691.6)	(0.0)	(11,333.6)
Rest of Europe	(3,119.3)	(160.8)	(437.8)	(0.0)	(3,717.9)
Rest of world	(6.1)	(0.0)	(0.7)	(0.0)	(6.8)
Other revenue	0.0	343.4	2.2	0.0	345.6
Total	18,772.8	6,679.1	30,543.2	7.5	56,002.6

External revenue by region

2021 in € million ¹	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Genera- tion Infrastructure	Other/ Consolidation	Total
Revenue from contracts with customers by region	13,918.3	4,049.2	13,801.9	7.7	31,777.1
Germany	(12,056.9)	(3,888.7)	(10,776.8)	(7.7)	(26,730.1)
European currency zone excluding Germany	(205.5)	(3.8)	(2,856.3)	(0.0)	(3,065.6)
Rest of Europe	(1,654.9)	(156.7)	(168.8)	(0.0)	(1,980.4)
Rest of world	(1.0)	(0.0)	(0.0)	(0.0)	(1.0)
Other revenue	5.3	363.4	2.1	0.0	370.8
Total	13,923.6	4,412.6	13,804.0	7.7	32,147.9

¹ The figures for the previous year have been restated.

External revenue by product

2022 in € million	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Genera- tion Infrastructure	Other/ Consolidation	Total
Revenue from contracts with customers by product	18,772.8	6,335.7	30,541.0	7.5	55,657.0
Electricity	(6,836.0)	(4,661.3)	(11,221.0)	(0.0)	(22,718.3)
Gas	(10,746.4)	(729.0)	(18,629.0)	(0.0)	(30,104.4)
Energy and environmental services/ other	(1,190.4)	(945.4)	(691.0)	(7.5)	(2,834.3)
Other revenue	0.0	343.4	2.2	0.0	345.6
Total	18,772.8	6,679.1	30,543.2	7.5	56,002.6

External revenue by product

2021 in € million ¹	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Genera- tion Infrastructure	Other/ Consolidation	Total
Revenue from contracts with customers by product	13,918.4	4,049.1	13,801.9	7.7	31,777.1
Electricity	(5,757.1)	(2,698.7)	(6,455.8)	(0.0)	(14,911.6)
Gas	(7,359.9)	(695.6)	(6,854.9)	(0.0)	(14,910.4)
Energy and environmental services/ other	(801.3)	(654.8)	(491.2)	(7.7)	(1,955.0)
Other revenue	5.3	363.5	2.1	0.0	370.9
Total	13,923.6	4,412.6	13,804.0	7.7	32,147.9

¹ The figures for the previous year have been restated.

The restatement of the figures for the previous year relates to a change in the allocation of business activities to the different Board of Management remits, which has changed the composition of our segments as a result. This change has no effect on the result of the Group.

Revenues mainly arise from goods supplied or services rendered over a particular time period.

The most important services are described below:

Electricity and gas deliveries: The revenues primarily result from the transfer of electricity and gas to customers. Customers could be trading partners, redistributors or end customers. Sales made via the trading markets are realized when control is transferred to the purchaser. Many contracts with end customers do not specify a fixed purchase volume. In these cases, the performance obligation consists of providing an energy supply that can be accessed at all times, in particular, so that the revenue is recognized over a period of time. The measure of progress is generally carried out on a straight-line basis together with the allocation of variable fees for certain performance elements. If fixed purchase volumes are agreed, however, the performance obligation consists of transferring the energy volumes, which is why the revenue is recognized when control is transferred. In the case of customer groups who pay according to rolling annual statements, the transaction price is calculated based on past consumption values while taking into account the current temperature influences and time of year. Discounts or bonus payments are taken into account as variable considerations against revenue from the beginning of the contract. If individual contracts include the transfer of assets as an additional performance obligation, the revenue for these assets is recognized at the time of delivery and measured at the relative individual sales price. Monthly advance payments are generally agreed.

Distribution of electricity and gas: EnBW offers its customers use of the electricity and gas grids. EnBW recognizes the revenues when the services are rendered. Monthly invoices of the actual costs or monthly advance payments are agreed.

In addition, other revenue from contracts with customers includes the areas of services, district heating, contracting, the supply of water, waste management and telecommunications. The majority of the contracts include services for which customers pay while they are being rendered and the revenue is thus recognized over a period of time. The measure of progress is generally carried out on a straight-line basis together with the allocation of variable fees for certain performance elements.

The total amount of the expected revenues for performance obligations that have not been fulfilled, either partially or fully, as of 31 December 2022 is €38,322.0 million (previous year: €12,297.3 million). Most of these performance obligations will be fulfilled as expected within the next five years. Revenues for performance obligations totaling €23,078.9 million (previous year: €3,730.4 million) are expected to be fulfilled within the next financial year. This does not include any remaining performance obligations from customer contracts which originally had an expected maximum term of one year.

As of 31 December 2022, contract liabilities amounted to €1,082.3 million (previous year: €986.5 million). From the contract liabilities contained in the opening balance of €986.5 million (previous year: €956.6 million), €67.3 million (previous year: €73.2 million) was recognized as revenue within the reporting period. The contract liabilities mainly comprise construction cost subsidies and household connection costs. These are non-refundable prepayments that are carried as liabilities and reversed over a period of 20 to 45 years.

Please refer to note [26] "Accounting for financial instruments" for the development of receivables connected to customer contracts.

In the reporting period, revenues of €239.3 million (previous year: €358.0 million) were recognized for performance obligations that were fulfilled either fully or partially in preceding periods.

(2) Other operating income

in € million	2022	2021
Income from derivatives	3,971.4	1,491.5
Income from reversals of impairment losses on non-financial assets	1,499.2	96.4
Income from the reversals of provisions	671.3	256.5
Income from disposals of assets	24.1	17.3
Rent and lease income	18.7	17.3
Miscellaneous	1,163.3	377.1
Total	7,348.0	2,256.1

Income from derivatives ^② increased mainly due to valuation effects.

The reversals of impairment losses included €1,254.2 million for one of the cash-generating units for conventional power plants in the Sustainable Generation Infrastructure segment. The recoverable amount is around €-391 million. The reversals of impairment losses were mainly due to improved medium-term income forecasts as a result of the high gas and electricity prices at the present time. The discount rates used in the valuations were between 6.7% and 7.0% after tax and between 9.6% and 9.9% before tax (previous year: between 4.4% and 5.7% after tax and between 7.0% and 8.1% before tax).

In addition, there was a reversal of impairment losses of €102.2 million for a second cash-generating unit for conventional power plants in the Sustainable Generation Infrastructure segment. The recoverable amount is around €713 million. The reversals of impairment losses were mainly due to improved medium-term income forecasts as a result of the high gas and electricity prices at the present time. The discount rates used in the valuations were between 6.5% and 6.7% after tax and between 9.4% and 9.8% before tax (previous year: between 4.8% and 5.4% after tax and between 7.0% and 7.8% before tax).

The reversals of impairment losses in the previous year were mainly due to the increase in value of a gas grid in the System Critical Infrastructure segment. The recoverable amount was around €0.5 billion. The discount rate used in the valuation was 2.3%. The main reason for the reversal of impairment losses was an extension to the area covered by the grid as a result of the merger with another gas grid that had a positive effect on the regulatory parameters for the entire grid.

For information on the determination of fair value, please refer to the explanations of impairment losses/reversals of impairment losses in the section "Significant accounting policies" and the section "Disclosures on climate change."

All of the recoverable amounts were calculated on the basis of the fair value less costs to sell and correspond to Level 3 of the IFRS 13 fair value hierarchy.

There was an increase in miscellaneous other operating income, which was primarily due to a settlement payment from the German federal government to a subsidiary, of €460.0 million (previous year: €0.0 million), higher income from currency exchange rate gains of €157.7 million (previous year: €37.6 million) and increased income from CO₂ allowances⁹. Miscellaneous other operating income also includes income from the reversal of accruals.

(3) Cost of materials

in € million	2022	2021
Cost of materials and supplies and of purchased merchandise	46,983.4	22,460.7
Cost of purchased services	4,165.0	3,490.2
Total	51,148.4	25,950.9

Cost of materials and supplies and of purchased merchandise comprises, in particular, electricity and gas procurement costs including increases in provisions for onerous contracts for procurement agreements. In addition, it includes the necessary additions to the provisions for the decommissioning of nuclear power plants, unless these are required to be recognized as part of the cost of the asset. However, the accretion of the provisions is not included. Expenses relating to nuclear power also include costs for the disposal of irradiated fuel rods and radioactive waste, as well as for the consumption of nuclear fuel rods and nuclear fuels. Fuel costs for conventional power plants, costs for the procurement of CO₂ allowances and the net result from energy trading transactions for the rolling procurement of emission allowances are also disclosed under this item.

Cost of purchased services mainly contains expenses for use of the grids, services purchased for the operation and maintenance of the plants as well as concession fees. In addition, other expenses directly attributable to services rendered are disclosed under cost of purchased services.

(4) Personnel expenses

in € million	2022	2021
Wages and salaries	2,119.3	1,942.7
Social security	205.6	193.8
Expenses for post-employment benefits	266.9	321.0
Total	2,591.8	2,457.5

Employees as an annual average

Number	2022	2021
Smart Infrastructure for Customers	5,182	4,986
System Critical Infrastructure	11,211	10,259
Sustainable Generation Infrastructure	7,168	7,072
Other	2,936	2,889
Employees	26,497	25,206
Apprentices and trainees including DH students in the Group	1,154	1,109

The total number includes employees of joint operations of 6 employees (previous year: 6) based on the proportion attributable to EnBW.

(5) Other operating expenses

in € million	2022	2021
Expenses from derivatives	3,495.0	1,991.7
Administrative and selling costs and other overheads	700.5	507.3
Audit, legal and consulting fees	175.1	140.6
Dues and levies	123.9	44.9
Rent and lease expenses	115.7	87.1
Insurance	96.5	78.5
Other personnel expenses	89.2	75.0
Advertising expenses	82.1	78.6
Other taxes	55.7	32.4
Costs from disposals of assets	20.3	23.2
Miscellaneous	428.1	356.2
Total	5,382.1	3,415.5

The increase in other operating expenses was mainly attributable to higher expenses from derivatives² due to valuation effects as a result of the volatile market environment and higher market prices.

Miscellaneous other operating expenses mainly increased due to higher expenses from currency exchange rate losses amounting to €182.0 million (previous year: €30.1 million). This was offset to some extent by lower expenses for CO₂ allowances. In addition, miscellaneous other operating expenses contain, among other things, expenses for commissions.

(6) Amortization and depreciation

in € million	2022	2021
Amortization of intangible assets	527.1	296.1
Depreciation of property, plant and equipment	1,629.7	2,177.2
Depreciation of investment properties	5.5	0.7
Depreciation of right-of-use assets from leases	170.6	171.9
Reversals of investment cost subsidies	-0.8	-1.3
Total	2,332.1	2,644.6
of which scheduled depreciation	(1,615.3)	(1,556.3)
of which impairment losses	(716.8)	(1,088.3)

Please refer to note (10) "Intangible assets" for information on the impairment of goodwill.

Impairment losses totaling €336.1 million (previous year: €117.8 million) were recognized on intangible assets and €376.2 million (previous year: €970.5 million) on property, plant and equipment.

In the current financial year, impairment losses were mainly recognized on two offshore wind farms in the Sustainable Generation Infrastructure segment in the amount of €414.2 million. The main reasons for the impairment were higher capital costs, the fewer remaining operating years with EEG funding and new findings with respect to offshore wind conditions. The recoverable amount was around €2.4 billion. The discount rates used in the valuations were between 5.1% and 6.8% after tax and between 7.3% and 9.8% before tax (previous year: between 3.0% and 5.2% after tax and between 4.3% and 7.4% before tax).

In the previous year, impairment losses were mainly recognized on the cash-generating unit conventional power plants and the associated intangible assets in the Sustainable Generation Infrastructure segment. The recoverable amount was around €-0.3 billion and this resulted in impairment losses of €0.6 billion.

For information on the determination of fair value, please refer to the explanations of impairment losses/reversals of impairment losses in the section "Significant accounting policies" and the section "Disclosures on climate change."

In the Sustainable Generation Infrastructure segment, impairment losses totaling €0.3 billion were also recognized on offshore wind farms and thus also on the associated intangible assets. The recoverable amounts were around €3.2 billion.

In addition, it was necessary to recognize an impairment loss of €0.1 billion on a recoverable amount of around €0.3 billion for a gas power plant in the Sustainable Generation Infrastructure segment.

All of the recoverable amounts were calculated on the basis of the fair value less costs to sell and correspond to Level 3 of the IFRS 13 fair value hierarchy.

(7) Investment result

in € million	2022	2021
Share of profit/loss of entities accounted for using the equity method	62.5	56.3
Write-downs on entities accounted for using the equity method	-122.1	-2.1
Write-ups of entities accounted for using the equity method	83.4	4.8
Net profit/loss from entities accounted for using the equity method	23.8	59.0
Result from investments	250.9	173.4
Write-downs on investments	-29.7	-61.7
Write-ups of investments	24.4	0.3
Result from the sale of equity investments	7.5	9.0
Other profit/loss from investments	253.1	121.0
Investment result (+ income/- expense)	276.9	180.0

The write-downs at entities accounted for using the equity method include €84.6 million for a gas storage company in the Sustainable Generation Infrastructure segment. This write-down was attributable to a deterioration in the earnings potential as a result of the sanctions on Russia and the suspension of all fee payments. The recoverable amount is around €-42 million. The discount rate used in the valuation was 6.6% after tax and 9.4% before tax.

There were also write-downs in the amount of €21.4 million and write-ups in the amount of €25.7 million related to a joint venture in Turkey operated in US dollars in the Sustainable Generation Infrastructure segment. The main reasons for the write-down in the first half of 2022 were the increase in capital costs and negative development of the US dollar exchange rate. In the second half of the year, there was a write-up due to an improvement in the long-term income forecasts as a result of the high electricity prices at the moment and the positive development of the US dollar exchange rate. The recoverable amount is around €257 million. The discount rates used in the valuations were between 10.6% and 11.7% after tax and between 13.3% and 14.6% before tax (previous year: between 8.9% and 9.8% after tax and between 11.1% and 12.3% before tax).

Other write-ups of entities accounted for using the equity method of €57.7 million relate to a conventional power plant in the Sustainable Generation Infrastructure segment. This write-up was mainly due to improved medium-term income forecasts as a result of the high gas and electricity prices at the present time.

Other profit/loss from investments contains income of €0.7 million (previous year: €12.4 million) from the market valuation of the "measured at fair value through profit or loss" measurement category.

The write-ups on investments mainly relate to non-consolidated affiliated entities. The main reason for a write-up on investments in companies related to the project business in the area of Renewable Energies was an improved, medium to long-term income forecast as a result of the high electricity prices at the moment. The discount rates used in the valuation were between 4.8% and 6.8% after tax and 6.4% and 9.2% before tax (previous year: 2.4% and 5.3% after tax and 3.3% and 7.2% before tax). The income is allocated to the Sustainable Generation Infrastructure segment in the segment reporting.

The write-downs on investments mainly relate to a write-down of €11.9 million on a non-consolidated affiliated entity in the Sustainable Generation Infrastructure segment. The main reason for this write-down was the cessation of operations at a subsidiary that had previously made a contribution to the value of the entity. The recoverable amount is around €20 million.

There were other write-downs that also mainly relate to non-consolidated affiliated entities. The main reasons for write-downs on investments in companies related to the project business in the area of Renewable Energies were project delays and project cancellations. The discount rates used in the valuation were between 4.8% and 6.7% after tax and 6.4% and 9.0% before tax (previous year: 2.4% and 5.3% after tax and 3.3% and 7.2% before tax). The expense is allocated to the Sustainable Generation Infrastructure segment in the segment reporting.

In the comparative period, write-downs on investments mainly related to non-consolidated affiliated entities. The main reason for write-downs on investments in companies related to the project business in the area of Renewable Energies was a fall in the probabilities of realization. In the previous year, the discount rates used in the valuation were between 2.4% and 5.3% after tax and 3.3% and 7.2% before tax. The expense was allocated to the Sustainable Generation Infrastructure segment in the segment reporting.

All of the recoverable amounts were calculated on the basis of the fair value less costs to sell and correspond to Level 3 of the IFRS 13 fair value hierarchy.

For information on the determination of fair value, please refer to the explanations of impairment losses/reversals of impairment losses in the section "Significant accounting policies" and the section "Disclosures on climate change."

(8) Financial result

in € million	2022	2021
Interest and similar income	126.5	108.8
Interest portion on the reversal of liabilities	615.3	7.1
Other finance income	297.5	545.2
Finance income	1,039.3	661.1
Borrowing costs	-290.9	-253.8
Other interest and similar expenses	-15.9	-12.1
Interest portion of increases in liabilities	-99.6	-65.9
Personnel provisions	(-94.7)	(-61.0)
Provisions relating to nuclear power	(-0.5)	(0.0)
Other non-current provisions	(-4.4)	(-3.9)
Other liabilities	(0.0)	(-0.9)
Other finance costs	-655.6	-154.7
Finance costs	-1,062.0	-486.5
Financial result (+ income/- costs)	-22.7	174.6

Interest and similar income mainly comprises interest income from interest-bearing securities and loans, as well as dividends and shares in profits. The income from the interest portion on the reversal of liabilities was primarily attributable to the increase in the discount rate for long-term provisions. In the 2022 financial year, interest income of €9.9 million (previous year: €8.4 million) was offset against economically related interest expenses. In the reporting period, other finance income includes income from the "measured at fair value through profit or loss" measurement category of €182.6 million (previous year: €460.9 million). This decrease in comparison to the previous year was due to uncertainty on the stock markets in the reporting year.

Borrowing costs are composed as follows:

in € million	2022	2021
Expenses incurred for bank interest and bonds	192.7	195.1
Interest portion of lease liabilities	16.2	14.3
Other borrowing costs	82.0	44.4
Borrowing costs	290.9	253.8

The interest portion of increases in liabilities relates mainly to the annual accretion of the non-current provisions.

In the reporting period, other finance costs mainly included costs from the “measured at fair value through profit or loss” measurement category of €337.3 million (previous year: €111.9 million). The increase in comparison to the previous year is attributable to weaker markets in the previous year. In addition, they also contained market price losses on the sale of securities amounting to €75.2 million (previous year: €9.5 million).

The total interest income and expenses for financial assets and financial liabilities presented in the financial result breaks down as follows:

Total interest income and expenses

in € million ¹	2022	2021
Total interest income	74.3	70.0
Total interest expenses	-241.6	-215.9

¹ The figures for the previous year have been restated.

The total interest income and expenses arose from financial instruments that are not measured at fair value through profit or loss. The main items here are interest received from loans and bank balances, which are measured at amortized cost, as well as interest and dividends received from financial assets allocated to the “measured at fair value in equity” measurement category. Total interest income comprised the interest income from the “measured at amortized cost” measurement category of €39.9 million (previous year restated: €42.0 million) and the interest income from the “measured at fair value in equity” measurement category of €34.4 million (previous year: €28.0 million). In the reporting period, the interest expenses for the financial assets measured at amortized cost totaling €241.6 million (previous year: €215.9 million) were incurred particularly on bonds, bank liabilities and lease liabilities, as in the previous year.

(9) Income tax

in € million	2022	2021
Actual income tax		
Domestic corporate income tax	317.1	45.1
Domestic trade tax	165.6	55.7
Foreign income taxes	108.2	37.6
Total (- income/+ expense)	591.0	138.4
Deferred taxes		
Germany	55.2	-64.2
Abroad	-94.7	-2.1
Total (- income/+ expense)	-39.5	-66.3
Income tax (- income/+ expense)	551.5	72.1

The actual income tax amounting to €591.0 million (previous year: €138.4 million) concerns income tax expenses from the current financial year of €548.2 million (previous year: €136.6 million) and income tax expenses for past periods of €42.8 million (previous year: €1.8 million).

Deferred tax income of €39.5 million (previous year: income of €66.3 million) consists of the deferred tax expense from the current financial year of €115.1 million (previous year: €63.6 million income) and deferred tax income for past periods of €154.6 million (previous year: €2.7 million).

The change in the actual income tax expense and deferred tax income for past periods was mainly due to tax audits and changes in the tax assessments. The balance from deferred taxes contains income of €2.2 million (previous year: €0.0 million) related to a change in tax rates.

As in the previous year, the corporate income tax rate was 15.0% plus a solidarity surcharge of 5.5% of the corporate income tax. The trade tax rate was 13.9% (previous year: 13.6%). This represents a tax rate on income of 29.7% (previous year: 29.4%). This change was due to the increase in the trade tax rate as a result of the rise in the average weighted assessment rate for trade tax in the consolidated tax group for income tax for EnBW AG. For the foreign entities, the tax rate applicable in the country in which they are based of between 19.0% and 25.8% (as in the previous year) is used to calculate income taxes. Deferred tax assets and liabilities are measured at the tax rates expected to apply when the asset is realized or the liability is settled.

Deferred taxes comprise the following:

in € million	2022	2021
Origination or reversal of temporary differences	-149.4	36.7
Origination of carryforwards of unused tax losses	-26.7	-109.1
Utilization of carryforwards of unused tax losses	136.6	6.1
Deferred taxes [- income/+ expense]	-39.5	-66.3

The reconciliation from the expected income tax expense to the effective income tax expense is presented below:

in € million	2022	in %	2021	in %
Earnings before tax	2,395.3		513.3	
Expected tax rate		29.7		29.4
Expected income tax [- income/+ expense]	711.4		150.9	
Tax effects				
Differences in foreign tax rates and tax rate differences	-48.9	-2.0	-48.6	-9.5
Tax-free income	-113.8	-4.7	-124.0	-24.2
Non-deductible expenses	87.3	3.6	115.4	22.5
Depreciation of losses on goodwill	55.5	2.3	6.6	1.3
Add-backs and reductions for trade tax purposes	-49.7	-2.1	-29.1	-5.7
Accounting for joint ventures and associates using the equity method	-4.8	-0.2	-16.3	-3.2
Adjustment/valuation/non-recognition of carryforwards of unused tax losses and temporary differences	28.7	1.2	32.6	6.4
Zero-rated disposals of investments	-2.4	-0.1	-14.5	-2.8
Taxes relating to other periods	-111.7	-4.7	-0.9	-0.2
Other	0.1	0.0	0.0	0.0
Current income tax [- income/+ expense]	551.5		72.1	
Current tax rate		23.0		14.0

(10) Intangible assets

in € million	Concessions, industrial property rights and similar rights and assets	Internally generated intangible assets	Goodwill	Other	Total
Cost					
As of 01/01/2022	3,643.2	106.3	1,364.2	54.4	5,168.1
Increase/decrease due to changes in the consolidated companies	3.6	0.0	13.9	0.0	17.5
Additions	131.4	24.4	0.0	45.5	201.3
Reclassifications	22.8	5.5	0.0	-26.9	1.4
Currency adjustments	21.9	0.0	8.5	0.0	30.4
Disposals	-5.8	-0.1	0.0	-0.7	-6.6
As of 31/12/2022	3,817.1	136.1	1,386.6	72.3	5,412.1
Accumulated amortization					
As of 01/01/2022	1,610.5	70.1	70.5	0.0	1,751.1
Decrease due to changes in the consolidated companies	-0.2	0.0	0.0	0.0	-0.2
Additions	168.1	22.9	0.0	0.0	191.0
Currency adjustments	11.1	0.0	0.0	0.0	11.1
Disposals	-4.7	0.0	0.0	0.0	-4.7
Impairment	148.9	0.0	186.8	0.3	336.0
Reversal of impairment losses ¹	-90.5	0.0	0.0	0.0	-90.5
As of 31/12/2022	1,843.2	93.0	257.3	0.3	2,193.8
Carrying amounts					
As of 31/12/2022	1,973.9	43.1	1,129.3	72.0	3,218.3

¹ The reversals of impairment losses primarily relate to one of the cash-generating units for conventional power plants in the Sustainable Generation Infrastructure segment.

in € million	Concessions, industrial property rights and similar rights and assets	Internally generated intangible assets	Goodwill	Other	Total
Cost					
As of 01/01/2021	3,491.4	102.9	1,329.8	51.1	4,975.2
Increase/decrease due to changes in the consolidated companies	21.7	0.0	19.8	0.0	41.5
Additions	93.4	17.7	0.0	37.9	149.0
Reclassifications	34.7	1.4	0.0	-32.6	3.5
Currency adjustments	25.5	0.0	14.6	0.0	40.1
Disposals	-23.5	-15.7	0.0	-2.0	-41.2
As of 31/12/2021	3,643.2	106.3	1,364.2	54.4	5,168.1
Accumulated amortization					
As of 01/01/2021	1,360.1	68.5	48.0	0.0	1,476.6
Additions	161.1	17.3	0.0	0.0	178.4
Reclassifications	0.3	0.0	0.0	0.0	0.3
Currency adjustments	13.5	0.0	0.0	0.0	13.5
Disposals	-19.8	-15.7	0.0	0.0	-35.5
Impairment	95.3	0.0	22.5	0.0	117.8
As of 31/12/2021	1,610.5	70.1	70.5	0.0	1,751.1
Carrying amounts					
As of 31/12/2021	2,032.7	36.2	1,293.7	54.4	3,417.0

The carrying amount of the intangible assets includes concessions to operate power plants amounting to €1,387.3 million (previous year: €1,449.9 million) and customer relationships amounting to €74.3 million (previous year: €83.8 million).

In the 2022 financial year, a total of €28.1 million (previous year: €38.6 million) was spent on research and development. The criteria for recognition under IFRS were not satisfied.

The following table shows the main amounts for goodwill allocated to the cash-generating units / groups of cash-generating units in the business segments:

Cash-generating units/groups of cash-generating units

	Goodwill in € million		Discount rates after tax in %	
	2022	2021	2022	2021
Smart Infrastructure for Customers	213.2	218.8		
Plusnet subgroup	81.6	78.0	4.8	2.3
Senec subgroup	50.2	40.9	6.8	5.7
PRE	45.8	42.2	7.4	6.5
Other CGU	35.6	57.7	-	-
System Critical Infrastructure	410.2	572.3		
PRE	196.0	194.4	4.6	3.0
Netze BW GmbH	87.9	87.9	3.9–4.2	2.3–2.6
Stadtwerke Düsseldorf AG	51.4	54.1	3.8	2.3
ONTRAS Gastransport GmbH	45.3	127.2	3.7	2.3
Other CGU	29.5	108.5	-	-
Sustainable Generation Infrastructure	505.9	502.6		
Valeco subgroup	250.5	250.5	3.9–6.5	2.4–5.3
Energiedienst AG	83.7	83.7	3.9–6.6	2.3–5.7
Stadtwerke Düsseldorf AG	63.2	63.2	5.6–6.3	2.1–5.4
EnBW AG conventional generation	60.3	60.3	4.4–6.6	3.2–5.7
Other CGU	48.2	44.9	-	-
Total ¹	1,129.3	1,293.7	3.9–7.4	2.3–6.5

¹ The discount rate before tax was 5.5% – 9.2% (previous year: 3.3% – 8.0%).

The goodwill allocated to the other cash-generating units or groups of cash-generating units accounted for less than 4.3% (previous year: 8.4%) of total goodwill in each case. Its aggregate total was €113.3 million (previous year: €211.2 million).

Goodwill at the level of each cash-generating unit or group of cash-generating units (CGU) is tested for impairment on 30 September of every financial year. In the current financial year, additional impairment tests were also carried out on 31 December 2022 in some cases due to the sharp increase in capital costs.

In the 2022 financial year, there were impairment losses on goodwill of €186.8 million (previous year: €22.5 million), of which €174.0 million (previous year: €0.0 million) were in the System Critical Infrastructure segment. The impairments in the System Critical Infrastructure segment mainly related to goodwill at Ontras Gastransport GmbH in the amount of €81.9 million (recoverable amount: €1,669.4 million), at Energiedienst AG in the amount of €35.9 million (recoverable amount: €407.1 million) and at ZEAG Energie AG in the amount of €31.1 million (recoverable amount: €175.2 million). The reason for these impairment losses were sharp increases in capital costs in this segment, which amounted to 3.9% to 6.8% after tax when calculating the impairment losses on 31 December 2022.

In the previous financial year, there were impairment losses of €22.0 million in the onshore maintenance CGU in the Sustainable Generation Infrastructure segment. The recoverable amount was €-1.8 million. This impairment was caused by a deterioration in the yield forecasts.

All of the recoverable amounts were calculated on the basis of the fair value less costs to sell and correspond to Level 3 of the IFRS 13 fair value hierarchy.

As part of the impairment tests, sensitivity analyses were carried out to investigate the impact of a decrease in the growth discount and an increase in the discount rate.

For partial impairments of goodwill that were carried out in the current financial year in the System Critical Infrastructure segment, any increase in the discount rate or any decrease in the growth discount to that which was applied – with otherwise identical parameters – resulted in a further need for impairment. The growth discount actually applied was 0.4%.

The recoverable amount of goodwill for PRE Smart Infrastructure for Customers exceeded the carrying amount on 31 December 2022 by around €26 million (discount rate after tax: 7.4%). If the capital costs had risen in isolation by around 0.5%, the recoverable amount would have corresponded to the carrying amount. If the growth discount had risen in isolation, however, there would have been no effect on the recoverable amount of this goodwill.

For information on the determination of fair value, please refer to the explanations of impairment losses/reversals of impairment losses in the section "Significant accounting policies" and the section "Disclosures on climate change."

(11) Property, plant and equipment

in € million	Land and buildings	Power plants	Distribution plants	Other equipment	Fixed assets under construction	Total
Cost						
As of 01/01/2022	4,366.1	21,963.2	19,058.0	2,064.2	2,766.5	50,218.0
Increase/decrease due to changes in the consolidated companies	0.4	9.0	0.7	0.3	6.9	17.3
Additions	64.9	185.6	626.0	74.8	1,756.3	2,707.6
Reclassifications	39.8	232.0	238.5	32.1	-474.6	67.8
Reclassification to assets held for sale	0.0	-63.8	0.0	0.0	0.0	-63.8
Currency adjustments	5.0	12.3	51.6	0.7	0.7	70.3
Disposals	-10.9	-172.2	-62.8	-25.1	-11.0	-282.0
As of 31/12/2022	4,465.3	22,166.1	19,912.0	2,147.0	4,044.8	52,735.2
Accumulated amortization						
As of 01/01/2022	2,561.5	16,278.7	10,326.9	1,464.1	11.7	30,642.9
Additions	63.3	603.6	479.1	109.1	0.0	1,255.1
Reclassifications	0.0	75.9	2.1	0.0	0.0	78.0
Reclassification to assets held for sale	0.0	-56.0	0.0	0.0	0.0	-56.0
Currency adjustments	2.4	10.9	25.7	0.6	0.0	39.6
Disposals	-4.7	-7.1	-37.3	-18.0	-1.6	-68.7
Impairment	1.4	365.5	3.2	2.2	2.3	374.6
Reversal of impairment losses	-297.8	-1,050.5	-40.8	-5.0	0.0	-1,394.1
As of 31/12/2022	2,326.1	16,221.0	10,758.9	1,553.0	12.4	30,871.4
Carrying amounts						
As of 31/12/2022	2,139.2	5,945.1	9,153.1	594.0	4,032.4	21,863.8

in € million	Land and buildings	Power plants	Distribution plants	Other equipment	Fixed assets under construction	Total
Cost						
As of 01/01/2021	4,263.9	21,333.2	17,769.1	1,988.0	2,415.9	47,770.1
Increase/decrease due to changes in the consolidated companies	8.5	74.6	3.1	3.3	27.7	117.2
Additions	59.9	236.4	714.1	100.2	1,235.0	2,345.6
Reclassifications	34.8	321.2	537.9	-5.2	-896.1	-7.4
Reclassification to assets held for sale	-2.5	0.0	0.0	0.0	0.0	-2.5
Currency adjustments	7.7	15.6	88.4	0.6	2.1	114.4
Disposals	-6.2	-17.8	-54.6	-22.7	-18.1	-119.4
As of 31/12/2021	4,366.1	21,963.2	19,058.0	2,064.2	2,766.5	50,218.0
Accumulated amortization						
As of 01/01/2021	2,354.6	14,909.2	9,857.7	1,427.4	6.1	28,555.0
Additions	65.3	594.7	448.1	103.4	0.0	1,211.5
Reclassifications	11.2	4.4	50.5	-50.5	0.0	15.6
Currency adjustments	3.9	12.0	42.5	0.5	0.0	58.9
Disposals	-2.5	-7.4	-41.9	-19.4	0.0	-71.2
Impairment	130.7	792.1	33.4	4.0	5.6	965.8
Reversal of impairment losses	-1.7	-26.3	-63.4	-1.3	0.0	-92.7
As of 31/12/2021	2,561.5	16,278.7	10,326.9	1,464.1	11.7	30,642.9
Carrying amounts						
As of 31/12/2021	1,804.6	5,684.5	8,731.1	600.1	2,754.8	19,575.1

Items of property, plant and equipment amounting to €164.6 million (previous year: €196.0 million) serve as collateral for liabilities to banks, of which real estate liens account for €0.1 million (previous year: €0.1 million).

The Group's capital expenditure on intangible assets and property, plant and equipment totaling €2,770.7 million (previous year: €2,361.9 million) can be derived from the statement of changes in non-current assets as follows:

in € million	2022	2021
Additions to intangible assets, property, plant and equipment and right-of-use assets according to the statement of changes in non-current assets	3,136.1	2,674.9
Less non-cash-relevant additions to intangible assets and property, plant and equipment	-44.2	-
Less additions to assets recognized as right-of-use assets under leases	-227.2	-180.4
Less additions to the provision recognized for the decommissioning and dismantling of property, plant and equipment	-94.0	-132.6
Cash-relevant capital expenditure on intangible assets and property, plant and equipment	2,770.7	2,361.9

(12) Leases

Lessee disclosures

The following table shows the development of the rights-of-use assets from leases:

in € million	Land and buildings	Power plants	Distribution plants	Other equipment	Total
Right-of-use assets					
As of 01/01/2022	357.2	202.9	593.4	112.7	1,266.2
Increase/decrease due to changes in the consolidated companies	0.3	0.0	0.0	-0.1	0.2
Additions	69.7	2.2	129.3	26.0	227.2
Currency adjustments	0.0	0.0	2.2	0.2	2.4
Disposals	-10.6	-16.9	-2.2	-5.7	-35.4
As of 31/12/2022	416.6	188.2	722.7	133.1	1,460.6
Accumulated amortization					
As of 01/01/2022	87.9	111.6	230.5	46.5	476.5
Decrease due to changes in the consolidated companies	-0.1	0.0	0.0	0.0	-0.1
Additions	38.1	18.4	89.0	23.6	169.1
Currency adjustments	0.1	0.0	0.4	0.1	0.6
Disposals	-6.6	0.0	-1.9	-5.3	-13.8
Impairment	0.0	1.6	0.0	0.0	1.6
Reversal of impairment losses	-1.5	-13.0	0.0	-0.1	-14.6
As of 31/12/2022	117.9	118.6	318.0	64.8	619.3
Carrying amounts					
As of 31/12/2022	298.7	69.6	404.7	68.3	841.3

in € million	Land and buildings	Power plants	Distribution plants	Other equipment	Total
Right-of-use assets					
As of 01/01/2021	296.5	205.4	504.2	88.7	1,094.8
Increase/decrease due to changes in the consolidated companies	1.1	0.0	0.0	0.0	1.1
Additions	60.0	-6.9	93.2	34.1	180.4
Reclassifications	1.7	4.3	0.0	0.3	6.3
Reclassification to assets held for sale	0.2	0.0	0.0	0.0	0.2
Currency adjustments	0.3	0.1	3.3	0.4	4.1
Disposals	-2.6	0.0	-7.3	-10.8	-20.7
As of 31/12/2021	357.2	202.9	593.4	112.7	1,266.2
Accumulated amortization					
As of 01/01/2021	51.3	83.6	150.4	33.6	318.9
Additions	35.2	23.5	85.4	23.0	167.1
Reclassifications	0.3	5.3	0.0	0.1	5.7
Reclassification to assets held for sale	0.2	0.0	0.0	0.0	0.2
Currency adjustments	0.1	0.0	0.5	0.2	0.8
Disposals	-1.1	0.0	-5.9	-10.4	-17.4
Impairment	1.9	2.8	0.1	0.0	4.8
Reversal of impairment losses	0.0	-3.6	0.0	0.0	-3.6
As of 31/12/2021	87.9	111.6	230.5	46.5	476.5
Carrying amounts					
As of 31/12/2021	269.3	91.3	362.9	66.2	789.7

The lease liabilities are due as follows:

in € million	31/12/2022		31/12/2021	
	Nominal value	Present value	Nominal value	Present value
Due within 1 year	170.8	157.7	172.2	161.4
Due in 1 to 5 years	417.9	378.0	403.0	378.9
Due in more than 5 years	456.8	376.8	432.4	344.1
Total	1,045.5	912.5	1,007.6	884.4

The effects on the income statement due to leases break down as follows:

in € million	2022	2021
Expenses from short-term leases	2.1	7.4
of which other operating expenses	(2.1)	(7.4)
Expenses from leases involving low-value assets	4.2	8.3
of which cost of materials	(0.1)	(0.7)
of which other operating expenses	(4.1)	(7.6)
Variable lease payments	2.4	2.1
of which cost of materials	(2.0)	(2.0)
of which other operating expenses	(0.4)	(0.1)
Depreciation of right-of-use assets	170.7	171.9
Interest portion of lease liability	16.2	14.3

The cash flow statement is impacted as follows:

in € million	2022	2021
Repayment portion of the lease liabilities	183.3	185.4
Interest portion of lease liabilities	16.2	14.3
Expenses from short-term leases, leases involving low-value assets and variable lease payments	8.7	17.8
Total	208.2	217.5

The repayment and interest portions of the lease liabilities are recognized in cash flow from financing activities. The cash flow from operating activities contains the expenses from short-term leases, leases involving low-value assets and variable lease payments.

The financial commitments from short-term leases and leases involving low-value assets are included in note (27) "Contingent liabilities and other financial commitments."

In the EnBW Group, there are agreements for variable lease payments totaling €502.9 million (previous year: €460.8 million), which mainly relate to long-term electricity procurement agreements. Alongside leases that have not yet begun totaling €90.9 million (previous year: €151.2 million), which relate to electricity procurement agreements, there are other leases that have not yet begun totaling €202.3 million, which relate mainly to energy industry lease relationships, vehicles and office space (previous year: €87.2 million). Furthermore, the EnBW Group has leases with extension and termination options totaling €258.6 million (previous year: €185.6 million), which could not be taken into account initially in the rights-of-use assets and corresponding lease liabilities because they were assessed as being not reasonably certain.

Lessor disclosures

The finance lease receivables of €43.8 million (previous year: €32.8 million) arose from supply contracts for various forms of energy such as electricity, heat, cooling and compressed air (so-called contracting agreements), under which the economic ownership of the leased technical equipment and machinery is allocable to the lessee. The lease payments receivable are due as follows:

in € million	31/12/2022	31/12/2021
Due within 1 year	6.6	4.9
Due in 1 to 2 years	5.6	4.5
Due in 2 to 3 years	5.4	4.3
Due in 3 to 4 years	5.3	4.1
Due in 4 to 5 years	4.6	4.0
Due in more than 5 years	16.3	11.0
Total	43.8	32.8

The lease payments receivable can be reconciled with the net investment in the lease as follows:

in € million	31/12/2022	31/12/2021
Nominal value of lease payments	43.8	32.8
Gross investment	43.8	32.8
Finance income not yet realized	-11.2	-7.2
Net investment	32.6	25.6

The outstanding receivables from finance leases in the 2022 financial year include impairment losses of €0.3 million (previous year: €0.1 million). The loss rate (weighted average) is 0.8% (previous year: 0.5%). No lease receivables are overdue.

The finance income on net investment in finance leases was €2.2 million (previous year: €2.2 million).

The claims due to the EnBW Group from operating leases of €134.3 million (previous year restated: €138.4 million) are mainly attributable to contracting agreements and renting out commercial and residential real estate and usable areas. In the case of leases for real estate and usable areas, there are general termination risks that are classified overall as low due to the potential to rent them again. For contracting agreements, there is a reutilization risk, should the agreement be terminated, due to the high level of customization in some cases.

The lease payments receivable from operating leases are due as follows:

in € million ¹	2022	2021
Due within 1 year	25.4	26.6
Due in 1 to 2 years	11.0	12.1
Due in 2 to 3 years	9.2	8.0
Due in 3 to 4 years	7.8	8.8
Due in 4 to 5 years	7.1	8.3
Due in more than 5 years	73.8	74.6
Total	134.3	138.4

¹ The figures for the previous year have been restated.

For materiality reasons, operating leases are not reported separately under property, plant and equipment. Income from operating leases in the 2022 financial year was €27.2 million (previous year: €27.8 million).

(13) Entities accounted for using the equity method

Both joint ventures and associates are accounted for using the equity method.

The following table shows a summary of the financial information for the entities accounted for using the equity method:

Financial data (EnBW's interest)

in € million	2022		2021	
	Associates	Joint ventures	Associates	Joint ventures
Carrying amount of entities accounted for using the equity method	648.0	485.9	556.7	460.9
Net profit/loss for the year from continuing operations	33.1	29.4	32.1	24.2
Other income	1.7	10.9	1.5	18.5
Total comprehensive income	34.8	40.3	33.6	42.7

Elektrizitätswerk Rheinau AG and Fernwärme Ulm GmbH have a different reporting date and are consolidated with the figures from their financial statements for the year ending 30 September 2022.

(14) Other financial assets

in € million	Shares in affiliated entities	Other investments ¹	Non-current securities	Investment properties	Loans	Total
Cost						
As of 01/01/2022	267.5	2,511.9	3,946.1	56.3	141.6	6,923.4
Increase/decrease due to changes in the consolidated companies	54.2	-18.9	0.0	0.0	-4.1	31.2
Additions	46.6	478.8	2,096.7	0.0	190.4	2,812.5
Reclassifications	0.0	0.0	-77.1	0.2	92.9	16.0
Currency adjustments	0.0	2.0	0.0	0.0	0.2	2.2
Disposals	-0.2	-224.1	-2,667.8	-0.1	-2.5	-2,894.7
As of 31/12/2022	368.1	2,749.7	3,297.9	56.4	418.5	6,890.6
Accumulated amortization						
As of 01/01/2022	71.6	91.5	0.0	10.7	5.2	179.0
Decrease due to changes in the consolidated companies	31.4	0.0	0.0	0.0	0.0	31.4
Additions	0.0	0.0	0.0	0.9	1.5	2.4
Impairment	20.6	9.1	0.0	4.6	108.7	143.0
Reclassifications	0.0	0.9	0.0	0.2	-0.4	0.7
Disposals	-0.1	0.0	0.0	-0.1	-0.3	-0.5
Reversal of impairment losses	-23.0	-1.4	0.0	0.0	-1.0	-25.4
As of 31/12/2022	100.5	100.1	0.0	16.3	113.7	330.6
Carrying amounts						
As of 31/12/2022	267.6	2,649.6	3,297.9	40.1	304.8	6,560.0

¹ The carrying amounts include €2,345.3 million accounted for by investments held as financial assets.

in € million	Shares in affiliated entities	Other investments ¹	Non-current securities	Investment properties	Loans	Total
Cost						
As of 01/01/2021	338.2	2,070.5	3,606.5	47.6	274.1	6,336.9
Increase/decrease due to changes in the consolidated companies	-46.7	0.1	0.0	0.0	-87.0	-133.6
Additions	53.7	561.8	3,394.2	0.4	64.8	4,074.9
Reclassifications	-39.4	39.5	-99.6	8.4	-108.8	-199.9
Reclassification to assets held for sale	-35.6	-26.7	0.0	0.0	0.0	-62.3
Currency adjustments	0.0	2.5	0.0	0.0	0.2	2.7
Disposals	-2.7	-135.8	-2,955.0	-0.1	-1.7	-3,095.3
As of 31/12/2021	267.5	2,511.9	3,946.1	56.3	141.6	6,923.4
Accumulated amortization						
As of 01/01/2021	61.9	66.6	0.0	19.7	3.5	151.7
Additions	0.0	0.0	0.0	0.7	2.8	3.5
Impairment	42.3	19.5	0.0	0.0	0.0	61.8
Reclassifications	-23.1	23.6	0.0	-9.7	-0.5	-9.7
Reclassification to assets held for sale	-6.9	-15.6	0.0	0.0	0.0	-22.5
Disposals	-2.6	-2.3	0.0	0.0	0.2	-4.7
Reversal of impairment losses	0.0	-0.3	0.0	0.0	-0.8	-1.1
As of 31/12/2021	71.6	91.5	0.0	10.7	5.2	179.0
Carrying amounts						
As of 31/12/2021	195.9	2,420.3	3,946.1	45.6	136.4	6,744.4

¹ The carrying amounts include €2,105.1 million accounted for by investments held as financial assets.

The investments in affiliated entities disclosed in the financial assets are entities that are not included in the consolidated financial statements due to immateriality.

The non-current securities are mainly fixed-income securities as well as listed shares. To a large extent, the non-current securities are held in special funds. For consolidation purposes, the individual securities in the special funds are shown separately in the consolidated balance sheet by type of investment. The non-current securities, loans and investments, which are held as financial assets, are available to cover the pension and nuclear provisions in the amount of €5,642.1 million (previous year: €6,053.4 million). Of the loans, €303.5 million (previous year: €132.0 million) is allocated to capital employed ⁸.

The loans consist of loans to affiliated entities amounting to €258.4 million (previous year: €99.7 million), loans to entities accounted for using the equity method of €21.6 million (previous year: €16.5 million), loans to investments held as financial assets of €1.3 million (previous year: €4.4 million) and to operative investments allocated to capital employed of €15.9 million (previous year: €9.6 million) and other loans allocated to capital employed of €7.5 million (previous year: €6.2 million).

(15) Trade receivables

in € million	31/12/2022			31/12/2021		
	Current	Non-current	Total	Current	Non-current	Total
Trade receivables	5,591.3	329.4	5,920.7	5,952.5	330.2	6,282.7
of which receivables from affiliated entities	(56.6)	(0.0)	(56.6)	(52.2)	(0.0)	(52.2)
of which receivables from other investees and investors	(78.4)	(0.0)	(78.4)	(95.4)	(0.0)	(95.4)
of which receivables from entities accounted for using the equity method	(28.9)	(0.0)	(28.9)	(26.0)	(0.0)	(26.0)

Further details on loss allowances and default risks can be found in note (26) "Accounting for financial instruments."

Non-current trade receivables principally include receivables relating to electricity supplies, whose term to maturity does not match the customary business cycle.

(16) Other assets

in € million	31/12/2022			31/12/2021		
	Current	Non-current	Total	Current	Non-current	Total
Income tax refund claims	192.9	0.0	192.9	241.8	0.3	242.1
Other tax refund claims	297.7	0.1	297.8	135.4	0.1	135.5
Interest from tax refunds	5.6	0.0	5.6	0.0	0.0	0.0
Derivatives	10,734.7	2,662.5	13,397.2	15,292.7	1,900.3	17,193.0
of which without hedges	(10,530.2)	(2,362.4)	(12,892.6)	(14,733.2)	(1,653.8)	(16,387.0)
of which cash flow hedge	(202.0)	(279.5)	(481.5)	(559.5)	(191.8)	(751.3)
of which fair value hedge	(2.5)	(20.6)	(23.1)	(0.0)	(54.7)	(54.7)
Finance lease receivables	4.4	27.9	32.3	2.4	23.1	25.5
Payments on account	147.7	11.5	159.2	57.5	8.1	65.6
Prepaid expenses	386.9	97.3	484.2	150.6	87.5	238.1
Costs for obtaining contracts ¹	(11.2)	(7.9)	(19.1)	(15.2)	(11.4)	(26.6)
Miscellaneous assets	3,491.1	158.3	3,649.4	4,036.3	224.1	4,260.4
Total	15,261.0	2,957.6	18,218.6	19,916.7	2,243.5	22,160.2

¹ According to IFRS 15.

Current and non-current income tax refund claims mainly include deductible tax on investment income and tax overpayments from the 2021 financial year.

As a result of the high volatility and slight fall in prices on the energy trading markets, EnBW recorded a fall in derivatives.

Payments on account contain prepayments for electricity procurement agreements amounting to €16.0 million (previous year: €13.2 million).

Miscellaneous assets contain collateral for exchange-based and over-the-counter trading business amounting to €2,700.8 million (previous year: €3,217.2 million) as well as variation margins of €4.6 million (previous year: €257.3 million). A market interest rate is applied to the collateral provided for exchange-based trading business. This collateral will be used by the stock exchanges in the event that the obligations resulting from stock market transactions are not met. In addition, miscellaneous assets contain the surplus cover from benefit entitlements of €106.0 million (previous year: €121.5 million).

(17) Inventories

in € million	31/12/2022	31/12/2021
Materials and supplies	969.4	556.7
Nuclear fuel rods	7.0	32.3
Work in progress	198.3	137.3
Finished goods and merchandise	2,634.4	1,543.2
Payments on account	26.6	20.8
Total	3,835.7	2,290.3

The increase in inventories was due to an increase in merchandise as a result of the significant price increases on the energy trading markets, and to larger coal stocks for the operation of the power plants.

In the reporting year, impairment losses of €10.2 million (previous year: €9.4 million) were recognized on inventories. There were also reversals of impairment losses of €8.5 million (previous year: €1.8 million).

Expenses recognized for inventories are mainly included in the cost of materials.

Inventories of €2,461.9 million (previous year: €1,482.8 million) are measured at fair value.

(18) Financial assets

in € million	31/12/2022	31/12/2021
Securities and financial investments	945.2	777.9
Other current financial assets	403.1	396.2
Total	1,348.3	1,174.1

Securities and financial investments mainly comprise fixed deposits from EEG funds of €625.0 million (previous year: €350.0 million) and investment funds. They also comprise fixed-income and floating rate interest securities. Other current financial assets in the 2022 financial year and the previous year mainly relate to loans. The current financial assets are available to the operative business in the amount of €1,225.3 million (previous year: €934.6 million) and to cover pension and nuclear provisions in the amount of €75.7 million (previous year: €97.2 million). Of the loans allocated to the current financial assets, €47.3 million (previous year: €142.3 million) is assigned to capital employed.

(19) Cash and cash equivalents

Cash and cash equivalents relate primarily to bank deposits, largely in the form of time and day-to-day deposits whose original term is less than three months and that are only subject to an immaterial risk of fluctuation in value. Cash and cash equivalents of €1,667.3 million (previous year: €1,251.0 million) are subject to restrictions on disposal. This includes €1,665.0 million (previous year: €1,215.2 million) in EEG funds that may only be used for EEG payments.

Cash and cash equivalents are available to the operative business in the amount of €6,290.6 million (previous year: €6,466.5 million) and to cover pension and nuclear provisions in the amount of €185.0 million (previous year: €186.5 million).

(20) Equity

The development of equity and total comprehensive income is presented separately in the statement of changes in equity. The components of total comprehensive income are presented in the statement of comprehensive income.

Subscribed capital

The share capital of EnBW AG amounts to €708,108,042.24 as of 31 December 2022 (previous year: €708,108,042.24) and is divided into 276,604,704 (previous year: 276,604,704) no-par-value bearer shares, all of which have been fully paid in. The no-par-value shares each represent an imputed share of €2.56 per share (previous year: €2.56 per share) of the subscribed capital.

Capital reserve

The capital reserve contains the amounts received from the issue of shares of EnBW AG which exceed the imputed value of the shares.

Revenue reserves

The revenue reserves primarily contain the pro rata revenue reserves of the parent company and the other companies included in the consolidation after the date of acquisition.

We will propose to the Annual General Meeting that a dividend of €1.10 (previous year: €1.10) per share be distributed from the retained earnings of EnBW AG. As of 31 December 2022, a total of 270,855,027 shares were entitled to dividends, as in the previous year. If the Annual General Meeting approves this proposal, the total amount distributed by EnBW AG for the 2022 financial year will be €297.9 million (previous year: €297.9 million).

Treasury shares

As of 31 December 2022, EnBW AG holds 5,749,677 treasury shares, as in the previous year. The acquisition cost of the treasury shares amounting to €204.1 million (previous year: €204.1 million) was deducted from the carrying amount of the equity. The amount of share capital attributable to them remains unchanged at €14,719,173.12. This corresponds to 2.1% of the subscribed capital, as in the previous year. The treasury shares were acquired on 28 and 29 December 1998 based on the authorization issued on 25 August 1998 by the Annual General Meeting pursuant to section 71 (1) no. 8 AktG. The acquisition was carried out with a view to planned cooperations with domestic and foreign energy suppliers, as well as industrial customers, that were to be underpinned by mutual capital participations.

The company has no rights from directly held treasury shares; they are not entitled to dividends. In accordance with the rulings of IFRS, the treasury shares are not recognized as securities, but are offset in one sum against equity in the balance sheet.

Other comprehensive income

Other comprehensive income comprises changes in the market value of financial assets in the category "measured at fair value in equity," changes in the market value of cash flow hedges⁹, amounts recognized directly in equity for accounting for entities using the equity method, currency translation differences from the translation of financial statements of foreign entities and the revaluation of pensions and similar obligations.

For details on the changes recognized directly in equity on financial assets in the category "measured at fair value in equity" and on cash flow hedges, please refer to note (26) "Accounting for financial instruments."

Presentation of the components of other comprehensive income:

2022 in € million	Revalu- ation of pensions and similar obligations	Currency translation differences	Cash flow hedge	Financial assets at fair value in equity	Entities accounted for using the equity method	Shares of the share- holders of EnBW AG	Non- controlling interests	Total
Unrealized changes in market value in the current period	2,364.7	54.5	1,390.5	-287.7	2.7	3,524.7	107.3	3,632.0
Reclassification adjustments included in the income statement	0.0	0.0	855.1	55.2	0.0	910.3	-145.9	764.4
Reclassification to cost of hedged items	0.0	0.0	-622.9	0.0	0.0	-622.9	0.0	-622.9
Total other comprehensive income before tax	2,364.7	54.5	1,622.7	-232.5	2.7	3,812.1	-38.6	3,773.5
Income tax	-604.9	-2.8	-487.9	68.6	0.0	-1,027.0	16.5	-1,010.5
Total other comprehensive income	1,759.8	51.7	1,134.8	-163.9	2.7	2,785.1	-22.1	2,763.0

2021 in € million	Revalu- ation of pensions and similar obligations	Currency translation differences	Cash flow hedge	Financial assets at fair value in equity	Entities accounted for using the equity method	Shares of the share- holders of EnBW AG	Non- controlling interests	Total
Unrealized changes in market value in the current period	629.0	69.2	86.0	-28.3	2.7	758.6	260.9	1,019.5
Reclassification adjustments included in the income statement	0.0	-2.5	301.6	-3.4	0.0	295.7	-67.4	228.3
Reclassification to cost of hedged items	0.0	0.0	-107.0	0.0	0.0	-107.0	0.0	-107.0
Total other comprehensive income before tax	629.0	66.7	280.6	-31.7	2.7	947.3	193.5	1,140.8
Income tax	-265.4	0.0	-66.0	11.3	0.0	-320.1	-50.2	-370.3
Total other comprehensive income	363.6	66.7	214.6	-20.4	2.7	627.2	143.3	770.5

Presentation of the tax effects relating to unrealized expenses and income in equity:

in € million	2022			2021		
	Before tax	Tax expenses/ income	After tax	Before tax	Tax expenses/ income	After tax
Revaluation of pensions and similar obligations	2,388.9	-610.0	1,778.9	645.1	-268.9	376.2
Currency translation differences	66.2	-2.8	63.4	88.3	0.0	88.3
Cash flow hedge	1,461.9	-551.2	910.7	311.7	-127.9	183.8
Financial assets measured at fair value in equity	-287.7	85.4	-202.3	-28.3	8.1	-20.2
Entities accounted for using the equity method	2.7	0.0	2.7	2.7	0.0	2.7
Total other comprehensive income	3,632.0	-1,078.6	2,553.4	1,019.5	-388.7	630.8

Presentation of the tax effects of reclassification adjustments included in the income statement and the cost of hedged items:

in € million	2022			2021		
	Before tax	Tax expenses/ income	After tax	Before tax	Tax expenses/ income	After tax
Currency translation differences	0.0	0.0	0.0	-2.5	0.0	-2.5
Cash flow hedge	86.3	84.9	171.2	127.2	15.2	142.4
Financial assets measured at fair value in equity	55.2	-16.8	38.4	-3.4	3.2	-0.2
Total other comprehensive income	141.5	68.1	209.6	121.3	18.4	139.7

Non-controlling interests

Non-controlling interests are shares in Group companies held by third parties. They relate, in particular, to Energiedienst Holding AG, VNG AG, Stadtwerke Düsseldorf AG and Pražská energetika a.s., each with their subsidiaries, EnBW Hohe See GmbH & Co. KG, EnBW Albatros GmbH & Co. KG, EnBW Baltic 2 GmbH & Co. KG, EnBW WindInvest GmbH & Co. KG and, in the reporting year, EnBW SunInvest GmbH & Co. KG and its subsidiaries.

Financial information for subsidiaries where there is a significant influence without a controlling interest:

in € million	2022			
	Capital share in % of non-controlling interests	Annual net profit/loss from non-controlling interests	Dividends from non-controlling interests	Carrying amount of non-controlling interests
Energiedienst Holding AG	33.3	49.6	9.6	476.3
VNG AG	20.2	-94.2	0.0	389.0
Stadtwerke Düsseldorf AG	45.1	99.3	45.4	449.2
Pražská energetika a.s.	30.2	36.2	20.6	306.4
EnBW Hohe See GmbH & Co. KG	49.9	-60.4	88.3	1,026.7
EnBW Albatros GmbH & Co. KG	49.9	12.3	23.1	268.8
EnBW Baltic 2 GmbH & Co. KG	49.9	62.0	0.0	426.7
EnBW WindInvest GmbH & Co. KG	49.9	13.7	0.7	113.5
EnBW SunInvest GmbH & Co. KG	49.9	7.5	0.0	205.5

Balance sheet data

in € million	2022							
	Non- current assets	Current assets	Non- current liabilities	Of which non- current financial liabilities	Current liabilities	Of which current financial liabilities	Funds from operations (FFO)	Cash flow from operating activities
Energiedienst Holding AG	1,621.1	461.8	381.7	(29.3)	308.5	(8.0)	99.4	-51.4
VNG AG	5,134.1	9,218.8	3,543.0	(427.8)	8,804.7	(6.8)	-378.1	13.5
Stadtwerke Düsseldorf AG	1,742.3	1,314.5	951.0	(418.2)	1,150.2	(12.4)	245.0	393.6
Pražská energetika a.s.	1,343.8	571.8	406.1	(128.5)	468.9	(2.8)	194.9	217.1
EnBW Hohe See GmbH & Co. KG	1,992.7	394.9	201.1	(0.0)	26.5	(0.0)	322.7	294.7
EnBW Albatros GmbH & Co. KG	534.4	104.5	72.3	(0.0)	5.7	(0.0)	85.0	77.9
EnBW Baltic 2 GmbH & Co. KG	829.3	220.7	126.6	(0.0)	18.2	(0.0)	183.5	161.6
EnBW WindInvest GmbH & Co. KG	190.4	42.5	35.7	(0.0)	8.6	(0.0)	42.9	34.9
EnBW SunInvest GmbH & Co. KG	324.6	134.3	30.1	(0.0)	21.3	(0.0)	105.5	-46.9

Earnings data

in € million

2022

	Revenue	Adjusted EBITDA	Annual net profit/loss	Other income	Total comprehensive income
Energiedienst Holding AG	1,380.4	95.2	148.8	39.6	188.4
VNG AG	20,109.0	-161.9	-365.3	9.3	-356.0
Stadtwerke Düsseldorf AG	4,640.4	518.5	220.4	-85.1	135.3
Pražská energetika a.s.	1,824.2	223.5	120.0	9.7	129.7
EnBW Hohe See GmbH & Co. KG	401.3	355.6	-121.1	0.0	-121.1
EnBW Albatros GmbH & Co. KG	101.3	92.7	24.7	0.0	24.7
EnBW Baltic 2 GmbH & Co. KG	220.6	188.5	124.3	0.0	124.3
EnBW WindInvest GmbH & Co. KG	49.8	43.4	27.5	0.0	27.5
EnBW SunInvest GmbH & Co. KG	123.9	117.1	97.0	0.0	97.0

in € million ¹

2021

	Capital share in % of non-controlling interests	Annual net profit/loss from non-controlling interests	Dividends from non-controlling interests	Carrying amount of non-controlling interests
Energiedienst Holding AG	33.3	14.6	7.7	421.0
VNG AG	25.8	29.9	5.2	446.2
Stadtwerke Düsseldorf AG	45.1	7.1	29.2	432.1
Pražská energetika a.s.	30.2	25.0	18.9	296.8
EnBW Hohe See GmbH & Co. KG	49.9	13.3	119.3	1,237.5
EnBW Albatros GmbH & Co. KG	49.9	14.8	27.4	296.1
EnBW Baltic 2 GmbH & Co. KG	49.9	-49.7	44.0	439.0
EnBW WindInvest GmbH & Co. KG	49.9	15.0	0.4	107.8

¹ The figures for the previous year have been restated.**Balance sheet data**in € million ¹

2021

	Non-current assets	Current assets	Non-current liabilities	Of which non-current financial liabilities	Current liabilities	Of which current financial liabilities	Funds from operations (FFO)	Cash flow from operating activities
Energiedienst Holding AG	1,586.6	535.4	488.8	(18.5)	388.1	(5.2)	89.9	194.9
VNG AG	4,106.6	12,227.7	2,978.9	(430.2)	11,589.4	(300.7)	195.8	183.9
Stadtwerke Düsseldorf AG	1,653.9	2,470.4	991.4	(370.7)	2,234.5	(79.9)	223.2	231.1
Pražská energetika a.s.	1,311.4	414.9	410.8	(124.7)	327.3	(49.7)	152.1	124.8
EnBW Hohe See GmbH & Co. KG	2,527.1	349.8	273.3	(0.0)	52.9	(0.0)	273.6	262.1
EnBW Albatros GmbH & Co. KG	613.3	92.3	87.1	(0.0)	11.2	(0.0)	72.4	65.7
EnBW Baltic 2 GmbH & Co. KG	897.5	189.0	142.0	(0.0)	17.0	(0.0)	137.6	165.2
EnBW WindInvest GmbH & Co. KG	204.5	17.8	39.0	(0.0)	6.6	(0.0)	17.1	6.8

¹ The figures for the previous year have been restated.**Earnings data**in € million ¹

2021

	Revenue	Adjusted EBITDA	Annual net profit/loss	Other income	Total comprehensive income
Energiedienst Holding AG	973.5	93.0	43.8	41.2	85.0
VNG AG	10,006.5	297.2	115.9	10.8	126.7
Stadtwerke Düsseldorf AG	2,907.0	230.1	15.8	204.1	219.9
Pražská energetika a.s.	1,004.0	177.1	82.9	121.7	204.6
EnBW Hohe See GmbH & Co. KG	322.3	281.0	26.7	0.0	26.7
EnBW Albatros GmbH & Co. KG	81.7	73.9	29.7	0.0	29.7
EnBW Baltic 2 GmbH & Co. KG	189.6	155.4	-99.6	0.0	-99.6
EnBW WindInvest GmbH & Co. KG	24.8	20.6	30.1	0.0	30.1

¹ The figures for the previous year have been restated.

(21) Provisions

Provisions disclosed separately according to maturity in the balance sheet are combined in the notes to the financial statements.

in € million	31/12/2022			31/12/2021		
	Current	Non-current	Total	Current	Non-current	Total
Provisions for pensions and similar obligations	209.5	5,216.5	5,426.0	190.2	7,582.2	7,772.4
Provisions relating to nuclear power	629.6	3,984.7	4,614.3	543.8	4,411.7	4,955.5
Other provisions	2,507.7	1,282.6	3,790.3	1,942.5	2,095.5	4,038.0
Other dismantling obligations	(12.5)	(767.7)	(780.2)	(28.4)	(912.3)	(940.7)
Provisions for onerous contracts	(478.3)	(49.4)	(527.7)	(153.4)	(682.2)	(835.6)
Other electricity and gas provisions	(1,726.9)	(48.2)	(1,775.1)	(1,458.2)	(48.3)	(1,506.5)
Personnel provisions	(107.3)	(165.7)	(273.0)	(109.8)	(153.9)	(263.7)
Miscellaneous provisions	(182.7)	(251.6)	(434.3)	(192.7)	(298.8)	(491.5)
Total	3,346.8	10,483.8	13,830.6	2,676.5	14,089.4	16,765.9

Provisions for pensions and similar obligations

The provisions for pensions and similar obligations are recorded on the basis of actuarial valuations for the existing commitments for future and current post-employment benefits to current and former employees with a pension entitlement, as well as their surviving dependents. A substantial majority of the employees of the EnBW Group are entitled to pension payments from defined benefit pension plans. There are different post-employment provision schemes, which reflect how long the respective employees have served the company. In the case of employees who have already retired, the schemes in question are mainly final salary-based systems, in which the pension paid is calculated on the basis of the length of service, the rate of increase and the last pensionable income. As of 1 January 2005, this system was decoupled from the adjustments to the statutory pension insurance system as part of a reorganization. The amount of the provisions for pensions and similar obligations accounted for by these final salary-based systems as of 31 December 2022 was €4,728.4 million (previous year: €6,581.4 million). The bulk of the active employees are covered by ongoing salary-based schemes and/or a pension component system in the form of an average salary plan, in which the pension paid consists of annual pension components. For employees who joined the company from 1998 onwards, the pension obligation is based solely on a pension component system. The related provisions amounted to €556.0 million (previous year: €1,024.2 million). In addition, the employees are granted energy-price reductions for the period in which they receive their pensions. Other commitments amounted to €35.6 million (previous year: €45.4 million). These mainly comprise fixed-sum commitments.

The pensioners and those with prospective pension entitlements are distributed as follows among the different post-employment provision schemes:

Number of employees	31/12/2022		31/12/2021	
	Staff with prospective pension entitlements	Pensioners	Staff with prospective pension entitlements	Pensioners
Closed systems dependent on final salary	6,137	12,868	6,530	12,974
Pension component systems	13,309	665	12,470	577
Other commitments	874	643	842	631

The obligations are measured above all on the basis of the length of service and remuneration of the employees. In addition, the company pension scheme includes defined benefit obligations under multi-employer plans using the same measurement basis. The contributions payable to the supplemental pension plan are made as a certain percentage of the respective employee's remuneration that is subject to the supplemental pension plan.

The amount of provisions earmarked for the defined benefit obligations corresponds to the present value of the expected future obligations. The provisions are calculated using actuarial methods. Plan assets were created and will be used exclusively to cover pension obligations. They are deducted from the pension obligations. They exist in the form of contractual trust arrangements (CTA) in the

EnBW Group. A CTA is a legally structured trustee arrangement for the capital cover of direct pension obligations with separated and spun-off assets.

The objective of asset management⁹ in this area is to cover the non-current provisions for pensions and similar obligations, as well as the Group's nuclear provisions, within an economically sensible period by means of appropriate financial investments. The investment goals indicated are to be achieved with a minimum of risk. As of 31 December 2022, the dedicated financial assets⁹ for pension and nuclear provisions totaled approximately €6.0 billion (previous year: €6.5 billion) and were allocated to a total of nine asset classes. In addition to direct investments, financial investments were bundled within two master funds and the infrastructure funds consolidated in a SICAV (société d'investissement à capital variable, open-ended investment company).

The following premises are taken into account when investments are made:

- Risk-optimized performance in line with the market is targeted.
- The risk was minimized by, for example, the implementation of an intervention line concept, the establishment of issuer limits and minimum ratings for bonds, adherence to a broad diversification of asset classes and further appropriate measures.
- The impact on the balance sheet and the income statement are to be minimized.
- Reducing costs and simplifying administration are also major priorities.

The anticipated development of the cash flows of the post-employment provision schemes is as follows:

in € million	2022	2023-2027 ¹	2028-2032 ¹	2033-2037 ¹	2038-2042 ¹	2043-2047 ¹	2048-2052 ¹	2053-2057 ¹
Closed systems dependent on final salary	198.6	216.4	252.7	270.2	261.8	231.4	190.1	144.8
Pension component systems	2.6	5.1	12.8	24.2	42.3	55.6	75.8	95.9
Other commitments	1.6	2.1	2.3	2.3	1.9	1.5	1.1	0.8
Total	202.8	223.6	267.9	296.7	306.0	288.5	267.0	241.5

¹ Average values for five years.

The calculations are based on a duration of 14.4 years (previous year: 18.3 years).

Changes in the underlying parameters for calculating the provisions for pensions and similar obligations would have the following impact on their amounts:

in € million	Pension component systems	Closed pension systems dependent on final salary	Pension component systems	Closed pension systems dependent on final salary
Discount rate +/- 0.5%	-95.0/109.3	-358.5/400.9	-176.8/211.0	-569.3/646.6
Salary trend +/- 0.5%	19.9/-18.6	121.1/-110.7	28.2/-26.1	142.2/-126.2
Pension trend +/- 0.5%	5.1/-4.7	327.8/-306.7	7.1/-6.0	474.9/-432.2
Life expectancy +/- 1 year	24.0/-24.1	236.7/-229.9	38.8/-38.8	322.5/-315.4

The parameters for the sensitivity analysis were chosen from the point of view of materiality. Their impact on the defined benefit obligation (DBO) was determined separately in each case to prevent interactions. The parameter variation is based on past experience and the long-term planning premises applied within the Group.

The material parameters (average values) for calculating the defined benefit obligations at the Group's domestic companies are shown below:

in %	31/12/2022	31/12/2021
Actuarial interest rate	3.70	1.15
Future expected wage and salary increases	3.10	2.60
Future expected pension increase	2.35	1.85

The calculations are based on the 2018 G mortality tables devised by Prof. Dr. Klaus Heubeck.

The expenses for pensions and similar obligations are comprised as follows:

in € million	2022	2021
Current service cost	111.3	176.0
Past service costs	0.7	0.0
Interest income from plan assets	-9.9	-8.4
Interest costs	103.6	69.1
Recording in the income statement	205.7	236.7
Income from plan assets excluding interest income	97.0	-20.6
Actuarial gains (-)/losses (+) from changes in demographic assumptions	0.0	-3.5
Actuarial gains (-)/losses (+) from changes in financial assumptions	-2,567.0	-696.3
Actuarial gains (-)/losses (+) from experience-based restatements	80.9	75.3
Recording in the statement of comprehensive income	-2,389.1	-645.1
Total	-2,183.4	-408.4

The development of the pension provisions, categorized by the present value of the defined benefit obligation and the fair value of the plan assets, is as follows:

in € million	31/12/2022	31/12/2021
Defined benefit obligation at the beginning of the financial year	8,642.3	9,288.4
Current service cost	111.3	176.0
Interest costs	103.6	69.2
Benefits paid	-285.3	-288.2
Actuarial gains (-)/losses (+)	-2,486.2	-624.5
Actuarial gains (-)/losses (+) from changes in demographic assumptions	(0.0)	(-3.5)
Actuarial gains (-)/losses (+) from changes in financial assumptions	(-2,567.1)	(-696.3)
Actuarial gains (-)/losses (+) from experience-based restatements	(80.9)	(75.3)
Past service costs	0.7	0.0
Changes in the consolidated companies and currency adjustments	-8.6	6.6
Reclassifications	62.6	14.8
Present value of the defined benefit obligation at the end of the financial year	6,140.4	8,642.3
Fair value of plan assets at the beginning of the financial year	991.3	1,257.5
Interest income	9.9	8.4
Appropriations to (+)/transfers from (-) plan assets ¹	6.7	-205.1
Benefits paid	-82.5	-96.4
Income from plan assets excluding interest income	-97.0	20.6
Changes in the consolidated companies, currency adjustments and reclassifications	-8.0	6.3
Fair value of plan assets at the end of the financial year	820.4	991.3
Surplus cover from benefit entitlements	106.0	121.5
Provisions for pensions and similar obligations	5,426.0	7,772.5

¹ Applies almost exclusively to the employer's contributions.

Payments into the plan assets in the amount of €10.3 million (previous year: €9.7 million) are planned in the subsequent period.

The plan assets consist of the following asset classes:

in %	31/12/2022	31/12/2021
Shares	15.3	12.8
Share-based investment funds	12.1	19.0
Fixed-income funds	51.3	48.6
Fixed-income securities	13.4	12.5
Land and buildings	3.5	2.6
Current financial assets	0.5	1.8
Other	3.9	2.7
	100.0	100.0

The plan assets are invested almost entirely within the EU. The plan assets do not include any shares of EnBW Group companies or any owner-occupied property. The investment strategy takes into consideration the maturity structure and volume of benefit obligations. The plan assets mainly have market price listings on active markets.

Multi-employer plans

Multi-employer plans, which are defined benefit plans, are accounted for as defined contribution plans because the information required to allocate the obligations and plan assets to the respective participating employer and the corresponding expenses is not provided by the supplemental pension plans. The expenses from defined benefit obligations via multi-employer plans amounted to €11.7 million (previous year: €16.6 million). Appropriations of a similar magnitude are anticipated for the subsequent year. Potential future increases in contributions from obligations that are not fully funded will not have a significant effect on the EnBW Group.

The employer's contributions to statutory pension insurance in 2022 amounted to €135.4 million (previous year: €123.9 million).

Provisions relating to nuclear power

The provisions relating to nuclear power as of 31 December 2022 were formed for the conditioning and proper packaging of radioactive waste, as well as for the decommissioning and dismantling of the nuclear power plants.

The evaluation of the provisions is carried out mainly on the basis of estimates, which for decommissioning and disposal costs are primarily derived from sector-specific appraisals. The provisions are recognized at the discounted settlement amount at the time they originated.

in € million	31/12/2022	31/12/2021
Remaining operation and post-operation	1,920.3	1,987.7
Dismantling including preparation	1,106.4	1,178.2
Treatment of residual material, packaging of radioactive waste	1,263.8	1,403.4
Other	323.9	386.2
Total	4,614.4	4,955.5

Provisions relating to nuclear power are reported in accordance with section 5 (2) of the Ordinance on the Transparency of Dismantling Provisions and are discounted at a risk-free interest rate of on average 2.13% (previous year: 0.01%). A corresponding rate of increase of costs of 2.6% (previous year: 2.4%) is applied. This results in a net interest (spread) of around -0.5% (previous year: -2.4%), which generally corresponds to the real interest rate. The change in this parameter led overall to a decrease in the nuclear power provisions of €504.2 million (previous year: decrease of €1.9 million).

A reduction or increase of 0.1 percentage points in the real interest rate would increase the present value of the provisions by €31.6 million (previous year: €48.3 million) or reduce it by €31.3 million (previous year: €30.0 million).

The nominal amount of the provisions (without taking into account the effects of the discount rate and rate of increase of costs) as of 31 December 2022 was €4,368.9 million (previous year: €4,159.1 million).

The provisions for the decommissioning and dismantling of contaminated plants, as well as for fuel rods, are recognized at the discounted settlement amount at the time of commissioning. This is disclosed accordingly under the power plants and depreciated. Changes in estimates due to changes in assumptions concerning the future development of costs were generally recognized without effect on profit or loss by adjusting the appropriate balance sheet items by €52.9 million upwards (previous year restated: €77.6 million). Changes in estimates relating to decommissioned power plants were recognized through profit or loss.

Decommissioning and dismantling costs are calculated on the basis of the scenario that assumes that the plants will be removed immediately. The provisions are partially offset by receivables amounting to €372.9 million (previous year: €365.8 million), which relate to dismantling obligations for nuclear power plants assumed by a contractual partner in connection with electricity supplies.

Other provisions

The other dismantling obligations mainly relate to wind and hydroelectric power plants, gas storage facilities and grids.

The provisions for onerous contracts concern future obligations from onerous procurement and sales agreements. The obligations mainly relate to the purchase of electricity and gas.

Other electricity provisions primarily relate to obligations from emission allowances.

Personnel provisions primarily concern obligations from phased retirement plans, long-service awards and restructuring measures.

The majority of other non-current provisions have a term of more than five years.

The provisions developed as follows in the reporting year:

Statement of changes in provisions

in € million	As of		Reversals	Accretion	Changes recognized in equity	Changes in consolidated companies, currency adjustments, reclassifications	Utilization	As of
	01/01/2022	Increases						31/12/2022
Provisions relating to nuclear power ¹	4,955.7	651.3	615.1	0.5	52.9	-58.3	372.4	4,614.6
Other provisions	4,037.9	2,454.7	671.5	5.4	-128.4	-130.0	1,778.0	3,790.1
Other dismantling obligations	(940.7)	(0.1)	(17.0)	(2.3)	(-128.4)	(-0.3)	(17.2)	(780.2)
Provisions for onerous contracts	(835.6)	(498.9)	(599.0)	(0.0)	(0.0)	(-100.0)	(107.8)	(527.7)
Other electricity and gas provisions	(1,506.5)	(1,735.6)	(8.5)	(2.0)	(0.0)	(11.3)	(1,472.0)	(1,774.9)
Personnel provisions	(263.6)	(123.6)	(13.4)	(1.0)	(0.0)	(-29.2)	(72.5)	(273.1)
Miscellaneous provisions	(491.5)	(96.5)	(33.6)	(0.1)	(0.0)	(-11.8)	(108.5)	(434.2)
Total	8,993.6	3,106.0	1,286.6	5.9	-75.5	-188.3	2,150.4	8,404.7

¹ Utilization breaks down into decommissioning and dismantling totaling €340.8 million, disposal of spent fuel rods totaling €29.6 million and waste totaling €2.0 million.

(22) Deferred taxes

The deferred taxes on measurement differences compared to the tax accounts break down as follows:

in € million	31/12/2022		31/12/2021	
	Deferred tax assets ¹	Deferred tax liabilities ¹	Deferred tax assets ¹	Deferred tax liabilities ¹
Intangible assets	49.1	284.3	60.6	330.6
Property, plant and equipment	200.5	1,868.8	126.6	1,669.0
Financial assets	203.3	108.3	135.0	217.9
Other assets	233.2	22.5	90.8	52.5
Derivative financial instruments	1.7	835.4	1.4	583.6
Non-current assets	687.8	3,119.3	414.3	2,853.6
Inventories	134.9	18.5	1.5	287.1
Financial assets	9.4	85.4	0.2	0.1
Other assets	4,244.0	6,391.4	5,078.3	8,033.2
Current assets	4,388.3	6,495.3	5,080.0	8,320.4
Provisions	1,039.8	207.8	1,730.4	82.4
Liabilities and subsidies	955.7	227.8	857.9	165.6
Non-current liabilities	1,995.5	435.6	2,588.3	247.9
Provisions	232.1	37.1	253.2	42.7
Liabilities and subsidies	5,614.6	3,753.8	7,889.7	4,816.8
Current liabilities	5,846.7	3,790.9	8,142.9	4,859.5
Carryforwards of unused tax losses	44.1	0.0	152.7	0.0
Deferred taxes before netting	12,962.4	13,841.1	16,378.2	16,281.4
Netting	-12,883.0	-12,883.0	-15,263.1	-15,263.1
Deferred taxes after netting	79.4	958.1	1,115.2	1,018.3

¹ Deferred tax assets and liabilities prior to netting.

In the 2022 financial year, €12,883.0 million (previous year: €15,263.1 million) in deferred tax assets was netted against deferred tax liabilities. Deferred taxes are netted with each other per consolidated tax group or entity if the conditions to do so have been satisfied.

In the measurement differences compared to the tax accounts, a negative balance from deferred taxes resulting from consolidation of €28.9 million (previous year: €10.2 million) is taken into account.

In addition, deferred tax assets on measurement differences compared to the tax accounts contain €68.9 million (previous year: €0.4 million) in non-current financial assets, €347.7 million (previous year: €957.7 million) in non-current provisions and €160.4 million (previous year: €616.6 million) in current liabilities and subsidies that were offset against equity.

The deferred tax liabilities on measurement differences compared to the tax accounts contain no deferred tax liabilities in respect to non-current financial assets (as in the previous year) and €703.9 million (previous year: €690.9 million) in respect to current liabilities and subsidies that were offset against equity.

Deferred tax liabilities totaling €126.9 million (previous year: €883.8 million deferred tax assets) were offset directly against equity under other comprehensive income as of 31 December 2022.

The deferred tax assets contain an amount of €95.2 million (previous year: €83.6 million) that was formed in connection with risks related to the audit.

In order to evaluate the deferred tax assets from deductible temporary differences in assets and carryforwards of unused tax losses, a tax planning forecast was derived based on the company's multi-year plans and corporate strategy.

During this process, it was possible to prove with sufficient certainty that for EnBW and the main Group companies, there would be adequate taxable income available in the planning horizon used as the basis for the tax planning forecast for the full capitalization of deferred tax assets both from deductible temporary differences in assets and from carryforwards of unused tax losses.

As of 31 December 2022, a previous value adjustment and previous non-recognition of deferred tax assets from deductible temporary differences in assets and carryforwards of unused tax losses totaling €6.6 million were reversed.

In the previous reporting period, deferred tax assets from deductible temporary differences in assets and carryforwards of unused tax losses were only capitalized if there was reasonable certainty that there would be adequate taxable income available in the respective planning horizon. In the previous reporting period, this meant that a total of €114.6 million in deferred tax assets from deductible temporary differences in assets and carryforwards of unused tax losses were adjusted or not recognized. The value adjustment or non-recognition of the deferred tax assets was expensed in the amount of €31.6 million through profit and loss and €83.0 million was offset against equity without any impact on earnings.

Carryforwards of unused tax losses are composed as follows:

in € million	31/12/2022		31/12/2021	
	Corporate income tax	Trade tax	Corporate income tax	Trade tax
Unlimited ability to carry forward the previously unused tax losses for which no deferred tax assets have been recognized in the balance sheet	380.8	412.3	399.3	437.9
Deferred taxes on the non-valued carryforwards of unused tax losses that would theoretically have to be formed	60.3	57.2	63.2	59.5
Unlimited ability to carry forward the existing unused tax losses for which deferred tax assets were formed ¹	141.3	129.8	340.4	711.9

¹ Mainly concerns German companies.

Carryforwards of unused tax losses reduced the actual tax burden by €136.6 million (previous year: €6.1 million).

As of the reporting date, deferred tax assets of €23.8 million (previous year: €1,025.3 million) were recognized for Group companies that suffered losses in the reporting period or the previous period.

The deferred taxes on carryforwards of unused tax losses break down as follows:

in € million	31/12/2022	31/12/2021
Corporate income tax (or comparable foreign tax)	24.0	55.3
Trade tax	20.1	97.4
Total	44.1	152.7

Presentation of the development of deferred taxes on carryforwards of unused tax losses:

in € million	31/12/2022	31/12/2021
Opening balance	152.7	49.1
Utilization of tax losses	-136.6	-6.1
Origination of tax losses (addition)	26.7	109.1
Change in consolidated companies	1.3	0.6
Closing balance	44.1	152.7

In the reporting period, there were no deferred taxes on interest amounts carried forward as in the previous year.

No deferred tax liabilities were recognized on temporary differences of €16.7 million (previous year: €13.0 million) because any retained profits from subsidiaries based on the current planning will remain invested on a permanent basis or because it is not likely that these temporary differences will reverse in the foreseeable future.

(23) Liabilities and subsidies

Financial liabilities

Financial liabilities break down as of 31 December 2022 compared to the previous year as follows:

in € million ¹	31/12/2022			31/12/2021		
	Current	Non-current	Total	Current	Non-current	Total
Subordinated bonds	0.0	2,488.7	2,488.7	989.7	2,485.9	3,475.6
Bonds	101.5	6,381.1	6,482.6	0.0	4,685.3	4,685.3
Commercial papers	712.5	0.0	712.5	240.0	0.0	240.0
Liabilities to banks	128.9	1,840.7	1,969.6	735.1	1,332.3	2,067.4
Other financial liabilities	21.1	1,216.9	1,238.0	103.1	678.9	782.0
Financial liabilities	964.0	11,927.4	12,891.4	2,067.9	9,182.4	11,250.3

¹ Please refer to note (26) "Accounting for financial instruments" for more details on the credit and liquidity risk, fair values and undiscounted cash flows by year.

Of the non-current financial liabilities, €5,907.2 million (previous year: €3,820.4 million) have a term of between one year and five years, and €6,020.2 million (previous year: €5,362.1 million) have a term of more than five years.

Overview of the subordinated bonds

Issuer	Issue volume	Carrying amounts	Coupon	Maturity
EnBW AG ¹	€500 million	€497.5 million	2.125%	31/08/2081
Green bond				
EnBW AG ²	€500 million	€498.2 million	1.625%	05/08/2079
EnBW AG ³	€500 million	€498.9 million	1.125%	05/11/2079
EnBW AG ⁴	€500 million	€496.3 million	1.875%	29/06/2080
EnBW AG ⁵	€500 million	€497.8 million	1.375%	31/08/2081
		€2,488.7 million		

¹ Option for EnBW to redeem in the three-month period before 31 August 2032, then on every coupon date.

² Option for EnBW to redeem in the three-month period before 5 August 2027, then on every coupon date.

³ Option for EnBW to redeem in the three-month period before 5 November 2024, then on every coupon date.

⁴ Option for EnBW to redeem in the three-month period before 29 June 2026, then on every coupon date.

⁵ Option for EnBW to redeem in the three-month period before 31 August 2028, then on every coupon date.

A euro subordinated bond with a volume of €725 million and a US dollar subordinated bond with a volume of US\$300 million were redeemed on 5 January 2022, at the earliest possible date stipulated in their terms at their principal amounts plus interest accrued.

All outstanding subordinated bonds include early redemption rights for EnBW and are subordinate to all other financial liabilities, although they have equal ranking with each other. EnBW has the option of suspending interest payments. However, these interest payments must be subsequently paid if EnBW pays dividends.

Overview of the senior bonds of EnBW

Issuer	Issue volume	Carrying amounts	Coupon	Maturity
Public bonds				
EnBW International Finance B.V.	CHF100 million	€101.5 million	2.250%	12/07/2023
EnBW International Finance B.V.	€500 million	€500.8 million ¹	4.875%	16/01/2025
EnBW International Finance B.V.	€500 million	€498.3 million	0.625%	17/04/2025
EnBW International Finance B.V.	€500 million	€499.3 million	2.500%	04/06/2026
EnBW International Finance B.V.	€500 million	€498.8 million	0.125%	01/03/2028
EnBW International Finance B.V.	€500 million	€498.4 million	0.250%	19/10/2030
EnBW International Finance B.V.	€500 million	€496.7 million	0.500%	01/03/2033
EnBW International Finance B.V.	€600 million	€590.9 million	6.125%	07/07/2039
Green bond				
EnBW International Finance B.V.	€500 million	€497.2 million	3.625%	22/11/2026
EnBW International Finance B.V.	€500 million	€498.7 million	4.049%	22/11/2029
EnBW International Finance B.V.	€500 million	€497.3 million	1.875%	31/10/2033
Private placements				
EnBW International Finance B.V.	€100 million	€98.8 million	2.875%	13/06/2034
EnBW International Finance B.V.	JPY20 billion	€142.2 million	5.460% ²	16/12/2038
EnBW International Finance B.V.	€100 million	€99.3 million	3.080%	16/06/2039
EnBW International Finance B.V.	€75 million	€74.8 million	2.080%	21/01/2041
EnBW International Finance B.V.	€50 million	€49.6 million	2.900%	01/08/2044
		€5,642.6 million³		

¹ Adjusted for valuation effects from interest-induced hedging transactions.

² After the swap into euros.

³ We also have a US private placement of bonds with a carrying amount of €840.0 million as of 31/12/2022.

In November 2022, EnBW International Finance B.V. issued two green bonds² with a total volume of €1 billion and terms of four and seven years. They have been given an initial coupon of 3.625% and 4.049%, respectively. The funds from the bonds will be exclusively used for climate-friendly projects in the areas of wind power, photovoltaics, electromobility and the electricity distribution grid.

US private placement (USPP)

In November 2022, EnBW AG signed a private placement of bonds in the USA (USPP) with a nominal value of around US\$850.0 million. The transaction covers tranches in euros, US dollars and pounds sterling with terms of three to twelve years.

Commercial paper program

Under the commercial paper program² set up by EnBW and EnBW International Finance B.V. for short-term financing purposes, €712.5 million had been drawn as of 31 December 2022 (previous year: €240.0 million).

Liabilities to banks

Liabilities to banks decreased in the 2022 financial year due to scheduled repayments and also the repayment of short-term money market loans taken out by EnBW and its subsidiaries. New bilateral redemption loans at banks were taken out by EnBW in the reporting period. The majority of the outstanding liabilities to banks are bilateral loan agreements.

On 24 June 2020, EnBW concluded a new sustainability-linked syndicated credit line² with a bank consortium that has a volume of €1.5 billion. The bank consortium agreed the second extension option for an additional year in June 2021. The new term for the syndicated credit line ends on 24 June 2027. The credit line remained undrawn as of 31 December 2022.

In addition, the Group had other committed credit lines of €4.6 billion (previous year: €1.3 billion), of which €0.2 billion (previous year: €0.1 billion) had been drawn as of 31 December 2022. This includes the credit line that was concluded with KfW by VNG on 5 April 2022, with a volume of €660 million and a term until April 2023. The credit line was terminated prematurely. Furthermore, there are uncommitted credit lines totaling around €1.3 billion that can be utilized in agreement with our

banks. These credit lines were undrawn as of 31 December 2022. The credit lines are not subject to any restrictions as regards their utilization.

In December 2022, EnBW agreed a bank loan of €600 million with the European Investment Bank to finance the He Dreiht offshore wind farm. The loan will be drawn in March 2023, at the earliest.

Liabilities to banks are collateralized with real estate liens in the amount of €0.1 million (previous year: €0.1 million). Liabilities to banks to the amount of €218.4 million are collateralized with other types of securities (previous year: €250.3 million). These are mainly allocable to the Valeco Group.

Other financial liabilities

The item “other financial liabilities” primarily includes promissory notes, other loans and other contractual obligations.

EnBW issued its first promissory notes on 6 July 2022. The total volume of €500 million was split over six tranches, some with fixed coupons and some with floating-rate coupons.

Other liabilities and subsidies

Other liabilities and subsidies disclosed separately according to maturity in the balance sheet are combined in the notes to the financial statements.

in € million	31/12/2022	31/12/2021
Non-current liabilities	4,679.3	4,229.8
Current liabilities	24,358.0	29,497.2
Liabilities	29,037.3	33,727.0
Non-current subsidies	16.0	11.0
Current subsidies	1.2	1.2
Subsidies	17.2	12.2
Non-current liabilities and subsidies	4,695.3	4,240.7
Current liabilities and subsidies	24,359.2	29,498.4
Liabilities and subsidies	29,054.5	33,739.1

Other liabilities as of 31 December 2022 break down as follows compared to the previous year:

in € million ¹	31/12/2022			31/12/2021		
	Current	Non-current	Total	Current	Non-current	Total
Trade payables	8,443.3	0.6	8,443.9	6,475.8	1.3	6,477.1
of which liabilities to affiliated entities	(32.0)	(0.0)	(32.0)	(46.6)	(0.0)	(46.6)
of which liabilities to other investees and investors	(166.4)	(0.0)	(166.4)	(103.6)	(0.0)	(103.6)
of which liabilities to entities accounted for using the equity method	(158.6)	(0.0)	(158.6)	(146.6)	(0.0)	(146.6)
Other deferred income	280.8	227.1	507.9	117.1	205.7	322.8
Liabilities from derivatives	8,674.9	2,457.0	11,131.9	16,934.3	2,200.6	19,134.9
of which without hedges	(8,487.3)	(2,348.8)	(10,836.1)	(16,543.8)	(2,108.3)	(18,652.1)
of which cash flow hedge	(187.6)	(108.1)	(295.7)	(390.5)	(92.3)	(482.8)
Income tax liabilities	380.4	121.3	501.7	84.0	96.3	180.3
of which liabilities for audit risks	(0.3)	(121.3)	(121.6)	(32.5)	(96.2)	(128.7)
Contract liabilities	102.8	979.5	1,082.3	83.4	903.1	986.5
Miscellaneous liabilities	6,475.8	893.8	7,369.6	5,802.6	822.7	6,625.3
of which lease liabilities	(157.7)	(754.8)	(912.5)	(161.4)	(723.0)	(884.4)
of which from other taxes	(331.5)	(0.0)	(331.5)	(495.5)	(4.3)	(499.8)
of which relating to social security	(16.2)	(0.0)	(16.2)	(16.7)	(0.0)	(16.7)
Other liabilities	24,358.0	4,679.3	29,037.3	29,497.2	4,229.7	33,726.9

¹ Please refer to note (26) "Accounting for financial instruments" for more details on the credit and liquidity risk, fair values and undiscounted cash flows by year.

Of the non-current other liabilities (excluding deferred income and contract liabilities), €2,969.1 million (previous year: €2,623.5 million) has a remaining term of between one year and five years, and €503.6 million (previous year: €497.4 million) has a remaining term of more than five years.

Trade payables include obligations for outstanding invoices amounting to €908.1 million (previous year: €846.0 million).

Contract liabilities primarily comprise advance payments received for construction cost subsidies and household connection costs. In addition, they include advance payments received for other contracts within the scope of application of IFRS 15.

Other liabilities include construction cost subsidies and other subsidies from private sources totaling €991.8 million (previous year: €967.0 million).

Miscellaneous liabilities mainly concern collateral for over-the-counter trading business (OTC margins) amounting to €3,095.2 million (previous year: €2,944.4 million), as well as variation margins of €1,488.8 million (previous year: €1,413.6 million), interest obligations from bonds amounting to €88.1 million (previous year: €104.7 million) and non-controlling interests in fully consolidated partnerships recorded as liabilities to the amount of €111.8 million (previous year: €88.8 million).

Subsidies break down as of 31 December 2022 compared to the previous year as follows:

in € million	31/12/2022	31/12/2021
Investment cost subsidies	8.8	3.8
Other subsidies from public authorities	8.4	8.4
Total	17.2	12.2

(24) Assets held for sale

Assets held for sale

in € million	31/12/2022	31/12/2021
Property, plant and equipment	7.8	2.5
Other financial assets	0.0	51.5
Total	7.8	54.0

Property, plant and equipment held for sale in the reporting year refers primarily to generation plants held for sale due to concessions that are set to expire. This is allocated to the Sustainable Generation Infrastructure segment in the segment reporting. In the previous year, the property, plant and equipment held for sale mainly referred to pieces of land held for sale. This was allocated to the System Critical Infrastructure segment in the segment reporting.

In the previous year, other financial assets held for sale comprised investments held for sale. They were allocated to the Sustainable Generation Infrastructure and System Critical Infrastructure segments in the segment reporting.

There were no liabilities directly associated with assets classified as held for sale (as in the previous year).

Other disclosures

(25) Earnings per share

Earnings per share is determined by dividing the profit or loss attributable to the shareholders of EnBW AG by the average number of shares outstanding. This indicator may be diluted by potential shares on account of share options or convertible bonds. As EnBW does not have any potential shares, the basic earnings per share is identical to the diluted earnings per share.

Earnings per share		2022	2021
Earnings from continuing operations	in € million	1,843.9	441.2
of which profit/loss shares attributable to the shareholders of EnBW AG	in € million	(1,738.0)	(363.2)
Group net profit	in € million	1,843.9	441.2
of which profit/loss shares attributable to the shareholders of EnBW AG	in € million	(1,738.0)	(363.2)
Number of shares outstanding (weighted average)	thousands	270,855	270,855
Earnings per share from continuing operations ¹	in €	6.42	1.34
Earnings per share from Group net profit ¹	in €	6.42	1.34
Dividend per share for the 2021 financial year of EnBW AG	in €	-	1.10
Proposed dividend per share for the EnBW AG 2022 financial year	in €	1.10	-

¹ In relation to the profit/loss attributable to the shareholders of EnBW AG.

(26) Accounting for financial instruments

Financial instruments include primary financial instruments and derivatives². On the assets side, primary financial instruments mainly consist of financial assets, trade receivables, other assets, and cash and cash equivalents. On the liabilities side, they consist of financial liabilities, trade payables and other liabilities.

Fair value and carrying amounts of financial instruments by measurement category

The table below shows the fair values and carrying amounts of the financial assets and financial liabilities contained in the individual balance sheet items. If not indicated separately, the fair value is measured recurrently.

31/12/2022	Hierarchy of input data						Not in IFRS 7's field of application	Carrying amount
	Fair value	Level 1	Level 2	Level 3	Measured at amortized cost			
in € million								
Financial assets	7,268.1	2,698.1	932.4	2,304.7	1,332.9	640.3	7,908.4	
Measured at fair value through profit or loss	(4,160.6)	(1,251.7)	(604.2)	(2,304.7)			(4,160.6)	
Measured at fair value in equity	(1,774.6)	(1,446.4)	(328.2)				(1,774.6)	
Measured at amortized cost	(1,332.9)				(1,332.9)		(1,332.9)	
Trade receivables ¹	5,920.7				5,920.7		5,920.7	
Other assets	16,253.0	0.1	13,397.1		2,855.8	1,965.6	18,218.6	
Measured at fair value through profit or loss	(12,892.6)	(0.0)	(12,892.6)				(12,892.6)	
Measured at amortized cost	(2,823.5)				(2,823.5)		(2,823.5)	
Derivatives designated as hedging instruments	(504.6)	(0.1)	(504.5)				(504.6)	
Lease receivables	(32.3)				(32.3)		(32.3)	
Cash and cash equivalents	6,475.6				6,475.6		6,475.6	
Assets held for sale ²	0.0				0.0	7.8	7.8	
Total assets	35,917.4	2,698.2	14,329.5	2,304.7	16,585.0	2,613.7	38,531.1	
Financial liabilities ³	12,001.3				12,891.2		12,891.2	
Trade payables	3,380.5				3,380.5	5,062.8	8,443.3	
Other liabilities and subsidies	17,123.9	0.0	11,131.8		5,992.1	3,487.2	20,611.1	
Held for trading	(10,836.1)	(0.0)	(10,836.1)				(10,836.1)	
Measured at amortized cost	(5,079.6)				(5,079.6)		(5,079.6)	
Derivatives designated as hedging instruments	(295.7)	(0.0)	(295.7)				(295.7)	
Lease liabilities	(912.5)				(912.5)		(912.5)	
Total liabilities	32,505.7	0.0	11,131.8	0.0	22,263.8	8,550.0	41,945.6	

¹ Due to the impact of the war between Russia and Ukraine, the amount of expected credit losses on trade receivables was increased moderately on the basis of internal forecasts.

² This refers mainly to a non-recurring measurement of the fair value due to the application of IFRS 5.

³ The fair value of bonds and liabilities to banks must be allocated to hierarchical level 1 (€7,820.5 million) and hierarchical level 2 (€4,180.8 million), respectively. €301.7 million of the bonds are involved in fair value hedging relationships.

31/12/2021	Hierarchy of input data					Measured at amortized cost	Not in IFRS 7's field of application	Carrying amount
	Fair value	Level 1	Level 2	Level 3				
in € million								
Financial assets	7,323.4	3,145.2	1,582.0	2,063.4	532.7	595.0	7,918.4	
Measured at fair value through profit or loss	(4,542.6)	(1,279.0)	(1,200.2)	(2,063.4)			(4,542.6)	
Measured at fair value in equity	(2,248.1)	(1,866.2)	(381.8)				(2,248.1)	
Measured at amortized cost	(532.7)				(532.7)		(532.7)	
Trade receivables	6,282.7				6,282.7		6,282.7	
Other assets	20,919.5	186.6	17,006.4		3,726.5	1,240.7	22,160.2	
Measured at fair value through profit or loss	(16,387.0)	(0.5)	(16,386.5)				(16,387.0)	
Measured at amortized cost	(3,701.0)				(3,701.0)		(3,701.0)	
Derivatives designated as hedging instruments	(806.0)	(186.1)	(619.9)				(806.0)	
Lease receivables	(25.5)				(25.5)		(25.5)	
Cash and cash equivalents	6,653.1				6,653.1		6,653.1	
Assets held for sale ¹	31.2				31.2	22.8	54.0	
Total assets	41,209.9	3,331.8	18,588.4	2,063.4	17,226.2	1,858.5	43,068.4	
Financial liabilities ^{2,3}	12,023.0				11,250.4		11,250.4	
Trade payables	2,403.1				2,403.1	4,072.7	6,475.8	
Other liabilities and subsidies	24,692.1	191.2	18,943.7		5,557.2	2,571.3	27,263.4	
Held for trading	(18,652.1)	(3.3)	(18,648.8)				(18,652.1)	
Measured at amortized cost	(4,672.8)				(4,672.8)		(4,672.8)	
Derivatives designated as hedging instruments	(482.8)	(187.9)	(294.9)				(482.8)	
Lease liabilities	(884.4)				(884.4)		(884.4)	
Total liabilities	39,118.2	191.2	18,943.7	0.0	19,210.7	6,644.0	44,989.6	

¹ This refers to a non-recurring measurement of the fair value due to the application of IFRS 5, which must be allocated to hierarchical level 3.

² The fair value of bonds and liabilities to banks must be allocated to hierarchical level 1 (€8,588.1 million) and hierarchical level 2 (€3,434.9 million), respectively. €336.5 million of the bonds are involved in fair value hedging relationships.

³ The figures for the previous year have been restated.

The calculation of fair values is explained in the section entitled accounting policies. The individual levels of the valuation hierarchy are as follows:

- Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2: Methods for which all input parameters that have a significant effect on the recorded fair value are observable, either directly or indirectly
- Level 3: Methods that use input parameters which have a material impact on the recorded fair value and are not based on observable market data

At the end of each reporting period it is determined whether there is any reason to reclassify between the levels of the valuation hierarchy. A reclassification is carried out if the valuation method for measuring fair value is changed and the input factors with significance for the valuation will result in allocation to a different level. Due to the fact that prices quoted by brokers are used, securities with a fair value of €200.5 million (previous year: €10.2 million) were reclassified from Level 1 to Level 2 and securities with a fair value of €19.7 million (previous year: €18.7 million) were reclassified from Level 2 to Level 1 in the 2022 financial year.

The fair value of the assets in the “measured at fair value through profit or loss” measurement category amounts to €17,053.2 million (previous year: €20,929.6 million), of which €1,251.7 million (previous year: €1,279.5 million) is allocated to the first hierarchical level, €13,496.8 million (previous year: €17,586.7 million) to the second hierarchical level and €2,304.7 million (previous year: €2,063.4 million) to the third hierarchical level. The assets in the “measured at fair value in equity” measurement category have a fair value of €1,774.6 million (previous year: €2,248.1 million), of which €1,446.4 million (previous year: €1,866.2 million) is allocated to the first hierarchical level and €328.2 million (previous year: €381.8 million) to the second hierarchical level. Assets in the “measured at amortized cost” measurement category amount to €16,585.0 million (previous year: €17,226.2 million).

The fair values of investments in private equity companies are provided by the respective investment companies. The fair value depends on the changes in market value of the respective asset. The most up-to-date fair value available is taken as the basis in each case.

The following table shows the development of the financial instruments to be accounted for at fair value in accordance with Level 3:

in € million	As of 01/01/2022	Changes in consolidated companies, currency adjustments, other	Changes recognized through profit or loss	Changes recognized in equity	Additions	Disposals	As of 31/12/2022
Financial assets	2,063.4	7.5	108.3	-1.7	293.2	-166.0	2,304.7

The changes recognized through profit or loss of €108.3 million (previous year: €202.3 million) were recognized in the financial result. In the financial year, gains and losses from Level 3 financial instruments were recognized in the investment result in the amount of €238.8 million (previous year adjusted: €121.8 million), of which €238.4 million (previous year adjusted: €121.8 million) is accounted for by financial instruments still held on the reporting date.

We refer you to the Six-Monthly Financial Report January to June 2022 for more detailed information on the interim valuation of the derivatives, which was adjusted on the basis of unobservable input parameters against the background of possible restrictions in gas supply.

The premises for determining the price risks associated with the financial instruments measured at fair value in accordance with Level 3 were 1.0% for investments in real estate and infrastructure funds (previous year: 1.0%) and 10.0% for other financial instruments (previous year: 10.0%). In the risk scenario in question, the net profit/loss for the year would improve by €102.9 million (previous year: €100.0 million). A decrease of the same amount would have an opposite effect.

In the Six-Monthly Financial Report January to June 2022, derivatives ⁹ in the “held for trading” measurement category of €351.4 million (31 December 2021: €0.0 million) in other liabilities were reclassified from Level 2 to Level 3. The affected contracts expired at the end of 2022.

Financial liabilities as of 31 December 2022 include bonds with a fair value of €8,834.7 million (previous year: €8,924.6 million) and liabilities to banks with a fair value of €1,928.6 million (previous year: €2,076.4 million).

Disclosures – offsetting financial assets and financial liabilities

The derivative financial instruments are part of standard market netting agreements. Master netting agreements exist with our business partners that were created with banks, in particular, on the basis of ISDA (International Swaps and Derivatives Association) agreements. Transactions concluded as part of commodity transactions are generally subject to EFET (European Federation of Energy Traders) agreements. The netting agreements are included in the calculations of fair value.

The following table contains the financial instruments netted in the balance sheet and those which, irrespective of that, are subject to a legally enforceable netting agreement. These financial instruments are contained in the non-netted amounts. In addition, the non-netted amounts also contain collateral to be furnished in advance for on-exchange transactions.

31/12/2022

in € million	Non-netted amounts					
	Gross amounts	Netting	Net amounts accounted for	Master netting agreement	Financial collateral received/paid	Net amount
Trade receivables	9,005.2	-7,033.2	1,972.0	0.0	0.0	1,972.0
Other assets	80,023.2	-66,783.9	13,239.3	-6,629.5	-3,063.6	3,546.2
Measured at fair value through profit or loss	(77,902.5)	(-65,009.9)	(12,892.6)	(-6,618.0)	(-3,063.6)	(3,211.0)
Measured at amortized cost	(612.5)	(-608.0)	(4.5)	(0.0)	(0.0)	(4.5)
Derivatives designated as hedging instruments	(1,508.2)	(-1,166.0)	(342.2)	(-11.5)	(0.0)	(330.7)
Trade payables	8,019.1	-7,033.2	985.9	0.0	0.0	985.9
Other liabilities and subsidies	79,188.9	-66,783.9	12,405.0	-6,629.5	-2,464.0	3,311.6
Held for trading	(74,979.2)	(-64,269.4)	(10,709.8)	(-6,618.0)	(-2,460.2)	(1,631.6)
Measured at amortized cost	(2,987.9)	(-1,500.5)	(1,487.4)	(0.0)	(0.0)	(1,487.4)
Derivatives designated as hedging instruments	(1,221.8)	(-1,014.0)	(207.8)	(-11.5)	(-3.8)	(192.5)

31/12/2021

in € million ¹	Non-netted amounts					
	Gross amounts	Netting	Net amounts accounted for	Master netting agreement	Financial collateral received/paid	Net amount
Trade receivables	6,813.2	-4,720.1	2,093.1	0.0	0.0	2,093.1
Other assets	109,264.5	-93,560.9	15,703.6	-8,261.8	-2,927.3	4,514.5
Measured at fair value through profit or loss	(107,244.2)	(-92,468.1)	(14,776.1)	(-7,975.5)	(-2,927.3)	(3,873.3)
Measured at amortized cost	(256.8)	(0.0)	(256.8)	(0.0)	(0.0)	(256.8)
Derivatives designated as hedging instruments	(1,763.5)	(-1,092.8)	(670.7)	(-286.3)	(0.0)	(384.4)
Trade payables	5,186.3	-4,720.1	466.2	0.0	0.0	466.2
Other liabilities and subsidies	113,319.4	-93,560.9	19,758.5	-8,261.8	-3,105.8	8,390.9
Held for trading	(108,437.2)	(-90,455.2)	(17,982.0)	(-7,975.5)	(-3,105.7)	(6,900.8)
Measured at amortized cost	(4,005.1)	(-2,593.8)	(1,411.3)	(0.0)	(0.0)	(1,411.3)
Derivatives designated as hedging instruments	(877.1)	(-511.9)	(365.2)	(-286.3)	(-0.1)	(78.8)

¹ The figures for the previous year have been restated.

The following net gains/losses were recognized in the income statement:

Net gains or losses by measurement category

in € million ¹	2022	2021
Financial assets and liabilities measured at fair value through profit or loss	798.9	13.1
Financial assets measured at fair value in equity	-39.3	-18.4
Financial assets measured at amortized cost	-270.2	-40.1
Financial liabilities measured at amortized cost	-56.6	14.0

¹ The figures for the previous year have been restated.

Please refer to note (8) "Financial result" for information on the total interest income and expenses arising from the financial assets and liabilities measured at fair value in equity and at amortized cost.

The presentation of net gains and losses does not include derivatives that are designated as hedging instruments. Stand-alone derivatives are included in the "financial assets and liabilities measured at fair value through profit or loss" category.

The net gain posted in the "financial assets and liabilities measured at fair value through profit or loss" measurement category includes results from marking to market, dividends and effects from the sale of financial instruments, as well as interest and currency results as in the previous year.

In the reporting year, the net loss in the "financial assets measured at fair value in equity" measurement category was mainly due to effects arising from the sale of financial instruments, currency effects and loss allowances/reversals of loss allowances as in the previous year.

The net loss in the “financial assets measured at amortized cost” measurement category was mainly due to loss allowances and negative currency effects as in the previous year.

In the reporting year, the net loss in the “financial liabilities measured at amortized cost” measurement category was mainly due to dividends and currency effects as in the previous year.

The loss allowances on the financial assets in the reporting year are presented under “Default risk” in this note.

In the 2022 financial year, results from changes in the market value of financial assets measured at fair value in equity were recognized in equity with a negative impact of €202.3 million (previous year: €20.2 million). Of the changes in market values posted with no impact on income, €47.8 million was transferred with a negative impact on earnings to the income statement (previous year: €2.4 million).

Derivative financial instruments and hedging

Derivatives⁹: Both physical and financial options and forward transactions are entered into to hedge risks in the commodity area, while forward transactions are used almost exclusively in the foreign exchange area. In the area of financing, swap transactions are concluded to minimize risks.

All derivatives held for trading are accounted for as assets or liabilities. They are measured at fair value.

Changes in the fair value of derivatives which are neither intended solely for own use nor qualify as cash flow hedges are recorded in the income statement.

Hedge accounting in accordance with IFRS 9 is applied in the finance area mainly for interest rate hedges for non-current liabilities. In the commodity area, fluctuations of future cash flows from planned procurement and sales transactions are hedged. The economic relationship between a hedged transaction and the hedging instrument is determined by the currency, amount or quantity and timing of the relevant cash flows, depending on the risk being hedged. Risks are hedged in their entirety and a 1:1 hedging relationship is used. In order to evaluate the expected effectiveness of the hedge, the hypothetical derivative method and the “dollar offset method” are used. Ineffectiveness in the hedging relationship may occur due to discounting effects.

Cash flow hedges⁹ have been entered into particularly in the commodity area to cover price risks from future sales and procurement transactions, to limit the currency risk from liabilities denominated in foreign currency and to limit the risk of interest rate fluctuation of floating-rate liabilities.

The change in the fair value of the hedges used, particularly forward contracts and futures, is, insofar as they are effective, recorded directly in other comprehensive income (measurement of financial instruments at market value) until termination of the hedge. The ineffective portion of the gain or loss on the hedging instrument is immediately recognized in profit or loss.

Date of the reclassification of the result that was directly recognized in equity to the 2022 income statement

in € million	Fair value	2023	2024 – 2027	> 2027
Currency-related cash flow hedges	-33.4	-31.9	10.8	-12.3
Commodity cash flow hedges	287.4	139.3	166.8	-18.7
Interest-related cash flow hedges	32.8	6.4	14.0	12.4

Date of the reclassification of the result that was directly recognized in equity to the 2021 income statement

in € million	Fair value	2022	2023–2026	> 2026
Currency-related cash flow hedges	-42.6	7.2	4.6	-54.4
Commodity cash flow hedges	893.7	783.8	128.6	-18.7
Interest-related cash flow hedges	-1.7	1.5	1.1	-4.3

As of 31 December 2022, unrealized gains from derivatives amounted to €1,880.0 million (previous year: €332.0 million). In the reporting period, the effective portion of the cash flow hedges was recognized directly in equity with a positive impact of €1,461.7 million (previous year: €311.6 million). From the ineffective portion of the cash flow hedges in the 2022 financial year, there were expenses of €4.6 million (previous year: €6.4 million income) as well as expenses from reclassifications from other comprehensive income in the amount of €709.2 million (previous year: €234.3 million) to the income statement. The reclassifications were made to revenue (decrease of €1,378.6 million, previous year: €515.6 million), cost of materials (decrease of €623.8 million, previous year: €193.1 million), other operating income (increase of €52.0 million, previous year: €69.4 million) and the financial result (decrease of €6.5 million, previous year: increase of €18.9 million). An amount of €622.9 million (previous year: €107.0 million) was reclassified from other comprehensive income to inventories. In the reporting year and the previous year, this led to a decrease in acquisition costs.

The amounts reclassified also included the de-designation of cash flow hedges of €91.9 million. It was necessary to reduce the expected highly probable generated volumes of electricity and the expected highly probable requirements for coal and emission allowances for the 2023 financial year.

As of 31 December 2022, existing hedged transactions that are covered by cash flow hedges with terms of up to around 15 years (previous year: up to 55 years) are included in the area of foreign currencies. In the commodity area, the terms of planned underlying transactions are generally up to four years (as in the previous year).

For optimization purposes, hedging relationships are regularly redesignated as is customary in the industry.

Hedges of a net investment in a foreign operation are used to hedge foreign currency risks from investments with a foreign functional currency. As of 31 December 2022, the item “financial liabilities” contained three bonds in US dollars with a volume of US\$148 million to hedge the net investment in the joint venture in Turkey and thus to hedge the Group’s foreign currency risk with respect to the US dollar exchange rate arising from this investment. Gains and losses from the translation of bonds in foreign currencies are recognized under other comprehensive income and netted against any gains or losses from the currency translation at the entity accounted for using the equity method.

There is an economic relationship between the hedged transaction and the hedging instrument because there is a translation risk associated with the net investment that corresponds to the foreign currency risk associated with the bonds taken out in US dollars. The underlying risk associated with the hedging instrument is identical to the hedged risk component. Therefore, the Group has defined a hedge ratio of 1:1 for this hedging relationship. A hedge will be ineffective if the value of the investment in the entity accounted for using the equity method falls below the value of the bond in the foreign currency.

Fair value hedges are entered into above all to hedge fixed-income liabilities against market price risks. Interest rate swaps are used as hedging instruments. With a fair value hedge, both the hedged transaction and the hedging instrument are measured with respect to the hedged risk at fair value through profit or loss. The change in the fair value of hedging instruments of €31.6 million was recognized in the income statement with a negative impact on earnings in the reporting year (previous year: €17.7 million). For hedged liabilities, the fluctuation in market values arising from the

hedged risk is also recognized in profit or loss. In the reporting year, the fluctuations in market values totaling €34.9 million that resulted from the underlying transactions were measured through profit or loss with a positive impact on earnings (previous year: €17.8 million).

Contracts that have been concluded to meet the company's expected usage requirements are not recorded in the balance sheet pursuant to the provisions of IFRS 9.

Regular way purchases or sales (spot purchases/sales) of primary financial instruments are generally recognized as of the settlement date at fair value taking into account the transaction costs. Derivative financial assets are recognized as of the trading date. Derivative and primary financial instruments are recognized in the balance sheet when EnBW becomes party to the contract.

Purchases and sales of fuels are made in euros or US dollars.

Counterparty risks are assessed taking into account the period for which the current replacement and selling risk has been calculated. Moreover, these risks are analyzed with reference to the current rating by the rating agencies Moody's and Standard & Poor's. An internal rating procedure is used for trading partners that do not have such an external rating.

The counterparty risk is based on replacement and selling risks resulting from the market value of the item in question with the individual trading partner as of the reporting date. Netting options agreed in master agreements concluded with the trading partner are also taken into account when determining the counterparty risk. If there is a netting agreement, positive and negative market values are netted for each trading partner. Otherwise, only positive market values are taken into consideration.

The following tables present the amounts that relate to items designated as hedging instruments. The nominal volume of the derivatives² presented below has not been netted. It represents the sum of all purchase and sale amounts underlying the transactions. The amount of the nominal volume allows conclusions to be drawn about the extent to which derivatives have been used. However, it does not reflect the risk to the Group as the derivative transactions are counterbalanced by hedged transactions that have counter risks. Collateral is deposited or has been provided for derivatives that are traded on the stock exchange.

31/12/2022	Nominal amount of the hedging instrument	Carrying amount of the hedging instrument		Balance sheet items containing the hedging instrument	Change in the fair value for the reporting period
		Assets	Liabilities		
in € million					
Cash flow hedges	13,023.4	481.5	295.7		1,979.1
Commodity price risks	9,897.7	415.9	229.4	Other assets/ Other liabilities	1,934.8
Currency risk ¹	2,558.9	32.1	65.6	Other assets/ Other liabilities	11.2
Interest rate risk ²	566.8	33.5	0.7	Other liabilities	33.1
Fair value hedges	308.9	23.1	0.0		-31.6
Commodity price risks	8.9	5.0		Other assets	5.0
Interest rate risk ³	300.0	18.1	0.0	Other assets	-36.6
Hedges of a net investment in a foreign operation⁴	138.8	0.0	138.8	Financial liabilities	9.3

¹ The hedging instruments have a term of up to 5 years (€2,332.8 million) and more than 5 years (€142.2 million).

² The hedging instruments have a term of up to 5 years (€133.0 million) and more than 5 years (€134.0 million).

³ The hedging instruments have a term of up to 5 years.

⁴ The hedging instruments have a nominal value of US\$148 million, of which US\$55.0 million has a term of up to 5 years and US\$93.0 million a term of more than 5 years.

31/12/2021	Nominal amount of the hedging instrument	Carrying amount of the hedging instrument		Balance sheet items containing the hedging instrument	Change in the fair value for the reporting period
		Assets	Liabilities		
in € million					
Cash flow hedges	7,719.9	751.3	482.8		895.0
Commodity price risks	6,409.5	724.8	412.1	Other assets/ Other liabilities	831.2
Currency risk ¹	1,015.7	18.1	60.6	Other assets/ Other liabilities	45.9
Interest rate risk ²	294.7	8.4	10.1	Other liabilities	17.9
Fair value hedges	300.0	54.7	0.0		-17.7
Interest rate risk ³	300.0	54.7	0.0	Other assets	-17.7

1 The hedging instruments have a term of up to 5 years (€862.6 million) and more than 5 years (€153.1 million).

2 The hedging instruments have a term of up to 5 years (€218.0 million) and more than 5 years (€76.7 million).

3 The hedging instruments have a term of up to 5 years.

The following tables present the amounts that relate to items designated as hedged transactions:

31/12/2022	Carrying amount of the hedged item	Change in value of the hedged item that is contained in the carrying amount of the recognized transaction	Balance sheet items containing the hedged item	Change in the fair value for the reporting period	Cash flow hedge reserve
in € million					
Cash flow hedges ¹	-	-		-1,961.9	1,880.1
Commodity price risks	-	-		-1,914.5	1,843.5
Currency risk	-	-		-14.3	-6.5
Interest rate risk	-	-		-33.1	43.1
Fair value hedges	305.7	1.7		29.9	-
Commodity price risks	4.0		Inventories	-5.0	
Interest rate risk	301.7	1.7	Financial liabilities	34.9	
Hedges of net investments in foreign operations	-	-		-9.3	9.3

1 The hedged items are expected transactions and fixed obligations.

31/12/2021	Carrying amount of the hedged item	Change in value of the hedged item that is contained in the carrying amount of the recognized transaction	Balance sheet items containing the hedged item	Change in the fair value for the reporting period	Cash flow hedge reserve
in € million					
Cash flow hedges ¹	-	-		-900.3	332.0
Commodity price risks	-	-		-836.0	354.2
Currency risk	-	-		-46.4	-33.1
Interest rate risk	-	-		-17.9	10.9
Fair value hedges	336.5	36.5		17.8	-
Interest rate risk	336.5	36.5	Financial liabilities	17.8	

1 The hedged items are expected transactions.

In the reporting year, the amounts associated with items designated as hedging instruments were as follows:

2022	Hedging gains or losses in the reporting period recognized under other comprehensive income	Ineffectiveness of the hedging relationship recognized in profit or loss	Items on the statement of comprehensive income that contain the recognized ineffectiveness	Reclassification adjustments included in the income statement ¹	Items on the statement of comprehensive income affected by the reclassification
in € million					
Cash flow hedges	1,390.2	-4.6		-232.4	
Commodity price risks	1,300.0	1.7	Other operating income	-225.9	Cost of materials/revenue/other operating expenses
Interest rate risk	26.9	0.0		0.2	Financial result
Currency risk	63.3	-6.3	Other operating expenses	-6.7	Financial result

¹ Detailed information on the reclassifications with an effect on profit or loss can be found in the information on cash flow hedges.

2021	Hedging gains or losses in the reporting period recognized under other comprehensive income	Ineffectiveness of the hedging relationship recognized in profit or loss	Items on the statement of comprehensive income that contain the recognized ineffectiveness	Reclassification adjustments included in the income statement ¹	Items on the statement of comprehensive income affected by the reclassification
in € million					
Cash flow hedges	86.0	6.4		-194.6	
Commodity price risks	-10.4	4.1	Other operating expenses	-213.5	Cost of materials/revenue/other operating expenses
Interest rate risk	64.8	0.0		0.0	Financial result
Currency risk	31.6	2.3	Other operating expenses	18.9	Financial result

¹ Detailed information on the reclassifications with an effect on profit or loss can be found in the information on cash flow hedges.

Derivatives used for hedging purposes can be reconciled to other comprehensive income (cash flow hedges²) as follows:

in € million ¹	31/12/2022	31/12/2021	Change
Derivatives used in cash flow hedges with a positive fair value	755.9	1,520.1	-764.2
Derivatives used in cash flow hedges with a negative fair value	469.3	670.7	-201.4
	286.6	849.4	-562.8
Deferred tax on change recognized directly in equity in derivatives used in cash flow hedges	-552.4	-85.0	-467.4
Hedge ineffectiveness	4.6	-6.4	11.0
Cascading effects	649.2	-1,049.8	1,699.0
Effects realized from hedging transactions ²	965.8	585.0	380.8
Non-controlling interests	-82.8	-157.1	74.3
Cash flow hedge (recognized in equity)	1,271.0	136.1	1,134.9

¹ Before offsetting financial assets and financial liabilities according to IAS 32.

² Of which €900.6 million (previous year: €496.1 million) will be reclassified to the income statement in the period 2024–2030 (previous year: 2024–2030).

The cascading effects concern the changes in market value of the futures that are part of hedges accumulated until the time of cascading.

In cascading, annual and quarterly futures are settled by other futures instead of in cash.

Counterparty risk Moody's, S&P and/or internal rating

in € million	31/12/2022		31/12/2021	
	< 1 year	1 – 5 years	< 1 year	1 – 5 years
up to A1	870.5	293.7	1,122.1	429.9
up to A3	237.0	126.8	1,477.6	561.9
Baa1	1,014.0	725.0	970.4	173.7
up to Baa3	1,163.3	575.9	303.2	389.2
below Baa3	25.3	9.2	562.1	133.5
Total	3,310.1	1,730.6	4,435.4	1,688.2

Risk management system

As an energy supply company, EnBW is exposed to financial price risks in the currency, interest and commodity areas in the course of its operating activities, investments and financing transactions. In addition, there are credit and liquidity risks. It is company policy to eliminate or limit these risks through systematic risk management.

Exchange rate fluctuations between the euro and other currencies, fluctuation in interest rates on international money and capital markets, as well as fluctuating prices on the markets for electricity, coal, gas and emission allowances are the main price risks for EnBW. The hedging policy used to limit these risks is set forth by the Board of Management and is documented in intercompany guidelines. It also provides for the use of derivatives.

The derivatives⁹ used to hedge against financial risks are subject to the assessment criteria defined in the risk management guidelines. These include value-at-risk ratios and position limits and loss limits. The segregation of duties between trading and back-office processing and control is a further key element of our risk management.

The corresponding financial transactions are only concluded with counterparties with excellent credit ratings. Using suitable hedging instruments, it is possible to make use of market opportunities while hedging the risk position.

The risks arising from financial instruments as well as the methods used to assess and manage them have not changed significantly since the previous year.

Default risk

EnBW is exposed to default risks that result from counterparties not fulfilling contractual agreements. EnBW manages its default risks by generally demanding a high credit rating of its counterparties and limiting the default risk with counterparties. The credit ratings of counterparties are continually monitored by EnBW's system for managing credit ratings. Commodity and energy transactions are generally made under master agreements such as EFET, ISDA or IETA.

These master agreements are generally only entered into following careful scrutiny of the counterparty's creditworthiness. Exceptions to this business policy can be made only if it is in the justified interest of the company, e.g., in order to penetrate new markets. In terms of the customer structure, the receivables from individual counterparties are not large enough to give rise to a significant concentration of risk.

Financial investments are only made with counterparties and within the investment limits defined in the treasury guidelines. Compliance with these guidelines is constantly monitored by the internal control system (ICS).

Please refer to note (12) "Leases" for the loss allowances for lease receivables.

A detailed description of the model can be found in the explanations of the "Impairment of financial assets" in the section "Significant accounting policies."

The loss allowances for financial assets measured at fair value in equity and financial assets measured at amortized cost developed as follows:

in € million	Financial assets measured at fair value in equity			Financial assets measured at fair value in equity		
	Carrying amount	Expected 12-month credit loss	Carrying amount	Expected 12-month credit loss	Expected credit loss over the term – impaired creditworthiness	
As of 01/01/2021	1,860.8	-2.6	2,340.3	-3.2	-33.7	
Net revaluation of the loss allowances	-	0.0	-	2.0	-1.8	
Newly acquired financial assets	-	-7.4	-	-0.2	-0.2	
Repaid financial assets	-	0.6	-	0.0	-	
As of 31/12/2021	2,248.1	-9.4	7,395.3	-1.4	-35.7	
Net revaluation of the loss allowances	-	3.0	-	0.0	-105.8	
Newly acquired financial assets	-	-1.8	-	-0.6	-0.4	
Repaid financial assets	-	0.4	-	0.5	0.4	
Reclassification in expected credit loss over the term – impaired creditworthiness	-	-	-	0.4	-4.7	
As of 31/12/2022	1,774.6	-7.8	8,625.2	-1.1	-146.2	

The loss allowances for trade receivables developed as follows in the financial year:

Trade receivables	31/12/2022			31/12/2021		
	Carrying amount	Loss allowance	Loss rate (weighted average)	Carrying amount	Loss allowance	Loss rate (weighted average)
in € million						
Not past due	5,689.9	-33.0	0.6%	6,145.3	-50.5	0.8%
Past due	230.8	-222.0		137.4	-119.0	
Due within 3 months	(136.7)	(-31.9)	18.9%	(58.6)	(-4.4)	6.9%
Due in between 3 and 6 months	(39.4)	(-39.1)	49.8%	(18.2)	(-9.4)	34.1%
Due in between 6 months and 1 year	(30.0)	(-31.2)	51.0%	(20.4)	(-9.0)	30.7%
Due in more than 1 year	(24.6)	(-119.8)	82.9%	(40.2)	(-96.2)	70.5%

In the financial year, income from the recovery of trade receivables that had been written off was €10.1 million (previous year: €8.2 million). Expenses for trade receivables and other assets that had been written off stood at €63.3 million in the financial year (previous year: €73.3 million).

The maximum default risk for financial assets (including derivatives with positive market value) is equivalent to the carrying amounts recognized in the balance sheet. As of the reporting date of 31 December 2022, the maximum default risk amounts to €35.9 billion (previous year: €41.2 billion). The maximum default risk for financial guarantees corresponds to the undiscounted cash flows for financial guarantees stated for the liquidity risk.

Liquidity risk

Liquidity risks arise for EnBW from the obligation to repay liabilities fully and punctually. The objective of EnBW's cash and liquidity management is to secure the company's solvency at all times.

Cash management determines any cash requirements and inflows on a central basis. By offsetting cash requirements and cash inflows, the number of banking transactions is reduced to a minimum. The netting is carried out by cash pooling⁹. Cash management has implemented standardized processes and systems to manage bank accounts and internal clearing accounts, and to perform automated payment transactions.

For further details on financial liabilities, please refer to note (23) "Liabilities and subsidies."

For liquidity management purposes, a finance plan based on cash flows is prepared centrally. As they arise, finance needs are covered by suitable financial instruments as part of the liquidity management. In addition to ensuring that liquidity is available on a daily basis, EnBW maintains further liquidity reserves of €6.1 billion (previous year: €2.7 billion) which are available at short notice. The amount of liquidity reserves is based on strategic liquidity planning, taking into account defined worst-case parameters. The liquidity reserve is made up of contractually agreed, syndicated and free credit lines ⁹ with various terms to maturity. In view of the liquidity available and existing credit lines, EnBW does not consider there to be any concentration of risk.

The tables below show future undiscounted cash flows from financial liabilities and derivative financial instruments that affect the future liquidity situation of the EnBW Group.

The analysis includes all contractual obligations that are disclosed in the balance sheet as of the reporting date 31 December 2022. Interest and redemption payments are taken into consideration for debt instruments issued and liabilities to banks.

The interest payments on fixed-income financial instruments are based on the contractually agreed interest rates. For financial instruments subject to floating interest, the interest rates last fixed prior to 31 December 2022 were used.

Foreign currency financial instruments are translated at the respective spot price as of 31 December 2022.

Where derivatives are concerned, positive or negative market values are generally included, provided they give rise to a net cash outflow. Undiscounted cash flows are determined on the basis of the following conditions:

- Swap transactions are only included in the liquidity analysis if they give rise to a net cash outflow.
- Forward exchange transactions are taken into account if they give rise to a cash outflow.
- In the case of forward transactions, all calls are taken into account. The future cash flows are equivalent to the quantities measured at the contractually agreed price.
- Futures transactions are not included in the liquidity analysis because they are settled by daily variation margins.

Undiscounted cash flows as of 31/12/2022

in € million	Total	2023	2024	2025	2026	Cash flows > 2026
Non-derivative financial liabilities						
Debt instruments issued	11,078.0	339.7	735.9	1,393.2	1,692.2	6,917.0
Liabilities to banks	2,118.8	158.4	407.5	302.0	410.0	840.9
Other financial liabilities	1,397.1	53.0	32.1	496.7	28.0	787.2
Trade payables	3,380.5	3,380.5				
Lease liabilities	1,045.5	170.8	149.2	107.0	89.0	529.5
Other financial obligations	3,502.3	3,362.1	1.1	0.8	34.4	103.9
Derivatives	31,855.3	21,039.6	6,658.0	2,365.4	750.6	1,041.7
Financial guarantees ¹	248.7	248.7				
Total	54,626.2	28,752.8	7,983.8	4,665.1	3,004.2	10,220.2

¹ This includes guarantees to joint ventures of €125.9 million and to associates of €5.0 million.

Undiscounted cash flows as of 31/12/2021

in € million	Total	2022	2023	2024	2025	Cash flows > 2025
Non-derivative financial liabilities						
Debt instruments issued	9,692.8	1,133.4	245.0	646.0	1,140.4	6,528.0
Liabilities to banks	2,118.2	738.0	114.3	375.4	90.2	800.3
Other financial liabilities	820.6	125.4	40.1	22.3	494.5	138.3
Trade payables	2,403.1	2,403.1				
Lease liabilities	1,007.6	172.2	137.8	113.8	84.2	499.6
Other financial obligations	3,154.5	3,061.4	2.0	2.0	2.2	86.9
Derivatives	35,530.8	18,703.1	6,033.1	3,344.9	1,886.8	5,562.9
Financial guarantees ¹	211.4	211.4				
Total	54,939.0	26,548.0	6,572.3	4,504.3	3,698.3	13,616.0

¹ This includes guarantees to joint ventures of €126.8 million and to associates of €10.7 million.

The liquidity risk for derivatives ² only refers to those contracts that give rise to a cash outflow. To better illustrate the liquidity risk from derivatives, the netting agreements concluded as part of our risk management activities are also taken into account when determining the liquidity risk. The cash outflows from derivatives are offset by cash inflows from corresponding sales transactions.

Market price risks

Market price risks can arise from foreign exchange and interest rate risks as well as from commodity and other price risks for shares, share-based investment funds, interest-bearing securities and investments in private equity companies. The price risks are reduced through the implementation of a comprehensive hedging concept ² and the associated closing of risk positions.

The main foreign currency risks of EnBW result from procurement and hedging of prices for its fuel requirements, gas and oil trading business and liabilities denominated in foreign currency. Other currency risks arise from shares, share-based investment funds, fixed-income securities and investments in private equity companies. The currency risk is hedged with the help of appropriate standardized financial instruments – in the reporting period, forward exchange contracts in particular – on the basis of continuously monitored exchange rate forecasts. Foreign exchange risks are hedged centrally. EnBW principally has exposure to currency risks from US dollars and Swiss francs. The deviation used to derive information on the currency sensitivity is determined on the basis of an annual analysis of the average deviation in the exchange rates.

The net assets tied up at foreign Group entities outside the eurozone, and their related translation risks, are hedged against exchange rate fluctuations only in exceptional cases.

The effects of changes in exchange rates on the net profit/loss for the year and on equity are analyzed below. The analysis was made assuming that all other parameters, such as interest rates, remain unchanged. The analysis includes financial instruments of €5,058.3 million (previous year: €2,611.9 million) whose exchange rate exposure might affect equity or the net profit/loss for the year. The information presented in the table shows only the effects on the net profit/loss for the year and on equity in the case of an increase in the exchange rates, a reduction of the same amount would have the opposite effect.

These mainly comprise investments in securities (bonds, shares), private equity investments, hedging instruments from cash flow hedges, stand-alone derivatives, and receivables and liabilities denominated in foreign currency.

Currency risk

in € million			31/12/2022	31/12/2021
Euros against all currencies	Appreciation (previous year: appreciation)	Profit for the year	-240.4	-115.9
	Depreciation (previous year: appreciation)	Equity	-103.7	-40.1
of which euro/US dollar	+10% (previous year: +10%)	Profit for the year	[-248.3]	(-122.7)
	-10% (previous year: +10%)	Equity	[-103.7]	(-40.1)
of which euro/Swiss franc	-6% (previous year: -7%)	Profit for the year	[-6.1]	(-6.8)

EnBW uses a multitude of interest-sensitive financial instruments in order to meet the requirements of operational and strategic liquidity management. Interest rate risks only stem from floating-rate instruments.

Interest-induced changes in the market value of interest-bearing securities in the “measured at fair value through profit or loss” and “measured at fair value in equity” measurement categories are presented under other price risks for shares, share-based investment funds, interest-bearing securities and investments in private equity companies.

On the assets side, there is interest exposure from bank balances and on the liabilities side from floating-rate liabilities to banks. In addition, there are interest rate risks from derivatives in the form of swap transactions. EnBW mainly has interest rate risks in the eurozone. The analysis includes financial assets of €5,215.6 million (previous year: €4,680.5 million) and financial liabilities of €2,259.6 million (previous year: €2,027.0 million), whose interest rate exposure might affect equity or the net profit/loss for the year.

The effects of changes in interest rates on the net profit/loss for the year and on equity on the reporting date are analyzed below. The situation on the reporting date for the period is decisive for the quantitative information; the effects for one year on the current reporting period are presented. The analysis was made assuming that all other parameters, such as exchange rates, remain unchanged. The analysis includes only financial instruments whose interest rate exposure might affect equity or the net profit/loss for the year. For analysis purposes, the average change in yield over the last ten years was used.

Interest rate risk

in € million			31/12/2022	31/12/2021
Increase in interest rate +50 basis points (previous year: +25 basis points)		Profit for the year	14.7	6.7
of which cash at banks with a floating interest rate		Profit for the year	[24.4]	(10.9)
of which floating-rate securities		Profit for the year	[1.6]	(0.8)
of which interest rate derivatives		Profit for the year	[-1.5]	(-0.8)
of which primary financial debt with a floating interest rate		Profit for the year	[-9.8]	(-4.2)
Decrease in interest rate -50 basis points (previous year: -25 basis points)		Profit for the year	-14.7	-6.5
of which cash at banks with a floating interest rate		Profit for the year	[-24.4]	(-10.9)
of which floating-rate securities		Profit for the year	[-1.6]	(-0.8)
of which interest rate derivatives		Profit for the year	[1.5]	(0.8)
of which primary financial debt with a floating interest rate		Profit for the year	[9.8]	(4.4)

In the context of our energy trading activities, EnBW enters into energy trading contracts for the purpose of price risk management, optimization of power stations, load equalization and optimization of margins. Trading for own account is only permitted within narrow, clearly defined boundaries.

The price risks mostly arise from the procurement and sale of electricity, the procurement of coal, gas and oil as fuels, and the procurement of emission allowances. Furthermore, EnBW is exposed to price risks from speculative items entered into in own-account trading. The price risks are hedged using

appropriate financial instruments on the basis of continuously monitored forecasts of market prices. The hedging instruments used in the reporting period were forwards, futures, swaps and options.

The sensitivity of the measurement of derivatives ^② to the price of electricity, coal, oil, gas and emission allowances is analyzed below. The analysis was made assuming that all other parameters remain unchanged. It includes only derivatives whose changes in market value affect equity or the net profit/loss for the year. These are derivatives that are accounted for as stand-alone derivatives as well as derivatives used as hedging instruments in cash flow hedges ^②. For all commodities, typical volatilities were determined and rounded on the basis of the front year. These volatilities give the percentage rate by which the market price is shifted on the evaluation date. For all commodities, the resulting changes in market prices are multiplied by the sensitivities and aggregated for each commodity.

The analysis does not include any derivatives that are intended for the purpose of receipt or delivery of a non-financial item in accordance with the entity's expected purchase, sale or usage requirements (own use), and hence are not required to be accounted for in accordance with IFRS 9. Our generation and distribution positions are not included in the analysis either.

The sensitivities presented below therefore do not represent the actual economic risks to which the EnBW Group is exposed but rather serve solely to satisfy the disclosure requirements of IFRS 7.

The information presented in the table shows only the negative effects on the net profit/loss for the year and on equity for the given change in prices. An opposite change in prices would have positive effects of the same amount on the net profit/loss for the year and on equity.

Price risks

in € million ¹			31/12/2022	31/12/2021
Electricity	+80% (previous year: +60%)	Profit for the year	-924.4	-407.8
	+80% (previous year: +60%)	Equity	-1,750.9	-1,477.1
Coal	+90% (previous year: -60%)	Profit for the year	-809.3	-204.9
	-90% (previous year: -60%)	Equity	-855.5	-248.1
Oil	-30% (previous year: -25%)	Profit for the year	-24.6	-6.6
	-30% (previous year: -25%)	Equity	-4.5	0.0
Gas	+90% (previous year: +65%)	Profit for the year	-34.8	-41.4
	-90% (previous year: -65%)	Equity	-530.7	-343.0
Emission allowances	-50% (previous year: -50%)	Profit for the year	-314.0	-917.9
	-50% (previous year: -50%)	Equity	-1,373.3	-1,213.2

¹ The figures for the previous year have been restated.

EnBW has investments in shares, share-based investment funds, fixed-income securities and investments in private equity companies that pose price risks for the company, which include, among other things, currency risk. When selecting securities, the company always attaches particular importance to high marketability and a good credit rating. As of the reporting date of 31 December 2022, shares, share-based investment funds, fixed-income securities and investments in private equity companies totaling €5,415.7 million (previous year: €6,311.5 million) were exposed to market risk.

The effects of price risks from shares, share-based investment funds, interest-bearing securities and investments in private equity companies (real estate, infrastructure and private equity funds) on the net profit/loss for the year and on equity are analyzed below. The analysis was made assuming that all other parameters, such as interest, remain unchanged. The analysis includes financial instruments whose price risks might affect equity or the net profit/loss for the year. The analysis of the market price risk of shares, share-based investment funds and investments in private equity funds was carried out based on historical volatility. A standard deviation was assumed as a realistic scenario. The market risk of fixed-income securities was analyzed by modified duration. Taking into account the changes in interest rates assumed (see interest rate risk) in relation to the fair value of fixed-income securities, results are determined in absolute figures. The premises on which the sensitivity analysis is based are 10% for shares, share-based investment funds and investments in private equity funds (previous year: 10%) and 1% for interest-bearing securities and investments in real estate and infrastructure funds (previous year: 1%).

In the risk scenario in question, the net profit/loss for the year would improve by €153.1 million (previous year: €175.1 million). The hypothetical change in profit/loss for the year is primarily due to shares, share-based investment funds and investments in private equity companies. In the risk scenario in question, the equity would increase by €15.2 million (previous year: €20.1 million). Of the hypothetical change in equity, €15.2 million (previous year: €20.1 million) is accounted for by fixed-income securities. The information presented shows only the effects on the net profit/loss for the year and on equity in the case of an increase in the values of shares, share-based investment funds, interest-bearing securities and investments in private equity companies, a reduction of the same amount would have the opposite effect.

(27) Contingent liabilities and other financial commitments

The disclosures on contingent liabilities and other financial commitments relate to nominal values.

Contingent liabilities

After the amended German Atomic Power Act (AtG) and the amended Directive on the Coverage Provisions in the Nuclear Power Industry (AtDeckV) came into force on 27 April 2002, German nuclear power plant operators are required to provide evidence of coverage provision up to a maximum amount of €2.5 billion per case of damage for risks related to nuclear power. Of this provision, €255.6 million is covered by uniform third-party liability insurance. Nuklear Haftpflicht GbR now only provides solidarity coverage in respect of claims relating to officially prescribed evacuation measures ranging from €0.5 million to €15.0 million. In proportion to their shares in the nuclear power plants, Group companies have undertaken to provide the operating companies responsible for the nuclear power plants with sufficient liquidity to enable them to meet their obligations arising from their membership of Nuklear Haftpflicht GbR at any time.

In order to fulfill the subsequent coverage provision amounting to €2,244.4 million per case of damage, EnBW and the other parent companies of the German nuclear power station operators reached a solidarity agreement on 11 July, 27 July, 21 August and 28 August 2001, which was extended with agreements on 17 November, 29 November, 2 December and 6 December 2021, to provide a liable nuclear power station operator with sufficient funding – after exhausting its own possibilities and those of the Group parent companies – to meet its payment obligations in the event of a claim for damages. According to the agreement, EnBW AG has to bear a 17.796% share of the liability coverage, plus 5% costs to settle any claims for damages, for the period from 1 January 2022 until 31 December 2029 in accordance with annex 2 of the solidarity agreement. Sufficient provisions have been made to ensure this liquidity and are taken into account in the liquidity plan.

Following the full ratification of the Paris Convention on Nuclear Liability, AtG of 28 August 2008 and AtDeckV of 21 January 2022 were amended to update the liability legislation in Germany. In particular, the minimum coverage provision for decommissioned power plants without fuel rods was increased to €70.0 million and two or more nuclear power plants with the same owner on one site can now be treated as a single power plant according to liability law. The minimum coverage provision for plants that handle radioactive residual material and radioactive waste was also increased to €70.0 million.

As a result of the reform of the liability legislation, the coverage provision for the “Neckarwestheim, Block I and Block II” nuclear power plant was set at €2.5 billion in the notice of assessment of 5 September 2022, the coverage provision for the “Philippsburg, Block 1 and Block 2” nuclear power plant was set at €2.5 billion in the notice of assessment of 6 September 2022 and the coverage provision for the “Obrigheim” nuclear power plant (KWO) was set at €70.0 million in the notice of assessment of 18 January 2023. The Obrigheim power plant has not been included in the above-mentioned solidarity agreement since 31 December 2018. In addition, the coverage provision for the residual material treatment plant at the Neckarwestheim site (RBZ-N) was set at €70.0 million in the notice of assessment of 27 July 2022 and the coverage provision for the residual material treatment plant at the Philippsburg site (RBZ-P) was set at €70.0 million in the notice of assessment of 28 July 2022.

EnBW Energie Baden-Württemberg AG (EnBW AG) and EnBW Kernkraft GmbH (EnKK) were members of the European Mutual Association for Nuclear Insurance (EMANI) until 31 December 2022. Termination of their memberships in EMANI as of 31 December 2022 also ended any liability obligations in the event that the guarantee fund held by EMANI is exhausted, and if EMANI no longer holds the legally stipulated liquidity.

In addition, there are other contingent liabilities at the EnBW Group amounting to €421.5 million (previous year: €531.8 million). This amount includes sureties of €336.9 million (previous year: €361.3 million). The sureties include commitments to joint ventures of €50.8 million (previous year: €46.6 million). The amount also includes €57.4 million (previous year: €168.1 million) for pending litigations where no provisions were made because the counterparty is unlikely to win the case. Furthermore, various court cases, investigations by authorities or proceedings and other claims are pending against EnBW. The chances of these being successful are, however, remote and they are therefore not reported under contingent liabilities.

Other financial commitments

The EnBW Group has long-term purchase commitments for natural gas, coal and other fossil fuels, as well as for electricity. The total volume of these commitments amounts to €33.3 billion (previous year: €24.4 billion), of which €13.4 billion (previous year: €13.2 billion) is due within one year. Long-term commitments include commitments to associates of €232.0 million (previous year: €255.0 million).

Miscellaneous other financial commitments break down as follows:

in € million ¹	31/12/2022	Of which due in			31/12/2021
		< 1 year	1 – 5 years	> 5 years	
Financial commitments from rent and lease agreements	261.9	54.2	114.6	93.1	229.7
Purchase commitments	2,008.7	1,494.2	491.0	23.5	1,489.1
Investment obligations for intangible assets	16.7	12.9	3.8	0.0	7.9
Investment obligations for property, plant and equipment	5,133.5	2,203.0	2,793.2	137.3	2,695.9
Financial commitment related to the acquisition of associates, affiliated entities, joint ventures and investments ^{2,3}	1,552.9	438.2	1,098.5	16.2	1,982.5
Other financial commitments	341.2	83.5	148.0	109.7	443.7
Total	9,314.9	4,286.0	4,649.1	379.8	6,848.8

¹ This includes commitments to joint ventures of €1,039.0 million (previous year: €1,270.7 million) and to associates of €2.7 million (previous year: €2.7 million).

² Previous year adjusted by €1,244.7 million. This was due to the reassessment of the commitments to joint ventures.

³ This includes commitments calculated based on underlying assumptions. Due to the uncertainty inherent in these estimates, the possibility of a significant adjustment to the amount of the commitments in the next financial year cannot be ruled out.

(28) Significant restrictions

As a result of regulatory and legal requirements, the ability of the Group to transfer assets within the Group is limited to some extent.

In accordance with the German Energy Industry Act (EnWG), independent transmission operators must possess the financial, technical, material and human resources required to operate the transmission grid. For this purpose, the independent transmission operators must be the owner, either directly or through shareholdings, of all of the assets required to operate the transmission grid. As of 31 December 2022, the EnBW Group held a total of €5,080.0 million (previous year: €4,230.9 million) in assets restricted due to these legal regulations.

(29) Audit fees

The fees of the Group auditor Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, which are recorded as an expense, break down as follows:

in € million	2022	2021
Statutory audit	4.5	4.0
Other attestation services	0.7	0.6
Tax advisory services	0.0	0.2
Other services	0.3	0.1
Total	5.5	4.9

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft audited the annual and consolidated financial statements of EnBW AG. In addition, non-statutory attestation services were provided relating to financial information for the reviews of interim financial statements and voluntary audits of annual financial statements. Furthermore, other audits specific to the sector of the economy that are prescribed by law, such as audits according to EEG, KWKG and the Concession Fee Ordinance, were carried out. Statutory audits of systems and functions for the management and supervision of the company comprise EMIR audits. Attestation services that are not prescribed by law relating to capital market transactions comprised the issuing of comfort letters. Agreed investigative measures were also carried out.

In addition, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft advised EnBW AG on matters relating to the grids and also on other economic matters.

(30) Exemptions pursuant to section 264 (3) or section 264b HGB

The following German subsidiaries made use of some or all of the exemption provisions of section 264 (3) HGB or section 264b HGB in the 2022 financial year:

Exemptions pursuant to section 264 (3) HGB

- BroadNet Deutschland GmbH, Cologne
- EnBW Betriebs- und Servicegesellschaft mbH, Karlsruhe
- EnBW Central and Eastern Europe Holding GmbH, Stuttgart
- EnBW France GmbH, Stuttgart
- EnBW He Dreiht GmbH, Varel
- EnBW Netze BW Beteiligungsgesellschaft mbH, Stuttgart
- EnBW New Ventures GmbH, Karlsruhe
- EnBW Offshore 1 GmbH, Stuttgart
- EnBW Offshore 2 GmbH, Stuttgart
- EnBW Offshore 3 GmbH, Stuttgart
- EnBW Perspektiven GmbH, Karlsruhe
- EnBW REG Beteiligungsgesellschaft mbH, Stuttgart
- EnBW Renewables International GmbH, Stuttgart
- EnBW Rückbauservice GmbH, Stuttgart
- EnBW Telekommunikation GmbH, Karlsruhe
- EnBW Urbane Infrastruktur GmbH, Karlsruhe
- EnBW Wind Onshore Instandhaltungs GmbH, Karlsruhe
- EnPulse Ventures GmbH, Stuttgart
- Gesellschaft für nukleares Reststoffrecycling mbH, Neckarwestheim
- MSE Mobile Schlammentwässerungs GmbH, Karlsbad-Ittersbach
- Neckarwerke Stuttgart GmbH, Stuttgart
- Netze BW Wasser GmbH, Stuttgart
- NWS Finanzierung GmbH, Karlsruhe
- NWS REG Beteiligungsgesellschaft mbH, Stuttgart
- RBS wave GmbH, Stuttgart
- symbiotic services GmbH, Karlsruhe
- TPLUS GmbH, Karlsruhe
- u-plus Umweltservice GmbH, Karlsruhe
- Ventelo GmbH, Cologne

Exemptions pursuant to section 264b HGB

- Der neue Stöckach GmbH & Co. KG, Obrigheim
- EnBW City GmbH & Co. KG, Obrigheim
- EnBW mobility+ AG & Co. KG, Karlsruhe
- EnBW Übertragungsnetz Immobiliengesellschaft mbH & Co. KG, Karlsruhe
- Facilma Grundbesitzmanagement und -service GmbH & Co. Besitz KG, Obrigheim
- NWS Grundstücksmanagement GmbH & Co. KG, Obrigheim
- Plusnet Infrastruktur GmbH & Co. KG, Cologne

(31) Declaration of compliance with the German Corporate Governance Code

The Board of Management and Supervisory Board of EnBW Energie Baden-Württemberg AG issued the declaration of compliance with the German Corporate Governance Code required by section 161 AktG on 8 December 2022 and made it permanently available to shareholders on the Internet at www.enbw.com/declaration-of-compliance.

(32) Share deals and shareholdings of key management personnel

The company did not receive any notices in the 2022 financial year about transactions involving EnBW shares, EnBW bonds, emissions allowances or any associated financial instruments concerning persons in managerial positions or those persons closely related to them in accordance with article 19 (1) EU Market Abuse Regulation 596/2014 (MAR).

(33) Notes to the cash flow statement

The cash flow statement is split up into cash flows from operating, investing and financing activities. The balance of the cash flow statement represents the change in cash and cash equivalents during the 2022 financial year amounting to € -195.5 million (previous year: €5,338.8 million).

Cash and cash equivalents almost exclusively relate to bank deposits, largely in the form of time and day-to-day deposits whose term from the acquisition date is less than three months and that are only subject to an immaterial risk of fluctuation in value. In the 2022 financial year, operating cash flow amounted to €1,804.8 million (previous year: €7,597.8 million).

The income tax paid in the reporting year totaled €227.9 million (previous year: €200.6 million).

Other non-cash-relevant expenses and income break down as follows:

in € million	2022	2021
Income from the reversal of construction cost subsidies	-70.3	-69.9
Impairment losses	122.4	61.6
Reversal of impairment losses on property, plant and equipment and intangible assets	-1,499.2	-96.4
Expense from the reversal of capitalized costs for obtaining contracts	15.3	20.3
Write-ups/write-downs on inventories and valuations of associated derivatives	-35.6	-82.2
Result from the non-operating valuation effects from derivatives	226.6	-224.5
Other	-7.5	-11.0
Total	-1,248.3	-402.1

In the 2022 financial year, dividends of €510.8 million (previous year: €547.2 million) were declared, of which €212.9 million (previous year: €276.3 million) were to the benefit of third-party shareholders of Group companies. In the reporting year, €399.4 million (previous year: €356.4 million) of the declared dividends were distributed. €111.4 million (previous year: €190.8 million) of the dividends and €134.0 million (previous year: €69.7 million) of the capital reductions in non-controlling interests were offset against short-term receivables against third-party shareholders of Group companies. The latter was due to advance payments made in the previous year as a result of contractual regulations. The change in the presentation of the advance payments to third-party

For further explanations on the cash flow statement, please refer to the details given in the management report on the financial position of the EnBW Group.

shareholders in the cash flow statement led to a restatement of the figures for the previous year. This reduced cash flow from investing activities by a total of €14.6 million and increased cash flow from financing activities by a total of €14.6 million.

In the 2022 financial year, there was a change to the presentation of the securities and financial investments eligible for netting within the cash flow from investing activities. This led to an adjustment of €233.8 million in the figures for the previous year. There was no impact on the total cash flow from investment activities as a result. The cash received and cash paid for other financial assets now mainly includes long-term financial investments with a low turnover ratio.

Capital expenditure on intangible assets and property, plant and equipment includes €157.1 million (previous year: €149.0 million) for intangible assets and €2,613.6 million (previous year: €2,212.9 million) for property, plant and equipment.

The acquisition of subsidiaries, entities accounted for using the equity method and interests in joint operations item includes €110.4 million (previous year: €287.0 million) for entities accounted for using the equity method.

In the reporting period, cash payments mainly related to the foundation of Morven Offshore Wind Holdings Ltd. and its subsidiary and the acquisition of shares in Smatrix GmbH & Co. KG. The companies will be accounted for using the equity method in the consolidated financial statements. In the reporting year, the purchase prices paid in cash for the acquisition of entities accounted for using the equity method was €16.4 million (previous year: €0.0 million).

Cash payments made in the comparative period mainly related to the foundation of Mona Offshore Wind Holdings Ltd. and Morgan Offshore Wind Holdings Ltd. and their subsidiaries, as well as the associated payments for the bids for the offshore wind rights for the construction of offshore wind farms in Great Britain. The companies are accounted for using the equity method in the consolidated financial statements. In addition, capital increases at entities accounted for using the equity method were also included in both the reporting year and the previous year.

The sale prices from the sale of subsidiaries, entities accounted for using the equity method and interests in joint operations totaled €24.3 million (previous year: €0.0 million). This resulted mainly from the sale of Stadtwerke Hilden GmbH. The company was accounted for using the equity method in the consolidated financial statements. As in the previous year, no cash and cash equivalents were relinquished as a result of the sale of shares in the reporting year. In addition, capital reductions at entities accounted for using the equity method were included.

Net investment ² in the section “The EnBW Group” of the management report can be reconciled as follows:

in € million ¹	2022	2021
Cash flow from investing activities	-2,734.9	-2,873.7
Interest and dividends received	-427.0	-358.0
Change in securities and financial investments	-192.4	186.5
Net investments held as financial assets	167.0	208.1
Net investments in property held as financial assets	0.0	-3.4
Net investments in other assets	268.5	226.5
Cash received/paid from alterations of capital in non-controlling interests	0.2	-4.9
Alterations of capital in non-controlling interests without cash outflows in the current period	-134.0	-69.7
Cash received/paid for changes in ownership interest without loss of control	301.7	224.0
Cash received/paid from participation models	-16.8	-6.6
Cash paid for net investments	-2,767.7	-2,471.2

¹ The figures for the previous year have been restated.

The dedicated financial assets contribution of € -92.2 million (previous year: €184.8 million) is reported separately for the representation of the retained cash flow ² in the liquidity analysis in the section “The EnBW Group” of the management report.

The total amount of interest paid in the reporting period breaks down as follows:

in € million	2022	2021
Interest paid for investing activities (capitalized borrowing costs)	-26.1	-24.1
Interest paid for financing activities	-318.8	-314.5
Total amount of interest paid in the reporting period	-344.9	-338.6

Liabilities included in the cash flow from financing activities item in the cash flow statement can be reconciled as follows:

in € million	As of 01/01/2022	Cash- relevant changes	Non-cash-relevant changes					As of 31/12/2022
			Changes in the group of con- solidated companies	Currency effects	Addition to leases	Accrued interest	Other changes	
Subordinated bonds	3,475.6	-1,001.0	0.0	11.3		0.0	2.8	2,488.7
Bonds	4,685.2	1,858.4	0.0	-26.2		0.0	-34.8	6,482.6
Commercial papers	240.0	472.5	0.0	0.0		0.0	0.0	712.5
Liabilities to banks	2,067.3	-125.8	2.6	10.8		14.4	0.3	1,969.6
Other financial liabilities	782.0	466.4	0.0	1.6		1.0	-13.0	1,238.0
Financial liabilities ¹	11,250.1	1,670.5	2.6	-2.5	0.0	15.4	-44.7	12,891.4
Other liabilities (interest on bonds)	104.8	-176.9	0.0	0.1		160.2	0.0	88.2
Other liabilities (leases) ²	884.8	-199.5	0.4	2.0	210.3	0.0	14.4	912.5
Total	12,239.7	1,294.1	3.0	-0.4	210.3	175.6	-30.3	13,892.1

¹ The cash-relevant changes include €7.8 million from interest payments.

² The cash-relevant changes include €16.2 million from interest payments.

in € million	As of 01/01/2021	Cash- relevant changes	Non-cash-relevant changes				As of 31/12/2021	
			Changes in the group of con- solidated companies	Currency effects	Addition to leases	Accrued interest		Other changes
Subordinated bonds	3,455.4	-5.5	0.0	20.3		0.0	5.4	3,475.6
Bonds	3,706.4	997.1	0.0	-0.5		0.0	-17.8	4,685.2
Commercial papers	0.0	237.0	0.0	3.0		0.0	0.0	240.0
Liabilities to banks	1,771.9	268.8	3.1	17.3		6.2	0.0	2,067.3
Other financial liabilities ¹	679.3	-3.8	0.0	0.1		1.7	104.7	782.0
Financial liabilities²	9,613.0	1,493.6	3.1	40.2	0.0	7.9	92.3	11,250.1
Other liabilities (interest on bonds)	122.5	-201.2	0.0	0.0		183.5	0.0	104.8
Other liabilities (leases) ³	886.3	-199.7	1.1	3.6	179.7	0.0	13.8	884.8
Total	10,621.8	1,092.7	4.2	43.8	179.7	191.4	106.1	12,239.7

1 The other changes to other financial liabilities include €101.8 million from the "EnBW connects" participation model.

2 The cash-relevant changes include €4.3 million from interest payments.

3 The cash-relevant changes include €14.3 million from interest payments.

For further explanations, please refer to the details given in the management report on the liquidity analysis of the EnBW Group.

(34) Additional disclosures on capital management

Capital management at EnBW covers both the management of the net debt^② of €10,847.0 million (previous year restated: €10,351.3 million) and the management of liabilities and financial assets. Financial assets include non-current securities and loans, as well as current financial assets and cash and cash equivalents. On the liabilities side, capital management covers financial liabilities, as well as provisions for pensions and those relating to nuclear power.

EnBW has been managing its financial profile since 2021 using the key performance indicator debt repayment potential^②, which describes the retained cash flow^② in relation to net debt. A target value of 12% should enable the company to exploit growth opportunities while maintaining the creditworthiness of the company at the same time. This target value is based on the rating requirements and is reviewed on a regular basis to guarantee a solid investment-grade rating^②. EnBW ensures the timely coverage of the pension and nuclear obligations using an asset liability management model^②. EnBW uses this cash flow-based model to determine the anticipated effects over the next 30 years, based on appraisals of the pension provisions, as well as appraisals of the nuclear provisions. This model forms the basis for the management of financial assets that are held to cover the pension and nuclear obligations. It allows simulations of various alternative return and provision scenarios. In order to give proper consideration to the growing importance of climate risks, the fund managers at EnBW use sustainability principles, including the UN Principles for Responsible Investment (UN PRI), when selecting each individual investment. Special climate risks are generally taken into account in the respective investment processes. At the same time, compliance with the regulations in the Sustainable Finance Disclosure Regulation (SFDR) when making investments will significantly increase transparency in future.

The impact that the utilization of the pension and nuclear obligations may have on the operating business is limited to €300.0 million (plus an inflation supplement) a year using an ongoing contribution from the financial assets. If the provisions are fully covered by the financial assets, no further funds will be taken from operating cash flow as part of the model.

EnBW uses a rolling planning horizon of twelve months for managing liquidity. For operational liquidity management, EnBW uses tools that enable it to compare its liquidity needs and liquidity sources over particular time periods.

EnBW has a well-balanced maturity profile for its financial liabilities. The financial policy focuses on ensuring the solvency of the company, limiting financial risks and optimizing capital costs. As of 31 December 2022, the creditworthiness of EnBW was rated by the rating agencies Moody's and Standard & Poor's with Baa1/stable and A-/negative, respectively.

(35) Segment reporting

2022 in € million	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Generation Infrastructure	Other/ Consolidation	Total
Revenue					
External revenue	18,772.8	6,679.1	30,543.2	7.5	56,002.6
Internal revenue	1,436.4	2,326.7	6,688.6	-10,451.7	0.0
Total revenue	20,209.2	9,005.8	37,231.8	-10,444.2	56,002.6
Earnings indicators					
Adjusted EBITDA	510.2	1,046.0	1,934.8	-205.3	3,285.7
EBITDA	232.8	1,157.8	3,087.7	-5.1	4,473.2
Adjusted EBIT	336.8	403.9	1,186.9	-257.1	1,670.5
EBIT	42.1	338.4	1,822.4	-61.7	2,141.2
Income from reversals of impairment losses	0.0	3.6	1,495.6	0.0	1,499.2
Scheduled amortization and depreciation	-173.4	-642.2	-747.9	-51.7	-1,615.2
Impairment losses	-17.3	-177.3	-517.4	-4.8	-716.8
Net profit/loss from entities accounted for using the equity method	8.7	3.8	11.4	0.0	23.9
Significant non-cash-relevant items	-107.9	-60.8	-309.3	-21.6	-499.6
Assets and liabilities					
Capital employed	1,943.5	12,347.4	10,217.9	469.6	24,978.4
of which carrying amount of entities accounted for using the equity method	(125.1)	(430.0)	(578.8)	(0.0)	(1,134.0)
Capital expenditure on intangible assets and property, plant and equipment	312.4	1,849.1	625.0	28.4	2,814.9
2021 in € million¹					
Revenue					
External revenue	13,923.6	4,412.6	13,804.0	7.7	32,147.9
Internal revenue	1,111.9	1,470.4	5,501.5	-8,083.8	0.0
Total revenue	15,035.5	5,883.0	19,305.5	-8,076.1	32,147.9
Earnings indicators					
Adjusted EBITDA	344.0	1,263.0	1,539.7	-187.4	2,959.3
EBITDA	278.7	1,148.7	1,375.2	0.9	2,803.5
Adjusted EBIT	186.4	661.2	794.9	-239.5	1,402.9
EBIT	118.5	543.4	-451.9	-51.2	158.8
Income from reversals of impairment losses	0.0	63.4	33.0	0.0	96.4
Scheduled amortization and depreciation	-157.6	-601.9	-744.8	-52.1	-1,556.4
Impairment losses	-2.6	-3.3	-1,082.3	0.0	-1,088.3
Net profit/loss from entities accounted for using the equity method	7.5	15.9	35.6	0.0	59.0
Significant non-cash-relevant items	-94.2	-27.3	25.9	-20.8	-116.4
Assets and liabilities					
Capital employed	1,731.8	11,777.4	6,520.4	656.0	20,685.6
of which carrying amount of entities accounted for using the equity method	(97.7)	(434.0)	(486.1)	(0.0)	(1,017.9)
Capital expenditure on intangible assets and property, plant and equipment	241.0	1,614.5	472.6	33.8	2,361.9

¹ The figures for the previous year have been restated.

Detailed descriptions of the segments are given in the section "The EnBW Group" of the management report.

Due to a change in the allocation of business activities to the different Board of Management remits, there has been a change in the composition of our segments. The area of contracting was previously allocated to the Smart Infrastructure for Customers segment but is now part of the Sustainable Generation Infrastructure segment. Innovation activities were previously reported under the Smart Infrastructure for Customers segment but will be presented under the System Critical Infrastructure segment from 2022 onwards. The figures for the comparative periods have been restated.

In addition, we have amended the calculation method for capital employed⁹. Due to the level of the EEG funds held by the transmission grid operators, we are disclosing them under capital employed from 31 December 2022. Both the payments into and out of the EEG account are always considered non-interest-bearing liabilities for the EnBW Group because they are only held in custody by the transmission grid operators and cannot be used for the operating business. This adjustment will ensure that EEG payments will not impact capital employed. The capital employed for the comparative period was increased by the amount of the EEG funds on 31 December 2021, which was €1,565.2 million.

The Smart Infrastructure for Customers segment comprises the sale of electricity and gas, the provision and expansion of quick-charging infrastructure and digital solutions for electromobility, activities in the telecommunications sector and static storage systems in conjunction with photovoltaics. The System Critical Infrastructure segment encompasses the value-added stages of transmission and distribution of electricity and gas. Our activities in this segment are designed to guarantee the security of supply and system stability. In addition, the provision of grid-related services and the supply of water is reported in the System Critical Infrastructure segment. The Sustainable Generation Infrastructure segment comprises the areas of Renewable Energies and Thermal Generation and Trading. Renewable Energies includes project development, project planning and the construction and operation of power plants based on renewable energies. Thermal Generation and Trading encompasses conventional electricity generation and the trading of electricity, gas, CO₂ allowances⁹ and fuels. In order to guarantee the security of supply, we maintain the power plants that have been transferred to the grid reserve. Thermal Generation and Trading also includes the storage of gas, district heating, waste management and the provision of energy services.

Internal and total revenue reported under "Other/Consolidation" mainly refers to consolidation effects. In particular, activities that cannot be attributed to the separately presented activities of the segments are disclosed in the other performance indicators here.

Segment reporting is based on internal reporting.

The segment figures have been determined in accordance with the accounting policies used in the consolidated financial statements.

Internal revenue shows sales between Group companies. Sales between the segments were made at market prices.

The significant non-cash-relevant items principally comprise expenses from additions to provisions and impairment losses, and income from the reversal of construction cost subsidies and household connection costs as well as deferred liabilities.

Adjusted EBITDA⁹ is one of the key internal performance indicators. Adjusted EBITDA is an earnings ratio before the investment and financial results, income taxes and amortization, adjusted for non-operating effects, which accurately reflects the development of results of operations. In the management report, the performance of the segments is explained with the aid of adjusted EBITDA.

Adjusted EBITDA can be reconciled to earnings before taxes (EBT⁹) as follows:

in € million	2022	2021
Adjusted EBITDA	3,285.7	2,959.3
Non-operating EBITDA	1,187.5	-155.8
of which income/expenses relating to nuclear power	(-591.6)	(70.5)
of which income from the reversal of other provisions	(14.8)	(8.6)
of which result from disposals	(3.8)	(-6.6)
of which reversals of/additions to the provisions for onerous contracts relating to electricity and gas procurement agreements	(393.8)	(-343.1)
of which income from reversals of impairment losses	(1,499.1)	(69.5)
of which restructuring	(-28.7)	(-42.3)
of which other non-operating result	(-103.6)	(87.6)
EBITDA	4,473.2	2,803.5
Amortization and depreciation	-2,332.0	-2,644.7
Earnings before interest and taxes (EBIT)	2,141.2	158.8
Investment result	276.8	180.0
Financial result	-22.6	174.5
Earnings before tax (EBT)	2,395.4	513.3

The components of non-operating EBITDA⁹ can be found in the income statement, in particular, in income to the amount of €2,155.2 million (previous year: €643.0 million), as well as in expenses to the amount of €967.7 million (previous year: €798.8 million). In the 2022 financial year, non-operating EBITDA contains corrections relating to previous years.

Capital employed, which we record as segment assets, comprises all assets from the operating business. Non-interest-bearing liabilities – such as trade payables – are deducted.

Capital employed ⁹ is calculated as follows:

in € million ¹	31/12/2022	31/12/2021
Intangible assets	3,218.2	3,417.0
Property, plant and equipment	22,705.3	20,364.4
Investment properties	40.2	45.6
Investments ²	1,705.8	1,529.0
Loans	350.8	274.3
Inventories	3,835.7	2,290.3
Trade receivables ³	5,491.2	5,864.7
Other assets ⁴	20,293.1	23,547.3
of which income tax refund claims	(192.9)	(242.1)
of which other tax refund claims	(297.7)	(135.4)
of which derivatives	(13,393.0)	(17,190.4)
of which payments on account	(159.2)	(65.5)
of which prepaid expenses	(484.2)	(238.1)
of which miscellaneous assets	(5,918.7)	(5,806.4)
of which assets held for sale	(7.8)	(54.0)
of which components attributable to net debt	(-160.4)	(-184.6)
Other provisions	-3,790.2	-4,038.0
Trade payables and other liabilities ⁵	-27,975.8	-32,693.8
of which trade payables	(-8,411.9)	(-6,430.6)
of which other deferred income	(-507.8)	(-322.8)
of which derivatives	(-11,128.9)	(-19,134.0)
of which income tax liabilities	(-501.7)	(-180.2)
of which contract liabilities	(-1,082.3)	(-986.5)
of which other liabilities	(-6,343.8)	(-5,649.9)
of which components attributable to net debt	(0.6)	(10.2)
Subsidies	-17.2	-12.1
Deferred taxes ⁶	-878.7	96.9
Capital employed	24,978.4	20,685.6
Average capital employed⁷	22,690.5	22,249.9

1 The figures for the previous year have been restated. As of 1 January 2021, capital employed was €23,395.7 million.

2 Including entities accounted for using the equity method, shares in affiliated entities and other investments allocable to operating activities.

3 Excluding affiliated entities, excluding receivables associated with nuclear provisions.

4 Excluding net profit from CTA, excluding valuation effects from interest-induced hedging transactions.

5 Excluding affiliated entities, excluding non-controlling interests in fully consolidated partnerships recognized as liabilities.

6 Deferred tax assets and liabilities netted.

7 Average calculation based on the relevant quarterly values for the reporting year and the year-end value for the previous year.

External revenue by region is determined by the location supplied. In the 2022 financial year, revenue of €9,241.3 million (previous year: €281.2 million) was generated in the Netherlands. The EnBW Group did not generate 10% or more of its external revenue with any one external customer as in the previous year.

External revenue by region

in € million	2022	2021
Germany	40,942.1	27,098.4
European currency zone excluding Germany	11,334.1	3,065.9
Rest of Europe	3,719.6	1,982.6
Rest of world	6.8	1.0
Total	56,002.6	32,147.9

External revenue by product

in € million	2022	2021
Electricity	23,050.1	15,268.2
Gas	30,104.4	14,910.4
Energy and environmental services/other	2,848.1	1,969.3
Total	56,002.6	32,147.9

Intangible assets and property, plant and equipment by region

in € million	31/12/2022	31/12/2021
Germany	23,215.4	21,117.7
European currency zone excluding Germany	685.6	701.5
Rest of Europe	2,022.5	1,962.2
Total	25,923.5	23,781.4

Other commitments are presented in note (27) "Contingent liabilities and other financial commitments".

(36) Related parties (entities)

Related parties include, above all, the Federal State of Baden-Württemberg and Zweckverband Oberschwäbische Elektrizitätswerke (OEW) as indirect major shareholders of EnBW AG. As of 31 December 2022, the Federal State of Baden-Württemberg and its wholly owned subsidiary NECKARPRI GmbH indirectly, and NECKARPRI-Beteiligungsgesellschaft mbH directly, held 46.75% of the shares in EnBW AG (unchanged). NECKARPRI-Beteiligungsgesellschaft mbH is a wholly owned subsidiary of NECKARPRI GmbH. OEW indirectly, and its wholly owned subsidiary OEW Energie-Beteiligungs GmbH (OEW GmbH) directly, held 46.75% of the shares in EnBW AG (also unchanged). This means that the related parties of EnBW AG include, in particular, the Federal State, NECKARPRI GmbH, OEW, OEW GmbH and entities controlled or jointly controlled by them, or over which they have a significant influence.

The transactions concluded with the Federal State and entities controlled or jointly controlled by it, or over which it has significant influence, essentially relate to supplying public entities such as universities, government authorities, zoos and clinics with electricity, gas and district heating. The revenue from these transactions was immaterial in the reporting period; most of the receivables had been settled as of 31 December 2022. All business transactions with the Federal State were based on customary market terms and conditions. There are no contingent liabilities or financial commitments to the Federal State.

Except for dividends paid, there are no business relations with OEW GmbH or NECKARPRI-Beteiligungsgesellschaft mbH.

Business relations with related parties, which, among others, result from supply and procurement agreements in the electricity and gas sectors, and took place at customary market terms and conditions, are as follows:

in € million	2022		2021	
	Joint ventures accounted for using the equity method	Associated companies accounted for using the equity method	Joint ventures accounted for using the equity method	Associated companies accounted for using the equity method
Income	196.6	614.0	164.3	213.9
Expenses	-140.4	-535.9	-105.2	-318.6
Assets	30.3	70.5	131.6	62.1
Liabilities	14.8	217.2	13.5	636.6

In business relations with joint ventures accounted for using the equity method, receivables and liabilities are almost exclusively due within one year.

The business relations with associated companies accounted for using the equity method, including with municipal entities (particularly municipal utilities), mainly exist in the course of ordinary business activity. The receivables and liabilities for the reporting period are predominantly due within one year. There are also provisions for long-term procurement agreements that are regularly adjusted to current market assessments. This is reflected in an increase in income and a decrease in liabilities in comparison to the previous year.

Related parties also include the EnBW Trust e. V., which manages the plan assets for securing pension obligations.

(37) Related parties (individuals)

The EnBW Group has not entered into any significant transactions with individuals that are related parties.

Total remuneration according to IAS 24 for members of the Board of Management and Supervisory Board was €17.8 million (previous year: €7.6 million). In the reporting year, this included variable remuneration for the Short Term Incentive (STI) and Long Term Incentive (LTI) for 2021 of €0.5 million and €2.4 million, respectively, due to a resolution by the Supervisory Board on 22 March 2022.

For members of the Board of Management serving in the reporting year, there were short-term benefits of €7.0 million (previous year: €4.8 million), long-term benefits primarily for the LTI 2022–2024 of €4.4 million (previous year: €0.0 million) and service and interest costs for defined benefit obligations of €1.9 million (previous year: €1.2 million).

In addition, there were accrued obligations for short-term benefits, mainly related to the STI 2022 of €3.2 million (previous year: €2.5 million), for long-term benefits, mainly for the LTI 2022–2024, of €4.4 million (previous year: €0.0 million) and for defined benefit obligations of €10.1 million (previous year: €17.4 million).

Total remuneration for the Board of Management according to section 314 (1) no. 6 a HGB was €12.5 million (previous year: €5.4 million). This includes variable remuneration of €0.3 million paid to members of the Board of Management who have already stepped down for periods in which they were still serving members of the Board of Management (previous year: €0.6 million). It also includes variable remuneration paid in the reporting year for 2021 of €2.9 million for serving members of the Board of Management and €1.1 million for members of the Board of Management who have already stepped down for periods in which they were still serving members of the Board of Management. Total remuneration does not include any pension expenses.

Former members of the Board of Management and their surviving dependents were granted total remuneration according to section 314 (1) no. 6 b HGB of €7.6 million (previous year: €6.0 million). A post-contractual non-competition agreement for a period of two years following the termination of the employment contract has been agreed with one member of the Board of Management who stepped down from the Board of Management in the reporting year and with another member who stepped down from the Board of Management in the previous year. In accordance with the legal regulations, non-competition compensation in the amount of half of the last annual remuneration for the respective member of the Board of Management was agreed for the duration of the non-competition agreement. The Supervisory Board has the right to withdraw from each of the non-competition agreements at any time with a notice period of six months. If the Supervisory Board does not make use of this right, the member of the Board of Management who stepped down from the Board of Management in the reporting year will receive total non-competition compensation of €3.2 million and the member who stepped down from the Board of Management in the previous year will receive total non-competition compensation of €1.7 million during the terms of their two-year non-competition agreements. In the reporting year, the member of the Board of Management who stepped down from the Board of Management in the reporting year received non-competition compensation of €0.4 million and the member who stepped down from the Board of Management in the previous year received €1.0 million.

There are defined benefit obligations to former members of the Board of Management and their surviving dependents of €87.7 million (previous year: €112.6 million).

For the 2022 financial year, members of the Supervisory Board were granted total remuneration according to section 314 (1) no. 6 a HGB of €1.6 million (previous year: €1.6 million). In addition to fixed components, the short-term remuneration includes attendance fees and board remuneration from subsidiaries.

(38) Additional disclosures**List of shareholdings pursuant to section 313 (2) HGB as of 31 December 2022**

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
Smart Infrastructure for Customers segment					
Fully consolidated companies					
1	Alectron AG, Ruswil/Switzerland	6	100.00	1,596	585
2	bmp greengas GmbH, Munich	3	100.00	5,697	-
3	BroadNet Deutschland GmbH, Cologne	3	100.00	4,252	-
4	ED Liegenschaften GmbH, Rheinfelden (formerly ED GrünSelect GmbH, Rheinfelden)	6	100.00	506	7
5	EnBW Contracting GmbH, Stuttgart (formerly Sales & Solutions GmbH)	3	100.00	75,618	-
6	EnBW Energy Factory GmbH, Stuttgart	3	100.00	250	-
7	EnBW Telekommunikation GmbH, Karlsruhe	3	100.00	273,334	-
8	EnBW Vertriebsbeteiligungen GmbH, Stuttgart		100.00	13,746	44
9	ESD Energie Service Deutschland GmbH, Offenburg		100.00	9,633	2,212
10	eYello CZ k.s., Prague/Czech Republic	5, 13	100.00	279	1
11	G.EN. Operator Sp. z o.o., Tarnowo Podgórze/Poland (formerly G.EN. Gaz Energia Sp. z o.o., Tarnowo Podgórze/Poland)		100.00	45,445	6,013
12	Gasversorgung Süddeutschland GmbH, Stuttgart	3	100.00	65,000	-
13	Gasversorgung Unterland GmbH, Heilbronn	3	100.00	8,225	-
14	goldgas GmbH, Eschborn	3	100.00	7,312	-
15	goldgas GmbH, Vienna/Austria		100.00	6,646	3,656
16	HANDEN Sp. z o.o., Warsaw/Republic of Poland		100.00	106,829	11,705
17	HEV Hohenloher Energie Versorgung GmbH, Ilshofen	3	100.00	10,219	-
18	Messerschmid Energiesysteme GmbH, Bonndorf	5	100.00	1,967	319
19	NaturEnergie+ Deutschland GmbH, Mühlacker		100.00	2,942	75
20	NatürlichEnergie EMH GmbH, Platten		100.00	3,963	4,392
21	Plusnet GmbH, Cologne	3	100.00	186,930	-
22	Plusnet Infrastruktur GmbH & Co. KG, Cologne		100.00	2,109	-1,720
23	PREservisní, s.r.o., Prague/Czech Republic	5	100.00	2,472	590
24	PREzakaznicka a.s., Prague/Czech Republic	5	100.00	1,526	1,087
25	SENEC GmbH, Leipzig		100.00	7,137	-26,150
26	SENEC Italia s.r.l., Rome/Italy		100.00	9,101	17,491
27	tritec-winsun AG, Steg-Hohtenn/Switzerland (formerly winsun AG, Steg-Hohtenn/Switzerland)	6	100.00	3,635	1,318
28	Ventelo GmbH, Cologne	3	100.00	142,238	-
29	VNG Austria GmbH, Gleisdorf/Austria		100.00	6,196	1,576
30	VNG Energie Czech s.r.o., Prague/Czech Republic		100.00	-3,437	-1,687
31	VNG-Erdgascommerz GmbH, Leipzig	3	100.00	162,101	-
32	VOLTCOM spol. s r.o., Prague/Czech Republic	5	100.00	831	523
33	Yello Strom GmbH, Cologne	3	100.00	1,100	-
34	ZEAG Immobilien GmbH & Co. KG, Heilbronn		100.00	2,153	1,251
35	EnBW mobility+ AG & Co. KG, Karlsruhe		99.90	0	-82,845
36	fonial GmbH, Cologne		83.27	0	-160
37	Erdgas Südwest GmbH, Karlsruhe		79.00	0	-219,072
38	NetCom BW GmbH, Ellwangen		74.90	14,702	-8,851
39	Energieversum GmbH & Co. KG, Gütersloh		51.41	4,191	13,864
40	SMATRICS EnBW GmbH, Vienna/Austria		51.00	35	-1,637
41	BSH GmbH & Co. KG, Bad Königshofen i. Grabfeld		50.10	14,800	10,887
42	Solarmeisterei GmbH, Schwielowsee		50.10	1,840	866
43	Pražská energetika a.s., Prague/Czech Republic	5, 12	41.40	620,801	90,651
Non-consolidated affiliated entities¹⁴					
44	010052 Telecom GmbH, Cologne	3, 5	100.00	25	-
45	010088 Telecom GmbH, Cologne	3, 5	100.00	25	-
46	010090 GmbH, Cologne	3, 5	100.00	156	-
47	01012 Telecom GmbH, Cologne	3, 5	100.00	27	-
48	01052 Communication GmbH, Cologne	3, 5	100.00	25	-

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
49	01098 Telecom GmbH, Cologne	3, 5	100.00	25	-
50	Broadnet Services GmbH, Cologne	3, 5	100.00	25	-
51	EnBW Contracting Service GmbH, Stuttgart (formerly EZG Operations GmbH)	6	100.00	593	28
52	Energieversum Verwaltungs GmbH, Gütersloh	5, 6	100.00	24	-1
53	F&Q Netzbetriebs GmbH & Co. KG, Cologne	5	100.00	1	0
54	G.EN. Gaz Energia Sp. z o.o., Warsaw/Poland (formerly Anvant sp. z o.o, Warsaw/Poland)	5	100.00	739	-351
55	GIBY GmbH, Leipzig	5, 6	100.00	452	29
56	mobility + Beteiligungs GmbH, Karlsruhe	5	100.00	31	5
57	NatürlichEnergie Projekte GmbH, Wittlich (formerly NatürlichEnergie Projekte GmbH, Monzelfeld)	5	100.00	23	0
58	NatürlichEnergie Swiss NES GmbH, Laufenburg/Switzerland	5	100.00	9	-1
59	Plusnet Verwaltungs GmbH, Cologne	5	100.00	30	1
60	Q-DSL home GmbH, Cologne	3, 5	100.00	1,293	-
61	Q-Süd Immobilien Verwaltungs GmbH, Heilbronn	5	100.00	29	5
62	Senec Australia PTY Ltd., Sorrento/Australia	5	100.00	-2,063	-954
63	SENEC Cloud s.r.l., Rome/Italy	5	100.00	77	29
64	T & Q Netzbetriebs GmbH & Co. KG, Cologne	5	100.00	95	27
65	VNG ViertelEnergie GmbH, Leipzig	3, 5	100.00	98	-
66	VNG-Erdgastankstellen GmbH, Leipzig	3, 5	100.00	25	-
67	Yello Solar GmbH, Karlsruhe	5	100.00	-13,574	-1,109
68	ZEAG Immobilien Verwaltungsgesellschaft mbH, Heilbronn	5	100.00	31	2
69	effizienzcloud GmbH, Leipzig	5	74.99	33	-2
70	Elektrizitätswerk Weißenhorn AG, Weißenhorn	5	63.24	4,399	795
71	grünES GmbH, Esslingen am Neckar	5	51.00	548	66
72	Stromvertrieb Backnang Verwaltungs GmbH, Backnang	5	51.00	30	1
73	BSH Verwaltungs-GmbH, Bad Königshofen i. Grabfeld	5, 7	50.10	15	0
Entities accounted for using the equity method					
74	Fernwärme SBH AG, Grafenhausen	5	40.00	840	84
75	SMATRICS GmbH & Co KG, Vienna/Austria	5	25.10	8,212	-2,883
76	MITGAS Mitteldeutsche Gasversorgung GmbH, Halle (Saale)	5	24.60	130,462	38,506
Investments¹⁴					
77	AutenSys GmbH, Karlsruhe	5	65.00	-9	-119
78	backnangstrom GmbH & Co. KG, Backnang	5	51.00	80	23
79	CleverShuttle Düsseldorf GmbH, Düsseldorf	5	50.00	-2,626	-1,157
80	Energiewerker GmbH, Östringen	9, 11	50.00	-	-
81	my-e-car GmbH, Lörrach	5	50.00	197	49
82	Regionah Energie GmbH, Munderkingen	5	50.00	-369	-409
83	Einhorn Energie GmbH & Co. KG, Giengen an der Brenz	5	49.90	661	358
84	Einhorn Energie Verwaltungsgesellschaft mbH, Giengen an der Brenz	5	49.90	36	1
85	iQ-Gesellschaft für integrierte Quartierslösungen mbH, Ravensburg	5	49.90	1,579	20
86	Stadtwerke Freiberg a.N. GmbH, Freiberg am Neckar	5	49.90	6,467	154
87	BEN Fleet Services GmbH, Karlsruhe	5	49.51	1,342	-2,656
88	Gasversorgung Pforzheim Land GmbH, Pforzheim	5	49.00	12,785	817
89	Sautter PE GmbH, Ellhofen	5	49.00	964	1,047
90	caplog-x GmbH, Leipzig	5	37.34	2,642	706
91	Visp Infra AG, Visp/Switzerland	5	35.00	5,974	25
92	IDR Infrastrukturdienste Raron AG, Raron/Switzerland	5	33.00	529	266
93	Gemeinschaft für Energieeffizienz GmbH, Düsseldorf	5	32.83	-669	-25
94	espot GmbH, Stuttgart	5	32.60	584	-29
95	Tempus s.r.l., Torri di Quartesolo/Italy	5	30.43	644	5
96	Energie 360 GmbH & Co. KG, Korbach	5, 6	30.00	1,240	1,239
97	Schön Verwaltungsgesellschaft mbH, Korbach	5, 6	30.00	26	1
98	Sungrade Photovoltaik GmbH, Günzburg	5	30.00	368	229
99	E-Mobility Provider Austria GmbH, Vienna/Austria	5	25.10	33	-4
100	ehoch7 GmbH, Schönaich (formerly e hoch 7 GmbH, Schönaich)	5	25.10	47	22
101	Energieagentur Heilbronn GmbH, Heilbronn	5	25.00	32	-73

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
102	Stadt- und Überlandwerke GmbH Luckau-Lübbenau, Luckau	5	23.38	35,168	3,267
103	EDSR Energiedienste Staldenried AG, Staldenried/Switzerland	5	20.00	221	12
System Critical Infrastructure segment					
Fully consolidated companies					
104	ED Netze GmbH, Rheinfelden	3	100.00	145,165	-
105	EnBW Kommunale Beteiligungen GmbH, Stuttgart	3	100.00	995,226	-
106	EnBW Netze BW Beteiligungsgesellschaft mbH, Stuttgart	3	100.00	1,643,228	-
107	EnBW REG Beteiligungsgesellschaft mbH, Stuttgart	3	100.00	405,649	-
108	EnBW Urbane Infrastruktur GmbH, Karlsruhe	3	100.00	25	-
109	EnBW Übertragungsnetz Immobiliengesellschaft mbH & Co. KG, Karlsruhe	6	100.00	3,201,697	34
110	EnPulse Ventures GmbH, Stuttgart (formerly EnPulse Ventures GmbH, Karlsruhe)	3	100.00	25	-
111	EVGA Grundstücks- und Gebäudemanagement GmbH & Co. KG, Obrigheim		100.00	91,621	11,020
112	FRONTIER TECHNOLOGIES, s.r.o., Prague/Czech Republic	5	100.00	1,016	158
113	GDMcom GmbH, Leipzig	3	100.00	29,629	-
114	GEOMAGIC GmbH, Leipzig		100.00	2,527	1,306
115	KORMAK Praha a.s., Prague/Czech Republic	5	100.00	1,112	1,051
116	Netze BW Wasser GmbH, Stuttgart	3	100.00	32,894	-
117	Netze ODR GmbH, Ellwangen Jagst	3	100.00	174,131	-
118	Netze-Gesellschaft Südwest mbH, Karlsruhe	3	100.00	86,139	-
119	Netzgesellschaft Düsseldorf mbH, Düsseldorf	3, 5	100.00	1,000	-
120	NHF Netzgesellschaft Heilbronn-Franken mbH, Heilbronn	3	100.00	4,000	-
121	NHL Netzgesellschaft Heilbronner Land GmbH & Co. KG, Heilbronn	3	100.00	1,232	-
122	NWS Grundstücksmanagement GmbH & Co. KG, Obrigheim		100.00	315,333	44,210
123	NWS REG Beteiligungsgesellschaft mbH, Stuttgart	3	100.00	79,988	-
124	ONTRAS Gastransport GmbH, Leipzig	3	100.00	760,000	-
125	PREdistribuce a.s., Prague/Czech Republic	5	100.00	784,373	49,081
126	PREmerení a.s., Prague/Czech Republic	5	100.00	41,164	9,456
127	PREnetcom, a.s., Prague/Czech Republic	5	100.00	1,573	623
128	Q-Süd Gewerbe GmbH & Co. KG, Heilbronn		100.00	19,455	203
129	Q-Süd Wohnen GmbH & Co. KG, Heilbronn		100.00	16,670	83
130	RBS wave GmbH, Stuttgart	3	100.00	503	-
131	SMIGHT GmbH, Karlsruhe (formerly EnBW Omega Dreiundsiebzigste Verwaltungsgesellschaft mbH, Karlsruhe)		100.00	923	899
132	terranets bw GmbH, Stuttgart	3	100.00	235,000	-
133	TransnetBW GmbH, Stuttgart	3	100.00	3,178,141	-
134	TransnetBW SuedLink GmbH & Co. KG, Stuttgart		100.00	969,165	32,955
135	ZEAG Engineering GmbH, Heilbronn		100.00	4,364	685
136	EnBW Ostwürttemberg DonauRies AG, Ellwangen	3	99.74	115,439	-
137	ZEAG Energie AG, Heilbronn		98.66	203,812	777
138	Gas-Union GmbH, Frankfurt am Main	3	98.15	62,550	-
139	FoxInsights GmbH, Munich		92.00	77	-2,178
140	Netze BW GmbH, Stuttgart	3	86.51	1,130,861	-
141	WTT CampusONE GmbH, Ludwigsburg		80.00	1,060	1,373
142	Stadtwerke Düsseldorf AG, Düsseldorf	5	54.95	558,030	71,442
143	Stromnetzgesellschaft Heilbronn GmbH & Co. KG, Heilbronn	8	49.90	36,206	1,874
144	Neckar Netze GmbH & Co. KG, Esslingen am Neckar	8	49.00	49,711	5,605
Non-consolidated affiliated entities¹⁴					
145	Batteriegesellschaft Kupferzell GmbH & Co. KG, Kupferzell	5	100.00	9	-1
146	CENTRALE HYDROGENE DE THENNES SAS, Montpellier/France	11	100.00	-	-
147	certflow GmbH, Stuttgart (formerly EnBW Omega 131. Verwaltungsgesellschaft mbH, Stuttgart)	11	100.00	-	-
148	ChargeHere GmbH, Karlsruhe (formerly EnBW Omega 130. Verwaltungsgesellschaft mbH, Karlsruhe)	5	100.00	25	0
149	Elektrizitätswerk Aach GmbH, Aach	6	100.00	3,692	958
150	EnBW Cyber Security GmbH, Karlsruhe (formerly EnBW Omega 104. Verwaltungsgesellschaft mbH, Karlsruhe)	3, 5	100.00	25	-

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
151	Energieversorgung Gaildorf OHG der EnBW Kommunale Beteiligungen GmbH und NWS REG Beteiligungsgesellschaft mbH, Gaildorf	6	100.00	2,405	778
152	Energieversorgung Raum Friedrichshafen Verwaltungsgesellschaft mbH, Stuttgart	5	100.00	25	-2
153	GDMcom Netze GmbH, Leipzig	5	100.00	1,126	-133
154	GEOMAGIC Utility Solutions Inc., Houston/USA	5	100.00	114	24
155	IBZ Bau GmbH, Zeulenroda-Triebes	5	100.00	2,127	351
156	IBZ Neubauer GmbH, Zeulenroda-Triebes (formerly IBZ Neubauer Verwaltungs-GmbH, Zeulenroda-Triebes)	5, 6	100.00	493	214
157	InfraKom GmbH, Rheinfelden Baden	5	100.00	24	-1
158	InfraKom WaR GmbH, Rheinfelden Baden	11	100.00	-	-
159	MoviaTec GmbH, Leipzig	5	100.00	284	-341
160	Neckar Netze Verwaltungsgesellschaft mbH, Esslingen am Neckar	5	100.00	133	4
161	Netze Regional GmbH, Stuttgart	6	100.00	-54	-79
162	NHL Verwaltungs-GmbH, Heilbronn	5	100.00	25	0
163	OSG ONTRAS Servicegesellschaft mbH, Leipzig	5	100.00	25	0
164	Schneider GmbH, Cavertitz	5	100.00	4,156	307
165	TransnetBW SuedLink Verwaltungsgesellschaft mbH, Stuttgart	5, 13	100.00	22	0
166	TransnetBW Ultranet GmbH & Co. KG, Stuttgart	5	100.00	9	-1
167	TransnetBW Ultranet Verwaltungsgesellschaft mbH, Stuttgart	5	100.00	24	-1
168	Verwaltungsgesellschaft Batteriespeicher Kupferzell mbH, Kupferzell	5	100.00	24	-1
169	Weishaupt Planungen GmbH, Grimma	11	100.00	-	-
170	Wärmegesellschaft Heilbronn GmbH, Heilbronn	5	100.00	11	-7
171	INFRACON Infrastruktur Service GmbH & Co. KG, Leipzig	5	99.50	7,124	2,091
172	Rieger GmbH & Co. KG, Lichtenstein, Kreis Reutlingen	5	74.28	923	654
173	Rieger Beteiligungs-GmbH, Lichtenstein, Kreis Reutlingen	5	74.24	50	1
174	Netze Pforzheim-Region GmbH & Co. KG, Pforzheim	5	60.00	8,086	634
175	Energieversorgung Donaual GmbH, Gundelfingen an der Donau	11	50.10	-	-
176	Gasnetzgesellschaft Laupheim GmbH & Co. KG, Laupheim	5	50.10	3,590	181
177	Gasnetzgesellschaft Laupheim Verwaltungs GmbH, Laupheim	5	50.10	30	2
178	Netzgesellschaft Elz-Neckar GmbH & Co. KG, Obrigheim	5	50.10	1,177	20
179	Netzgesellschaft Elz-Neckar Verwaltungs GmbH, Obrigheim	5	50.10	35	1
180	Stromnetzgesellschaft Albershausen GmbH & Co. KG, Albershausen	5	50.10	1,203	55
181	Stromnetzgesellschaft Albershausen Verwaltungs GmbH, Albershausen	5	50.10	33	1
182	Stromnetzgesellschaft Heilbronn Verwaltungs-GmbH, Heilbronn	5	50.10	27	0
183	Stromnetzgesellschaft Laupheim GmbH & Co. KG, Laupheim	5	50.10	3,021	142
184	Stromnetzgesellschaft Laupheim Verwaltungs GmbH, Laupheim	5	50.10	30	2
185	Netze Krauchenwies Verwaltungs-GmbH, Krauchenwies	5	50.00	27	1
Entities accounted for using the equity method					
186	Stadtwerke Esslingen am Neckar GmbH & Co. KG, Esslingen am Neckar	5	49.98	66,244	5,904
187	Pražská energetika Holding a.s., Prague/Czech Republic	5, 9	49.00	240,605	36,701
188	GasLINE Telekommunikationsnetzgesellschaft deutscher Gasversorgungsunternehmen mbH & Co. Kommanditgesellschaft, Straelen	5	29.24	110,274	28,376
189	Zweckverband Landeswasserversorgung, Stuttgart	5	27.20	115,751	3,000
190	Heilbronner Versorgungs GmbH, Heilbronn	4, 5	25.10	51,750	-
191	Stuttgart Netze GmbH, Stuttgart	4, 5, 9	25.10	299,944	-
192	FairEnergie GmbH, Reutlingen	4, 5	24.90	116,166	-
193	Energieversorgung Rheinfelden/Grenzach-Wyhlen GmbH & Co. KG, Rheinfelden Baden	5	24.00	38	-5
194	Stadtwerke Karlsruhe GmbH, Karlsruhe	4, 5	20.00	195,530	-
195	Zweckverband Bodensee-Wasserversorgung, Stuttgart	5	19.83	160,307	2,273
Investments¹⁴					
196	Netzgesellschaft Sontheim GmbH & Co. KG, Sontheim an der Brenz	5	74.90	1,952	361
197	Netzgesellschaft Sontheim Verwaltungsgesellschaft mbH, Sontheim an der Brenz	5	74.90	26	1
198	Netzgesellschaft Steinheim GmbH & Co. KG, Steinheim am Albuch	5	74.90	393	54
199	Netzgesellschaft Steinheim Verwaltungsgesellschaft mbH, Steinheim am Albuch	5	74.90	26	1
200	Stromnetz Herrenberg Verwaltungsgesellschaft mbH, Herrenberg	5	74.90	35	1
201	Stromnetzgesellschaft Herrenberg mbH & Co. KG, Herrenberg	5, 6	74.90	4,274	409

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
202	Stadtwerke Sinsheim Versorgungs GmbH & Co. KG, Sinsheim	5	60.00	13,421	-1,282
203	Stadtwerke Sinsheim Verwaltungs GmbH, Sinsheim	5	60.00	34	1
204	Stromnetz Langenau GmbH & Co. KG, Langenau	5	50.10	2,605	100
205	Stromnetz Langenau Verwaltungs-GmbH, Langenau	5	50.10	38	1
206	e.wa riss GmbH & Co. KG, Biberach	5	50.00	35,333	1,900
207	e.wa riss Verwaltungsgesellschaft mbH, Biberach	5	50.00	55	2
208	Flexcess GmbH, Bayreuth	5, 9	50.00	924	-1
209	Fränkische Wasser Service GmbH, Crailsheim	5	50.00	38	4
210	lictor GmbH, Leipzig	5	50.00	378	31
211	NETFIN Infrastructure, a.s., Prague/Czech Republic	9, 11	50.00	-	-
212	Netze Krauchenwies GmbH & Co. KG, Krauchenwies	5	50.00	1,537	76
213	Niederrheinisch-Bergisches Gemeinschaftswasserwerk GmbH, Düsseldorf	5	50.00	3,115	98
214	Ostalbwasser Ost GmbH, Ellwangen	5	50.00	52	2
215	Ostalbwasser Service GmbH, Aalen	5	50.00	36	11
216	Ostalbwasser West GmbH, Schwäbisch Gmünd	5	50.00	57	8
217	regioaqua Gesellschaft für Wasser und Abwasser mbH, Rheinfelden	5	50.00	108	21
218	Stadtwerke Schramberg GmbH & Co. KG, Schramberg	5	50.00	16,556	2,358
219	Stadtwerke Schramberg Verwaltungsgesellschaft mbH, Schramberg	5	50.00	46	2
220	Wasserübernahme Neuss-Wahlscheid GmbH, Neuss	5	50.00	455	11
221	EberstadtWerke GmbH & Co. KG, Eberstadt	5	49.99	87	-12
222	Stadtwerke Emmendingen GmbH, Emmendingen	5	49.90	18,080	1,547
223	Stromnetz Blaubeuren GmbH, Blaubeuren	5	49.90	2,858	157
224	Stadtwerke Esslingen-Verwaltungsgesellschaft mbH, Esslingen am Neckar	5	49.80	47	1
225	Energie Sachsenheim GmbH & Co. KG, Sachsenheim	5	49.00	4,759	255
226	Energie Sachsenheim Verwaltungs-GmbH, Sachsenheim	5	49.00	38	2
227	Gemeindewerke Bodanrück GmbH & Co. KG, Allensbach	5	49.00	4,693	151
228	Gemeindewerke Bodanrück Verwaltungs-GmbH, Allensbach	5	49.00	31	1
229	LEO Energie GmbH & Co. KG, Leonberg	5	49.00	10,117	365
230	Netzgesellschaft Marbach GmbH & Co. KG, Marbach am Neckar	5	49.00	2,489	76
231	Rems-Murr Telekommunikation GmbH, Waiblingen	5	49.00	3,976	-9
232	Stadtwerke Backnang GmbH, Backnang	4, 5	49.00	14,940	-
233	Stadtwerke Bad Wildbad GmbH & Co. KG, Bad Wildbad	5	49.00	6,650	714
234	Stadtwerke Bad Wildbad Verwaltungs-GmbH, Bad Wildbad	5	49.00	46	1
235	Stadtwerke Eppingen GmbH & Co. KG, Eppingen	5	49.00	8,313	538
236	Energie Calw GmbH, Calw	4, 5	48.82	19,240	-
237	KBB GmbH Kommunalberatung Infrastrukturentwicklung, Baden-Baden	5	45.00	221	61
238	Stadtwerke Münsingen GmbH, Münsingen	5	45.00	7,407	805
239	Stadtwerke Böblingen GmbH & Co. KG, Böblingen	5	41.10	37,641	2,368
240	Stadtwerke Böblingen Verwaltungs GmbH, Böblingen	5	41.10	6	0
241	Energieversorgung Südbaar GmbH & Co. KG, Blumberg	5	40.00	6,644	613
242	SUEnergie GmbH & Co. KG, Süßen	5	40.00	2,203	71
243	SUEnergie Verwaltungs GmbH, Süßen	5	40.00	35	1
244	Stadtwerke Weinheim GmbH, Weinheim	5	39.32	30,539	2,390
245	Energieversorgung Rottenburg am Neckar GmbH, Rottenburg am Neckar	4, 5	38.00	7,660	-
246	EVG Grächen AG, Grächen/Switzerland	5	35.00	5,074	93
247	EVN Energieversorgung Nikolai AG, St. Niklaus/Switzerland	5, 7	35.00	1,741	105
248	EVR Energieversorgung Raron AG, Raron/Switzerland	5, 7	35.00	978	84
249	EVWR Energiedienste Visp-Westlich Raron AG, Visp/Switzerland	5	35.00	4,742	374
250	VED Visp Energie Dienste AG, Visp/Switzerland	5, 7	35.00	3,807	372
251	Seeallianz GmbH & Co. KG, Markdorf	5	33.00	7,283	426
252	Taubernetze GmbH & Co. KG, Tauberbischofsheim	5	33.00	2,283	79
253	Taubernetze Verwaltungs-GmbH, Tauberbischofsheim	5	33.00	29	1
254	ErmstalEnergie Dettingen an der Erms GmbH & Co. KG, Dettingen an der Erms	5	32.60	4,539	432
255	Versorgungsbetriebe Dettingen an der Erms Verwaltungs-GmbH, Dettingen an der Erms	5	32.60	33	1
256	eneREGIO GmbH, Muggensturm	5	32.00	10,052	786

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
257	Regionalnetze Linzgau GmbH, Pfullendorf	4, 5	31.64	6,462	-
258	Elektrizitätswerk Mittelbaden AG & Co. KG, Lahr	5	31.00	61,727	9,694
259	Elektrizitätswerk Mittelbaden Verwaltungsaktiengesellschaft, Lahr	5	31.00	158	7
260	Stadtwerke Bad Herrenalb GmbH, Bad Herrenalb	5	30.00	11,228	-372
261	Parconomy GmbH, Stuttgart	5	29.30	-379	-422
262	Energie- und Wasserversorgung Bruchsal GmbH, Bruchsal	4, 5	27.41	23,002	-
263	Stadtwerke Bad Säckingen GmbH, Bad Säckingen	3, 5	26.30	121	-
264	Albwerk GmbH & Co. KG, Geislingen an der Steige	5	25.10	27,726	4,564
265	Albwerk Verwaltungsgesellschaft mbH, Geislingen an der Steige	5	25.10	86	3
266	Energie Kirchheim unter Teck GmbH & Co. KG, Kirchheim unter Teck	5	25.10	11,816	499
267	Energie Kirchheim unter Teck Verwaltungs-GmbH, Kirchheim unter Teck	5	25.10	33	1
268	Energieversorgung Immenstaad GmbH & Co. KG, Immenstaad am Bodensee	5	25.10	943	62
269	Energieversorgung Strohgäu GmbH & Co. KG, Gerlingen	5	25.10	8,963	467
270	Energieversorgung Strohgäu Verwaltungs GmbH, Gerlingen	5	25.10	29	1
271	Filderstadt Netze GmbH, Filderstadt	5	25.10	161	-10
272	Gasnetzgesellschaft Schorndorf GmbH & Co. KG, Schorndorf	5	25.10	4,627	289
273	Gasnetzverwaltungsgesellschaft Schorndorf GmbH, Schorndorf	5	25.10	35	1
274	Gemeindewerke Brühl GmbH & Co. KG, Brühl	5	25.10	1,477	35
275	Gemeindewerke Brühl Verwaltungs-GmbH, Brühl	5	25.10	34	1
276	Gemeindewerke Plüderhausen GmbH, Plüderhausen	4, 5	25.10	1,941	-
277	Infrastrukturgesellschaft Plochingen GmbH & Co. KG, Plochingen	5	25.10	3,995	233
278	Netzgesellschaft Besigheim GmbH & Co. KG, Besigheim	5	25.10	4,740	259
279	Netzgesellschaft Besigheim Verwaltungs GmbH, Besigheim	5	25.10	34	1
280	Netzgesellschaft Leinfeld-Echterdingen GmbH, Leinfeld-Echterdingen	5	25.10	13,066	531
281	Netzgesellschaft Salach GmbH & Co. KG, Salach	5	25.10	3,665	144
282	Netzgesellschaft Salach Verwaltungs GmbH, Salach	5	25.10	33	1
283	Netzgesellschaft Schwetzingen GmbH & Co. KG, Schwetzingen	5	25.10	2,322	98
284	Netzgesellschaft Schwetzingen Verwaltungs GmbH, Schwetzingen	5	25.10	31	1
285	Netzgesellschaft Vaihingen GmbH & Co. KG, Vaihingen an der Enz	5	25.10	8,339	578
286	Netzgesellschaft Vaihingen Verwaltungs-GmbH, Vaihingen an der Enz	5	25.10	34	1
287	Stadtwerke Ellwangen GmbH, Ellwangen	4, 5	25.10	10,652	-
288	Stadtwerke Giengen GmbH, Giengen	5	25.10	13,890	368
289	Stadtwerke Schwäbisch Gmünd GmbH, Schwäbisch Gmünd	4, 5	25.10	30,751	-
290	Stadtwerke Stockach GmbH, Stockach	5	25.10	14,199	1,572
291	Stadtwerke Weinstadt Energieversorgung GmbH, Weinstadt	4, 5	25.10	7,653	-
292	Stadtwerke Wiesloch - Strom - GmbH & Co. KG, Wiesloch	5	25.10	2,611	116
293	Stromgesellschaft March GmbH & Co. KG, March	5	25.10	2,519	7
294	Stromnetzgesellschaft Ebersbach GmbH & Co. KG, Ebersbach an der Fils	5	25.10	3,636	154
295	Stromnetzgesellschaft Ebersbach Verwaltungs GmbH, Ebersbach an der Fils	5	25.10	34	1
296	Stromnetzgesellschaft Östlicher Schurwald GmbH & Co. KG, Rechberghausen	5	25.10	3,253	156
297	Stromnetzgesellschaft Östlicher Schurwald Verwaltungs GmbH, Rechberghausen	5	25.10	33	1
298	Technische Werke Schussental GmbH & Co. KG, Ravensburg	5	25.10	60,488	1,690
299	Technische Werke Schussental Verwaltungsgesellschaft mbH, Ravensburg	5	25.10	19	-3
300	tktVivax GmbH, Backnang	5	25.06	1,233	105
301	Switchboard GmbH, Stuttgart	5	25.00	4	-21
302	Stromversorgung Sulz am Neckar GmbH, Sulz am Neckar	5	24.90	4,318	273
303	Netzeigentumsgesellschaft Rheinstetten GmbH & Co. KG, Rheinstetten	5	24.50	4,801	91
304	Stadtwerke Schopfheim GmbH, Schopfheim	5, 6	24.50	142	-17
305	Stadtwerke Wehr GmbH & Co. KG, Wehr	5	24.50	2,907	179
306	Stadtwerke Wehr Verwaltungs-GmbH, Wehr	5	24.50	23	1
307	Energieversorgung Oberes Wiesental GmbH, Todtnau	5	24.00	4,110	222
308	Netzgesellschaft Edingen-Neckarhausen GmbH & Co. KG, Edingen-Neckarhausen	5	24.00	1,021	44
309	q-bility GmbH, Gerolsbach Alberzell	11	22.50	-	-
310	ENRW Energieversorgung Rottweil GmbH & Co. KG, Rottweil	5	20.00	31,297	3,666
311	ENRW Verwaltungs-GmbH, Rottweil	5	20.00	15	1

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
312	Stadtwerke Sindelfingen GmbH, Sindelfingen	5	20.00	44,856	2,929
313	Versorger-Allianz 450 Beteiligungs GmbH & Co. KG, Bonn	5	17.63	17,941	-1,725
Sustainable Generation Infrastructure segment					
Fully consolidated companies					
314	Aletsch AG, Mörel/Switzerland	6	100.00	26,242	1,382
315	AWISTA Logistik GmbH, Düsseldorf	3, 5	100.00	3,025	-
316	BALANCE Erneuerbare Energien GmbH, Leipzig	3	100.00	49,615	-
317	Barre Energie SARL, Montpellier/France		100.00	-27	994
318	Biogas Produktion Altmark GmbH, Hohenberg-Krusemark		100.00	22,847	1,680
319	Cambert Énergie SARL, Montpellier/France		100.00	207	157
320	Centrale Photovoltaïque de Saint Quentin la Tour SAS, Montpellier/France		100.00	-128	-78
321	Centrale Solaire d'Exideuil SARL, Montpellier/France		100.00	-232	-309
322	Centrale Solaire de Châteaouvert SARL, Montpellier/France		100.00	-416	263
323	Centrale Solaire de Coste Cuyère SARL, Montpellier/France		100.00	23	844
324	Centrale Solaire de Maine SARL, Montpellier/France		100.00	-97	-77
325	Centrale Solaire de Montegut SARL, Montpellier/France		100.00	-107	-93
326	Centrale Solaire de Severac SARL, Montpellier/France		100.00	-199	-186
327	Centrale Solaire des Terres Rouges SARL, Montpellier/France		100.00	-2,021	454
328	Centrale Solaire du Sycala SARL, Montpellier/France		100.00	1	1,217
329	Centrale Solaire du Tea Fleury-Merogis SARL, Montpellier/France		100.00	-460	29
330	Centrale Solaire EMA Solar SARL, Montpellier/France		100.00	-239	-90
331	Centrales Solaires de l'Isle sur la Sorgue SAS, Montpellier/France		100.00	-220	-96
332	Connected Wind Services A/S, Balle/Denmark	5	100.00	6,135	-9,576
333	Connected Wind Services Danmark A/S, Balle/Denmark	5	100.00	1,118	140
334	Connected Wind Services Deutschland GmbH, Rantrum	5	100.00	1,306	-974
335	Connected Wind Services France SAS, Dijon /France	5	100.00	548	-314
336	Connected Wind Services Refurbishment A/S, Balle/Denmark	5	100.00	-193	-23
337	Couffrau Energie SARL, Montpellier/France		100.00	99	-69
338	Deves Énergie SARL, Montpellier/France		100.00	247	640
339	EnBW Biogas GmbH, Stuttgart	3	100.00	52	-
340	EnBW Biomasse GmbH, Karlsruhe		100.00	3,087	310
341	EnBW Etzel Speicher GmbH, Karlsruhe	3	100.00	825	-
342	EnBW France GmbH, Stuttgart	3	100.00	608,417	-
343	EnBW Grundstücksverwaltung Rheinhafen GmbH, Karlsruhe		100.00	2,271	-232
344	EnBW He Dreiht GmbH, Varel	3	100.00	178,617	-
345	EnBW Holding A.S., Gümüssuyu-Istanbul/Turkey		100.00	232,618	-76
346	EnBW Kraftwerk Lippendorf Beteiligungsgesellschaft mbH, Stuttgart	3	100.00	297,640	-
347	EnBW Mainfrankenpark GmbH, Dettelbach	3	100.00	3,759	-
348	EnBW NAG-Beteiligungsgesellschaft mbH, Stuttgart		100.00	22	-3
349	EnBW Offshore 1 GmbH, Stuttgart	3	100.00	28,737	-
350	EnBW Offshore 2 GmbH, Stuttgart	3	100.00	690,453	-
351	EnBW Offshore 3 GmbH, Stuttgart	3	100.00	799,436	-
352	EnBW Offshore Service GmbH, Klausdorf	3	100.00	3,725	-
353	EnBW Renewables International GmbH, Stuttgart	3	100.00	86,809	-
354	EnBW Rückbauservice GmbH, Stuttgart	3	100.00	25	-
355	EnBW Solar GmbH, Stuttgart	3	100.00	244,551	-
356	EnBW Solarpark Gottesgabe GmbH, Stuttgart	3	100.00	73,182	-
357	EnBW Solarpark Tuningen GmbH, Stuttgart	3	100.00	2,733	-
358	EnBW Solarpark Weesow-Willmersdorf GmbH, Stuttgart	3	100.00	81,034	-
359	EnBW Sverige AB, Falkenberg/Sweden		100.00	89,327	21,785
360	EnBW Wind Onshore 1 GmbH, Stuttgart	3	100.00	25	-
361	EnBW Wind Onshore Instandhaltungs GmbH, Karlsruhe	3	100.00	8,415	-
362	EnBW Windkraftprojekte GmbH, Stuttgart	3	100.00	65,425	-
363	EnBW Windpark Hemme GmbH, Stuttgart		100.00	118	-45
364	EnBW Windpark Prötzel GmbH, Stuttgart		100.00	4,871	1,143

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
365	Energiedienst AG, Rheinfelden	6	100.00	169,942	-2,425
366	ENERGIEUNION GmbH, Schwerin	3	100.00	6,223	-
367	Ferme Éolienne de la Bessière SARL, Montpellier/France		100.00	-1,751	225
368	Ferme Éolienne de Puech de Cambert SARL, Montpellier/France		100.00	2,600	-3,756
369	Ferme Éolienne de Puech de l'Homme SARL, Montpellier/France		100.00	1,063	383
370	Gemeinschaftsheizkraftwerk Fortuna GmbH, Düsseldorf	5	100.00	264,076	1,769
371	Gesellschaft für nukleares Reststoffrecycling mbH, Neckarwestheim	3	100.00	1,377	-
372	Gramentes Énergie SAS, Montpellier/France		100.00	-1,483	-249
373	Grünwerke GmbH, Düsseldorf	3, 5	100.00	38,400	-
374	Heizkraftwerk Stuttgart GmbH, Stuttgart		100.00	5,144	15
375	Interconnector GmbH, Karlsruhe	3	100.00	25	-
376	Kernkraftwerk Obrigheim GmbH, Obrigheim	3	100.00	51,130	-
377	Kraftwerk Lötschen AG, Steg/Switzerland	6	100.00	30,335	935
378	La Société des Monts de Lacaune SAS, Montpellier/France		100.00	2,415	-98
379	Le Val Energie SARL, Montpellier/France		100.00	485	512
380	MSE Mobile Schlammwässerungs GmbH, Karlsbad-Ittersbach	3	100.00	1,171	-
381	Parc Éolien de la Vallée de Belleuse SARL, Montpellier/France		100.00	107	74
382	Parc Éolien de Marendeuil SARL, Montpellier/France		100.00	-565	-241
383	Parc Éolien du Mont de Maisnil SARL, Montpellier/France		100.00	-423	15
384	PRE FVE Nové Sedlo, s.r.o., Prague/Czech Republic	5	100.00	-10	-11
385	PRE FVE Svetlik s.r.o., Leitowitz/Czech Republic	5	100.00	5,669	843
386	PRE VTE Částkov s.r.o., Prague/Czech Republic	5	100.00	-535	36
387	Socpe de Champs Perdus SARL, Montpellier/France		100.00	-973	-332
388	SOLARINVEST - GREEN ENERGY, s.r.o., Prague/Czech Republic	5	100.00	-3	1
389	Svenska Connected Wind Services AB, Falkenberg/Sweden	5	100.00	389	-221
390	TAE Thermische Abfallentsorgung Ansbach GmbH, Ansbach		100.00	59,157	197
391	TPLUS GmbH, Karlsruhe	3	100.00	18,162	-
392	TWS Kernkraft GmbH, Gemrigheim	3	100.00	149,297	-
393	u-plus Umweltservice GmbH, Karlsruhe	3	100.00	100,302	-
394	Valeco SAS, Montpellier/France		100.00	101,988	19,792
395	VNG Gasspeicher GmbH, Leipzig	3	100.00	21,311	-
396	VNG Gasspeicher Service GmbH, Leipzig	3, 11	100.00	-	-
397	VNG Handel & Vertrieb GmbH, Leipzig	3	100.00	37,840	-
398	Windpark "Auf der Weißen Trisch" GmbH, Zweibrücken		100.00	2,130	1,047
399	Windpark Breitenbach GmbH, Düsseldorf		100.00	25	994
400	Windpark Obhausen/Nemsdorf GmbH & Co. KG, Stuttgart		100.00	12,561	7,809
401	Windpark Rot am See GmbH, Ellwangen (Jagst)	3	100.00	25	-
402	EE Bürgerenergie Braunsbach GmbH & Co. KG, Braunsbach		99.99	7,600	2,129
403	BürgerEnergie Königheim GmbH & Co. KG, Königheim		99.97	3,000	766
404	EE BürgerEnergie Forchtenberg GmbH & Co. KG, Forchtenberg		99.93	1,500	274
405	EE BürgerEnergie Krautheim GmbH & Co. KG, Krautheim		99.90	652	-348
406	EnBW Kernkraft GmbH, Obrigheim	3	99.80	10,000	-
407	EnAlpin AG, Visp/Switzerland	6	98.60	203,212	10,964
408	Valeco Solar SARL, Montpellier/France		95.20	35	1,280
409	EE BürgerEnergie Möckmühl GmbH & Co. KG, Möckmühl		95.17	1,575	260
410	EE BürgerEnergie Jagsthausen GmbH & Co. KG, Jagsthausen		95.11	4,625	926
411	Bürgerenergie Widdern GmbH & Co. KG, Widdern		95.07	7,580	2,467
412	Südwestdeutsche Nuklear-Entsorgungsgesellschaft mbH, Stuttgart		86.49	8,149	742
413	EE Bürgerenergie Hardthausen GmbH & Co. KG, Hardthausen am Kocher		84.68	12,393	2,336
414	Langenburg Infrastruktur GmbH, Stuttgart		83.33	7,702	-16
415	Neckar Aktiengesellschaft, Stuttgart		82.20	10,179	6,429
416	EE BürgerEnergie Boxberg GmbH & Co. KG, Boxberg		79.50	16,350	4,122
417	Zentraldeponie Hubbelrath GmbH, Düsseldorf		76.00	6,136	625
418	JatroSolutions GmbH, Stuttgart		75.30	0	-805
419	Geothermie-Gesellschaft Bruchsal GmbH, Bruchsal		74.90	2,151	1,176

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
420	Saint Laurent Solar SAS, Montpellier/France		72.02	888	659
421	Energiedienst Holding AG, Laufenburg/Switzerland	6, 10	66.67	1,069,576	30,729
422	Centrale Solaire de la Durance SARL, Montpellier/France		65.00	648	286
423	Parc Éolien de Bel Air SAS, Montpellier/France		63.40	-200	-257
424	EE Bürgerenergie Ilshofen GmbH & Co. KG, Ilshofen		60.25	3,950	840
425	EnBW Windpark Aalen-Waldhausen GmbH, Stuttgart		59.00	22,787	1,588
426	Rheinkraftwerk Neuhausen AG, Neuhausen/Switzerland	6	56.00	1,261	53
427	EnBW Solarpark Ingoldingen GmbH, Stuttgart		55.00	3,969	402
428	Erneuerbare Energien Neckarwestheim GmbH & Co. KG, Neckarwestheim		51.90	1,050	409
429	AWISTA Gesellschaft für Abfallwirtschaft und Stadtreinigung mbH, Düsseldorf	5	51.00	56,980	24,325
430	Centrale Solaire de Saint Mamet SARL, Montpellier/France		51.00	-749	-4
431	Solarpark Berghülen GmbH, Stuttgart		51.00	2,508	203
432	Solarpark Leutkirch GmbH & Co. KG, Leutkirch im Allgäu		51.00	6,231	1,393
433	Solarpark Riedlingen-Zwiefaltendorf GmbH, Stuttgart		51.00	4,680	440
434	KNG Kraftwerks- und Netzgesellschaft mbH, Rostock		50.40	553	8
435	EnBW Baltic 1 GmbH & Co. KG, Biberach an der Riß		50.32	53,971	14,273
436	EnBW Albatros GmbH & Co. KG, Biberach an der Riß		50.11	437,949	55,783
437	EnBW Hohe See GmbH & Co. KG, Biberach an der Riß		50.11	1,756,002	211,825
438	EnBW Baltic 2 GmbH & Co. KG, Biberach an der Riß		50.10	838,785	107,306
439	EnBW SunInvest GmbH & Co. KG, Stuttgart (formerly EnBW Solarpark Alttrebbin GmbH & Co. KG, Stuttgart)		50.10	400,782	90,742
440	EnBW WindInvest GmbH & Co. KG, Stuttgart		50.10	190,211	24,254
441	EnBW Windpark Buchholz III GmbH, Stuttgart		50.10	19,016	1,498
442	Windenergie Tautschbuch GmbH, Riedlingen		50.10	620	-2
443	EnBW Onshore Portfolio GmbH, Stuttgart		50.02	58,594	7,220
444	EnBW Solarpark Birkenfeld GmbH, Stuttgart		50.00	3,700	802
445	Energie Renouvelable du Languedoc SARL, Montpellier/France		50.00	-2,342	-851
446	Joncels Energie SARL, Montpellier/France		50.00	-2,417	-555
Joint operations					
447	Friedeburger Speicherbetriebsgesellschaft mbH "Crystal", Friedeburg	9	50.00	71,174	885
448	Rheinkraftwerk Iffezheim GmbH, Iffezheim	9	50.00	84,393	2,765
449	Rhonewerke AG, Ernen/Switzerland	5, 9	30.00	29,329	1,387
Non-consolidated affiliated entities¹⁴					
450	BALANCE Management GmbH, Leipzig	5	100.00	18	0
451	Biogas Trelder Berg 1 GmbH, Buchholz	3, 5	100.00	1,125	-
452	Biogas Trelder Berg 2 GmbH, Buchholz	3, 5	100.00	525	-
453	Biogas Trelder Berg 3 GmbH, Buchholz	3, 5	100.00	525	-
454	Biosphärenwindpark Schwäbische Alb GmbH, Stuttgart	5	100.00	150	-1
455	Bliekevare Nät AB, Falkenberg/Sweden		100.00	60	277
456	CarbonBW (Thailand) Ltd., Bangkok/Thailand	5	100.00	13,432	1,699
457	CAS DE BROSSAC SARL, Montpellier/France (formerly Centrale Photovoltaïque du Perche Ornaïes SARL, Montpellier/France)	5	100.00	-33	-17
458	CAS DE CANET SAS, Montpellier/France	11	100.00	-	-
459	CAS DE CUSEY SAS, Montpellier/France	11	100.00	-	-
460	CAS de la Plaine SAS, Montpellier/France	5	100.00	1	0
461	CAS DE LIGNAC SAS, Montpellier/France	11	100.00	-	-
462	CAS DE L'ABBAYE LE CLOU SAS, Montpellier/France	11	100.00	-	-
463	CAS DE MALIGNY SARL, Montpellier/France (formerly Centrale Photovoltaïque Agroénergie SARL, Montpellier/France)	5	100.00	-19	-5
464	CAS DE MEILLANT SASU, Montpellier/France	11	100.00	-	-
465	CAS DE SOULERIS SARL, Montpellier/France (formerly Centrale Photovoltaïque de Bionne SARL, Montpellier/France)	5	100.00	-23	-5
466	CAS DE TAUROU-BAYSSIÈRES SARL, Montpellier/France (formerly Centrale Solaire de Cap Delta SARL, Montpellier/France)	5	100.00	-5	-1
467	Centernach Énergie SARL, Montpellier/France	5	100.00	-962	64
468	Centrale Photovoltaïque de la Forêt Bagnolais SARL, Montpellier/France	5	100.00	-19	-6

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
469	Centrale Photovoltaïque de la ZA de Gaudet SARL, Montpellier/France	5	100.00	-47	-27
470	Centrale Photovoltaïque de Pavailier SARL, Montpellier/France	5	100.00	-16	-1
471	Centrale Photovoltaïque de Sirius SARL, Montpellier/France	5	100.00	-19	-3
472	Centrale Photovoltaïque des Gravières SARL, Montpellier/France	5	100.00	-52	-5
473	Centrale Photovoltaïque Domitita SAS, Montpellier/France	5	100.00	1	0
474	Centrale Photovoltaïque Retour sur l'Isle SARL, Montpellier/France	5	100.00	-16	-10
475	Centrale Sol. de la Foret au Maitre SAS, Montpellier/France	5	100.00	-5	-6
476	Centrale Solaire d'Algosud SARL, Montpellier/France	5	100.00	-5	-1
477	Centrale Solaire de Beauce SARL, Montpellier/France	5	100.00	-27	-10
478	Centrale Solaire de Biltagarbi SARL, Montpellier/France	5	100.00	-293	34
479	Centrale Solaire de Bors de Montmoreau SARL, Montpellier/France	5	100.00	-73	-45
480	Centrale Solaire de Carré Sud SARL, Montpellier/France	5	100.00	-66	-7
481	Centrale Solaire de Catreille SARL, Montpellier/France	5	100.00	-18	-5
482	Centrale Solaire de Châteauperouse SARL, Montpellier/France	5	100.00	-6	-1
483	Centrale Solaire de Clave SARL, Montpellier/France	5	100.00	-75	-6
484	Centrale Solaire de Colombiers SARL, Montpellier/France	5	100.00	-170	36
485	Centrale Solaire de la Fourchale SAS, Montpellier/France	5	100.00	-6	-6
486	Centrale Solaire de la Tastère SARL, Montpellier/France	5	100.00	-21	-10
487	Centrale Solaire de les Leches SAS, Montpellier/France	5	100.00	1	0
488	Centrale Solaire de Leyritz-Moncassin SAS, Montpellier/France	5	100.00	1	-6
489	Centrale Solaire de Lunel SARL, Montpellier/France	5	100.00	110	64
490	Centrale Solaire de MAGNAC-LAVAL SAS, Montpellier/France	5	100.00	0	0
491	Centrale Solaire de Nohanent SARL, Montpellier/France	5	100.00	-12	-5
492	Centrale Solaire de Peregrine SARL, Montpellier/France	5	100.00	-17	-5
493	Centrale Solaire de Roubian SARL, Montpellier/France	5	100.00	-69	-13
494	Centrale Solaire de Saint Leger de Balson SARL, Montpellier/France	5	100.00	-28	-6
495	Centrale Solaire de Saint-Just SAS, Montpellier/France	5	100.00	1	0
496	Centrale Solaire de Saumejan SAS, Montpellier/France	5	100.00	-6	-6
497	Centrale Solaire de Til Chatel 2 SARL, Montpellier/France	5	100.00	-7	-5
498	Centrale Solaire de Til Chatel SARL, Montpellier/France	5	100.00	-27	-13
499	Centrale Solaire des Calottes SARL, Montpellier/France	5	100.00	-19	-9
500	Centrale Solaire des Coëvrans SARL, Montpellier/France	5	100.00	-27	-5
501	Centrale Solaire des Moulins Lodevois SARL, Montpellier/France	5	100.00	-23	-8
502	Centrale Solaire du Bois Comte SARL, Montpellier/France	5	100.00	-15	-12
503	Centrale Solaire du Caussanel SARL, Montpellier/France	5	100.00	-22	-12
504	Centrale Solaire du Tertre SAS, Montpellier/France	5	100.00	-6	-6
505	Centrale Solaire d'Aguessac SAS, Montpellier/France	5	100.00	-12	-11
506	Centrale Solaire EuroPrimeur SARL, Montpellier/France	5	100.00	-3	-1
507	Centrale Solaire la Charme SARL, Montpellier/France	5	100.00	-3	-1
508	Centrales Solaires d'Hyperion SARL, Montpellier/France	5	100.00	-19	2
509	Centrales Solaires de Terreneuve SARL, Montpellier/France	5	100.00	-23	-9
510	Centrales Solaires des Terres Rouges 3 SAS, Montpellier/France	5	100.00	1	0
511	Centrales Solaires du Languedoc SARL, Montpellier/France	5	100.00	456	95
512	CP D'ORVAL SASU, Montpellier/France	5	100.00	1	0
513	CS DE CLUNDOC'H SARL, Montpellier/France (formerly Centrale Photovoltaïque Pont du Casse SARL, Montpellier/France)	5	100.00	-3	-1
514	CS DE COURTENAY SASU, Montpellier/France	5	100.00	1	0
515	CS DE DOMERAT SASU, Montpellier/France	11	100.00	-	-
516	CS DE FONTAINES SARL, Montpellier/France (formerly Centrale Photovoltaïque de Castelle SARL, Montpellier/France)	5	100.00	-3	-1
517	CS DE LA GRANDE MAIREE SARL, Montpellier/France (formerly Centrale Photovoltaïque de Labastide SARL, Montpellier/France)	5	100.00	-18	-5
518	CS DE LA GROLLE SASU, Montpellier/France	5	100.00	1	0
519	CS DE LA TOUREILLE SARL, Montpellier/France (formerly Centrale Solaire du Lido SARL, Montpellier/France)	5	100.00	-29	-5

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
520	CS DE LA VALLEE SARL, Montpellier/France (formerly Centrales Solaires de Salles-la-Source SARL, Montpellier/France)	5	100.00	-5	-1
521	CS DE LONGUYON SASU, Montpellier/France	11	100.00	-	-
522	CS DE L'ANCIENNE CARRIERE D'HAMEL SARL, Montpellier/France (formerly Centrale Solaire la Vidalle SARL, Montpellier/France)	5	100.00	-7	-1
523	CS DE MAGNY SUR TILLE SASU, Montpellier/France	5	100.00	1	0
524	CS DE MORNAY SUR ALLIER SASU, Montpellier/France	11	100.00	-	-
525	CS DE PEZENES SARL, Montpellier/France (formerly Centrale Photovoltaïque des Coteaux de la Braye SARL, Montpellier/France)	5	100.00	-33	-5
526	CS DE PIERREFITE SAS, Montpellier/France (formerly Centrale Solaires des Oceans SAS, Montpellier/France)	5	100.00	-6	-6
527	CS DE SALLAUMINES SARL, Montpellier/France (formerly Centrale Photovoltaïque de la demi-lune SARL, Montpellier/France)	5	100.00	-3	-1
528	CS DE SANCOINS SASU, Montpellier/France	11	100.00	-	-
529	CS DE TEILHEDE SAS, Montpellier/France	11	100.00	-	-
530	CS DES CHAUMES SASU, Montpellier/France	11	100.00	-	-
531	CS DES GRANDS CHAMPS SASU, Montpellier/France	11	100.00	-	-
532	CS des Roches Bleues SARL, Montpellier/France (formerly Centrale Solaire de Marignac SARL, Montpellier/France)	5	100.00	-18	-5
533	CS DES TROIS VALLEES SARL, Montpellier/France (formerly Centrale Solaire Gesim Beau Ciel SARL, Montpellier/France)	5	100.00	-20	-16
534	CS DU CAKEMPIN SARL, Montpellier/France (formerly Centrale Solaire de Josse SARL, Montpellier/France)	5	100.00	-5	-1
535	CS DU CARROI SARL, Montpellier/France (formerly Centrales Solaires de Quirinus SARL, Montpellier/France)	5	100.00	16	-4
536	CS LAS SERETTES SASU, Montpellier/France	5	100.00	1	0
537	CS VEINAZES SASU, Montpellier/France	11	100.00	-	-
538	Düsseldorfer Entsorgungs- und Stadtreinigungsgesellschaft mbH, Düsseldorf	11	100.00	-	-
539	EnBW Albatros Management GmbH, Biberach an der Riß	5	100.00	29	1
540	EnBW Baltic 1 Verwaltungsgesellschaft mbH, Biberach an der Riß	5	100.00	28	0
541	EnBW Baltic 2 Management GmbH, Biberach an der Riß	5	100.00	45	11
542	EnBW Baltic Windpark Verwaltungsgesellschaft mbH, Stuttgart	5	100.00	36	1
543	EnBW Bürgerbeteiligung Wind 1 GmbH, Stuttgart	3, 5	100.00	25	-
544	EnBW Hohe See Management GmbH, Biberach an der Riß	5	100.00	31	1
545	EnBW Holm Vind AB, Falkenberg/Sweden		100.00	2	0
546	EnBW International Markets GmbH, Karlsruhe (formerly EnBW Omega 105. Verwaltungsgesellschaft mbH, Karlsruhe)	3, 5	100.00	25	-
547	EnBW Kusberget Vind AB, Falkenberg/Sweden	7	100.00	1,234	-3
548	EnBW Neue Energien GmbH, Stuttgart	3, 5	100.00	528	-
549	EnBW Norway AS, Oslo/Norway	5	100.00	10	0
550	EnBW Offshore Service Denmark ApS, Skødstrup/Denmark (formerly EnBW Offshore Service Denmark ApS, Balle/Denmark)	5	100.00	3,666	61
551	EnBW Okome Vind AB, Falkenberg/Sweden	7	100.00	2	0
552	EnBW Solar Verwaltungsgesellschaft mbH, Stuttgart	5	100.00	28	2
553	EnBW Solarpark Emmingen-Liptingen GmbH & Co. KG, Stuttgart	11	100.00	-	-
554	EnBW Solarpark Gickelfeld GmbH & Co. KG, Stuttgart	5	100.00	2,523	1
555	EnBW Solarpark Groß Lübbenau GmbH & Co. KG, Stuttgart (formerly SP 25 GmbH & Co. KG, Cottbus)	5	100.00	1,250	-1,970
556	EnBW Solarpark Göritz GmbH & Co. KG, Stuttgart (formerly SP 24 GmbH & Co. KG, Cottbus)	5	100.00	1,319	-12,406
557	EnBW Solarpark Kroppen GmbH & Co. KG, Stuttgart (formerly SP 23 GmbH & Co. KG, Cottbus)	5	100.00	1,326	-8,458
558	EnBW Solarpark Lauenhagen GmbH, Stuttgart	5	100.00	11	-2
559	EnBW Solarpark Lindenau GmbH & Co. KG, Stuttgart (formerly SP 22 GmbH & Co. KG, Cottbus)	5	100.00	1,364	-20,567
560	EnBW Solarpark Rot an der Rot GmbH & Co. KG, Stuttgart	11	100.00	-	-
561	EnBW Solarpark Sonnewalde GmbH & Co. KG, Stuttgart (formerly SP 26 GmbH & Co. KG, Cottbus)	5	100.00	1,250	-1,970
562	EnBW SunInvest Management GmbH, Stuttgart (formerly EnBW Omega 129. Verwaltungsgesellschaft mbH, Karlsruhe)	5	100.00	23	-2
563	EnBW UK Limited, London/United Kingdom	5	100.00	60	3
564	EnBW Wind Onshore Portfolio 2019 GmbH, Stuttgart	5	100.00	24	0

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
565	EnBW Wind Onshore Verwaltungsgesellschaft mbH, Stuttgart	6	100.00	36	-2
566	EnBW WindInvest Management GmbH, Stuttgart	5	100.00	25	1
567	EnBW Windpark Kleinliebringen GmbH, Stuttgart	5	100.00	17	0
568	EnBW Windpark Ober-Ramstadt GmbH, Ober-Ramstadt	5	100.00	23	-1
569	EnergieFinanz GmbH, Schwerin	5	100.00	942	-38
570	Ferme Éolienne Beaucamps-le-Jeune SARL, Montpellier/France	5	100.00	-10	-5
571	Ferme Éolienne de Donzère SARL, Montpellier/France	5	100.00	116	-348
572	Ferme Éolienne de la Ferrière-de-Flée SARL, Montpellier/France	5	100.00	-12	-5
573	Ferme Éolienne de la Vallée de Valenne SARL, Montpellier/France	5	100.00	-11	-5
574	Ferme Éolienne de Plo d'Amoures SAS, Montpellier/France	5	100.00	-414	-27
575	Ferme Éolienne de Thalys SAS, Montpellier/France	5	100.00	-133	-11
576	Grünwerke Verwaltungs GmbH, Düsseldorf	5	100.00	46	3
577	HAUT DU VAL DE SAONE ENERGIE SASU, Montpellier/France	11	100.00	-	-
578	Mistral SAS, Aix-en-Provence/France	5	100.00	-9	-5
579	Mélagues Energie SAS, Montpellier/France	5	100.00	-225	-10
580	NatürlichSonne Trogen GmbH & Co. KG, Wittlich (formerly NatürlichSonne Trogen GmbH & Co. KG, Monzelfeld)	5	100.00	314	-11
581	NatürlichSonne Trogen Verwaltungs GmbH, Ettlingen	5	100.00	19	-1
582	Parc Éolien d'Amfreville-les-Champs SARL, Montpellier/France	5	100.00	-52	-8
583	Parc Éolien d'Argillières SARL, Montpellier/France	5	100.00	-58	-18
584	Parc Éolien d'Hilvern SARL, Montpellier/France	5	100.00	-11	-5
585	Parc Éolien de Barbezières-Lupsault SARL, Montpellier/France	5	100.00	-19	-5
586	Parc Éolien de Bellenoie SAS, Montpellier/France	5	100.00	0	-1
587	Parc Éolien de Bornay 2 SARL, Montpellier/France	5	100.00	-128	-94
588	Parc Éolien de Bornay SARL, Montpellier/France	5	100.00	-31	-5
589	Parc Éolien de Boussais SARL, Montpellier/France	5	100.00	-24	-18
590	Parc Éolien de Breuillac SARL, Montpellier/France	5	100.00	-79	-54
591	Parc Éolien de Champ Serpette SARL, Montpellier/France	5	100.00	-37	-5
592	Parc Éolien de Champs Perdus 2 SARL, Montpellier/France	5	100.00	-52	-31
593	Parc Éolien de Chan des Planasses SARL, Montpellier/France	5	100.00	-37	-17
594	Parc Éolien de Chasseneuil SARL, Montpellier/France	5	100.00	-110	-25
595	Parc Éolien de Combaynart SARL, Montpellier/France	5	100.00	-13	-5
596	Parc Éolien de Houarn SAS, Montpellier/France	5	100.00	-13	-13
597	Parc Éolien de Keranflech SARL, Montpellier/France	5	100.00	-26	-16
598	Parc Éolien de Kerimard SARL, Montpellier/France	5	100.00	-12	-5
599	Parc Éolien de l'Épinette SARL, Montpellier/France	5	100.00	-47	-24
600	Parc Éolien de la Bussière SARL, Montpellier/France	5	100.00	-72	-20
601	Parc Éolien de la Cote du Moulin SARL, Montpellier/France	5	100.00	-8	-5
602	Parc Éolien de la Cressionnière SARL, Montpellier/France	5	100.00	-30	-20
603	Parc Éolien de la Fougère SARL, Montpellier/France	5	100.00	-87	-12
604	Parc Éolien de la Lanques-sur-Rognon SARL, Montpellier/France	5	100.00	-19	-5
605	Parc Éolien de la Naulerie SARL, Montpellier/France	5	100.00	-3	-7
606	Parc Éolien de la Pezille SARL, Montpellier/France	5	100.00	-12	-5
607	Parc Éolien de la Queille SARL, Montpellier/France	5	100.00	-7	-5
608	Parc Éolien de la Roche SARL, Montpellier/France	5	100.00	-14	-5
609	Parc Éolien de la Vallée Berlure SARL, Montpellier/France	5	100.00	-27	-16
610	Parc Éolien de le Quesnel SARL, Montpellier/France	5	100.00	-108	-80
611	Parc Éolien de Lupsault SARL, Montpellier/France	5	100.00	-16	-11
612	Parc Éolien de l'Étourneau SARL, Montpellier/France	5	100.00	-16	-5
613	Parc Éolien de Mandres la Cote SAS, Montpellier/France	5	100.00	-20	-7
614	Parc Éolien de Monsures SARL, Montpellier/France	5	100.00	-124	-44
615	Parc Éolien de Mouterre-Silly SARL, Montpellier/France	5	100.00	-24	-18
616	Parc Éolien de Nongée SARL, Montpellier/France	5	100.00	-41	-9
617	Parc Éolien de Noroy SARL, Montpellier/France	5	100.00	-29	-14
618	Parc Éolien de Picoud SARL, Montpellier/France	5	100.00	-14	-6
619	Parc Éolien de Pistole SARL, Montpellier/France	5	100.00	-17	-5

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
620	Parc Éolien de Prinquier SAS, Montpellier/France	5	100.00	-31	-15
621	Parc Éolien de Pugny SARL, Montpellier/France	5	100.00	-10	-5
622	Parc Éolien de Ravery SARL, Montpellier/France	5	100.00	-13	-5
623	Parc Éolien de Revelles SAS, Montpellier/France	5	100.00	-3	-6
624	Parc Éolien de Ribemont SARL, Montpellier/France	5	100.00	-26	-17
625	Parc Éolien de Saint-Ygeaux SAS, Montpellier/France	5	100.00	-15	-8
626	Parc Éolien de Sery-les-Mezières SARL, Montpellier/France	5	100.00	-12	-5
627	Parc Éolien de Thennes SARL, Montpellier/France	5	100.00	-28	-8
628	Parc Éolien de Vellexon SARL, Montpellier/France	5	100.00	-34	-5
629	Parc Éolien de Vervant et Lea SARL, Montpellier/France	5	100.00	-46	-15
630	Parc Éolien de Warlus SARL, Montpellier/France	5	100.00	-54	-8
631	Parc Éolien des Bouiges SARL, Montpellier/France	5	100.00	-87	-9
632	Parc Éolien des Brandes de l'Ozon Sud SARL, Montpellier/France	5	100.00	-87	-28
633	Parc Éolien des Cours SAS, Montpellier/France	5	100.00	1	0
634	Parc Éolien des Ecoulottes SARL, Montpellier/France	5	100.00	-103	-15
635	Parc Éolien des Gaudines SARL, Montpellier/France	5	100.00	-18	-5
636	Parc Éolien des Gours SARL, Montpellier/France	5	100.00	-10	-5
637	Parc Éolien des Moussières SARL, Montpellier/France	5	100.00	-19	-5
638	Parc Éolien des Navarros SARL, Montpellier/France	5	100.00	-40	-8
639	Parc Éolien des Quatre Chemins SARL, Montpellier/France	5	100.00	-25	-10
640	Parc Éolien des Rapailles SARL, Montpellier/France	5	100.00	-19	-5
641	Parc Éolien des Rieux SARL, Montpellier/France	5	100.00	-11	-5
642	Parc Éolien des Saules SARL, Montpellier/France	5	100.00	-35	-12
643	Parc Éolien des Smermesnil SAS, Montpellier/France	5	100.00	1	0
644	Parc Éolien des Terres de Caumont SARL, Montpellier/France	5	100.00	-41	-13
645	Parc Éolien du Bel Essart SARL, Montpellier/France	5	100.00	-37	-6
646	Parc Éolien du Bois de la Motte SARL, Montpellier/France	5	100.00	-12	-6
647	Parc Éolien du Bois du Piné SARL, Montpellier/France	5	100.00	-12	-5
648	Parc Éolien du Bois du Raz SAS, Montpellier/France	5	100.00	1	0
649	Parc Éolien du Fresnay SARL, Montpellier/France	5	100.00	-10	-5
650	Parc Éolien du Frestoy SARL, Montpellier/France	5	100.00	-14	-5
651	Parc Éolien du Houssais SARL, Montpellier/France	5	100.00	-11	-6
652	Parc Éolien du Mecorbon SARL, Montpellier/France	5	100.00	-28	-6
653	Parc Éolien du Mont de l'Echelle SARL, Montpellier/France	5	100.00	-38	-15
654	Parc Éolien du Moulin a Vent SARL, Montpellier/France	5	100.00	-8	-5
655	Parc Éolien du Puy Peret SARL, Montpellier/France	5	100.00	-97	-17
656	Parc Éolien le Mont du Bouillet SAS, Montpellier/France	5	100.00	1	0
657	PE de Brion SAS, Montpellier/France	5	100.00	1	0
658	PE DE LA CHAPELLE SAINT ETIENNE SARL, Montpellier/France (formerly Parc Éolien de la Vingeanne SARL, Montpellier/France)	5	100.00	-19	-5
659	PE DE LA PATURELLE SAS, Montpellier/France	11	100.00	-	-
660	PE DE LAPAIROUSE SAS, Montpellier/France	11	100.00	-	-
661	PE DE ROCHE-ET-RAUCOURT SAS, Montpellier/France (formerly PE Alexandre Millerand SAS, Montpellier/France)	5	100.00	1	0
662	PE DE SAINT-GENOU SAS, Montpellier/France	11	100.00	-	-
663	PE DE TENNIE SASU, Montpellier/France	11	100.00	-	-
664	PE DES BRANDIERES SASU, Montpellier/France	11	100.00	-	-
665	PE DES BRETONNIERES SARL, Montpellier/France (formerly Parc Éolien du Vallon de Sancey SARL, Montpellier/France)	5	100.00	-57	-10
666	PE DES EPIS DE BLE SARL, Montpellier/France (formerly PARC EOLIEN DE SÉVÉRAC D`AVEYRON SARL, Montpellier/France)	5	100.00	-15	-5
667	PE DES ESSARDS SAS, Montpellier/France	11	100.00	-	-
668	PE DES LANDES DE LA GRENOUILLERE SASU, Montpellier/France	5	100.00	1	0
669	PE DES LAVIERES SAS, Montpellier/France	5	100.00	-3	-6
670	PE DES MAZOIRES SAS, Montpellier/France	11	100.00	-	-
671	PE des Paquieries SAS, Montpellier/France	5	100.00	1	0

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
672	PE DES POMMERAIES SARL, Montpellier/France (formerly Parc Éolien de la Haute Charmoie SARL, Montpellier/France)	5	100.00	-18	-5
673	PE DU BINGARD SARL, Montpellier/France (formerly Parc Éolien du Commandeur SARL, Montpellier/France)	5	100.00	-24	-18
674	PE du Bois Breton SAS, Montpellier/France	5	100.00	1	0
675	PE DU FOSSE PICARD SAS, Montpellier/France (formerly Parc Éolien de la Lorie SAS, Montpellier/France)	5	100.00	1	0
676	PE DU PIROUET SARL, Montpellier/France (formerly Parc Éolien de Saint-Fraigne SARL, Montpellier/France)	5	100.00	-10	-5
677	PE VENTE-BEN SARL, Montpellier/France (formerly Ferme Éolienne de Saint Jean de Pourcharesses SARL, Montpellier/France)	5	100.00	-26	-5
678	P ² Plant & Pipeline Engineering GmbH, Essen	5	100.00	1,914	149
679	Röbergsfjället Nät AB, Falkenberg/Sweden		100.00	8	41
680	SENEC Solar s.r.l., Bari/Italy	11	100.00	-	-
681	Sepe de la Gare SAS, Montpellier/France	5	100.00	139	97
682	Valeco Énergie Québec Inc., Montréal/Canada	5	100.00	-799	33
683	VNG Italia S.r.l., Bologna/Italy	5	100.00	43,930	7,901
684	Windpark Wiemerstedt II GmbH & Co. KG, Stuttgart	11	100.00	-	-
685	ZEAG Erneuerbare Energien GmbH, Heilbronn	5	100.00	57	32
686	JATROSELECT-Paraguay Sociedad de Responsabilidad Limitada i.L., Volendam/Paraguay		99.98		
687	EE Bürgerenergie Bühlerzell GmbH & Co. KG, Bühlerzell	5	99.00	42	-10
688	EE Bürgerenergie Frankenhardt GmbH & Co. KG, Frankenhardt	5	99.00	68	-4
689	EE Bürgerenergie Hardheim GmbH & Co. KG, Hardheim	5	99.00	22	-16
690	EE Bürgerenergie Höpfingen GmbH & Co. KG, Höpfingen	5	99.00	37	-15
691	EE BürgerEnergie Neudenuau GmbH & Co. KG, Neudenuau	5	99.00	61	-4
692	EE BürgerEnergie Roigheim GmbH & Co. KG, Roigheim	5	99.00	92	-8
693	EE BürgerEnergie Rosenberg GmbH & Co. KG, Rosenberg	5	99.00	93	-7
694	EE Bürgerenergie Sulzbach-Laufen GmbH & Co. KG, Sulzbach-Laufen	5	99.00	67	-6
695	Neue Energie Billigheim GmbH & Co. KG, Billigheim	5	99.00	97	-3
696	EE BürgerEnergie Schöntal GmbH & Co. KG, Schöntal	11	98.00	-	-
697	EnBW Solarpark Gückelhirn GmbH & Co. KG, Stuttgart	11	98.00	-	-
698	Erneuerbare Energien Tauberbischofsheim GmbH & Co. KG, Tauberbischofsheim	5	98.00	90	-7
699	Parc Éolien des Bruyères SAS, Plaisance/France (formerly Parc Éolien des Bruyères SAS, Montpellier/France)	5	95.02	-20	-22
700	EnPV GmbH, Karlsruhe	5	95.00	0	-770
701	PE DE LA FONTAINE OISEAU SAS, Montpellier/France	11	91.00	-	-
702	PE DE LA JARROUE SAS, Montpellier/France	11	90.00	-	-
703	PE DES HAUTES-FAGES 2 SAS, Montpellier/France	11	90.00	-	-
704	Parc Éolien de Brebières SAS, Montpellier/France	5	87.86	-14	-7
705	Parc Éolien de la Celle Saint CYR SAS, Montpellier/France	5	87.00	-4	-4
706	PE DE LA GRANDE CHARME SAS, Montpellier/France	11	83.33	-	-
707	HOLDING DE LA VILAINE SAS, Montpellier/France	11	75.00	-	-
708	JatroGreen S.A.R.L., Antananarivo/Madagascar	5	70.00	90	7
709	Powderis SARL, Montpellier/France	5	70.00	-960	-92
710	Nahwärme Düsseldorf GmbH, Düsseldorf	5	66.00	2,671	276
711	Labruguière Énergies SAS, Montpellier/France	5	63.00	1,398	1,397
712	Hydro Léman SARL, Montpellier/France	5	57.00	-11	-2
713	Alb-Windkraft Verwaltungs GmbH, Geislingen an der Steige	5	51.00	46	9
714	Solarpark Leutkirch Verwaltungsgesellschaft mbH, Leutkirch im Allgäu	5	51.00	29	1
715	Sonnensysteme AF GmbH, Ottobrunn, Munich district	5	50.10	361	350
716	Kemberg Windpark Management GmbH & Co. Betriebsgesellschaft KG, Düsseldorf	5	33.33	3,363	120
Entities accounted for using the equity method					
717	Valeco Ren SAS, Montpellier/France	5, 9	51.00	3,291	4,241
718	Borusan EnBW Enerji yatırımları ve Üretim Anonim Şirketi, Istanbul/Turkey	5, 9	50.00	213,039	4,256
719	Elektrizitätswerk Rheinau AG, Rheinau/Switzerland	5, 7	50.00	22,965	781
720	Erdgasspeicher Peissen GmbH, Halle (Saale)	5, 9	50.00	123,133	5,065

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
721	Fernwärme Ulm GmbH, Ulm	5, 7, 9	50.00	39,578	6,014
722	Mona Offshore Wind Holdings Limited, Sunbury-On-Thames/United Kingdom	5, 9	50.00	17,973	0
723	Morgan Offshore Wind Holdings Limited, Sunbury-On-Thames/United Kingdom	5, 9	50.00	17,973	0
724	Morven Offshore Wind Holdings Limited, Sunbury-On-Thames/United Kingdom	11	50.00	-	-
725	Schluchseewerk Aktiengesellschaft, Laufenburg Baden	5	50.00	73,384	2,809
726	REMONDIS Rhein-Wupper GmbH & Co. KG, Düsseldorf	5	49.00	16,619	10,142
727	Bayerische-Schwäbische Wasserkraftwerke Beteiligungsgesellschaft mbH, Gundremmingen	5	37.80	64,389	10,001
728	Grosskraftwerk Mannheim AG, Mannheim	5	32.00	147,375	6,647
729	KW Ackersand I AG, Stalden/Switzerland	5	25.00	2,339	297
Investments¹⁴					
730	Netzanschlussgesellschaft Windparks Ostercappel/Bohmte mbH, Kirchdorf	5	66.66	25	11
731	UW Obhausen GmbH & Co. OHG, Stuttgart	5	58.06	47	4
732	Aranea Battery Solutions GmbH, Stuttgart	5	50.00	2,849	-2,268
733	BALANCE EnviTec Bio-LNG GmbH, Ahrensfelde	5	50.00	5,006	-19
734	biogasNRW GmbH i.L., Düsseldorf		50.00		
735	Centrale Electrique Rhénane de Gamsheim SA, Gamsheim/France	5, 9	50.00	9,165	0
736	Centrale Solaire Lac Bedorede SAS, Montpellier/France	5	50.00	-8	-4
737	EE BürgerEnergie Buchen GmbH & Co. KG, Buchen Odenwald	11	50.00	-	-
738	EnergyIncore GmbH, Schwerin	5	50.00	96	26
739	Holding de la Montagne Noire SARL, Montpellier/France	5	50.00	-1	-3
740	KDM Kompostierungs- und Vermarktungsgesellschaft für Stadt Düsseldorf/Kreis Mettmann mit beschränkter Haftung, Ratingen	5	50.00	2,246	255
741	Kraftwerk Aegina A.G., Obergoms/Switzerland	5, 7	50.00	14,085	777
742	Kraftwerk Reckingen AG, Reckingen	5	50.00	3,203	72
743	Norseman Wind AS, Oslo/Norway	5	50.00	68	-205
744	Parc Éolien des Quintefeuilles SAS, Montpellier/France	5	50.00	-413	-381
745	Parc Éolien Vallée de l'Escrebieux SAS, Montpellier/France	5	50.00	-14	-7
746	Powerment GmbH & Co. KG, Ettlingen	5	50.00	3,441	1,253
747	REEFUELERY GmbH, Bakum	5	50.00	394	-6
748	Rheinkraftwerk Säckingen AG, Bad Säckingen	5	50.00	8,404	300
749	RheinWerke GmbH, Düsseldorf	5	50.00	4,942	-57
750	Wasserkraftwerk Hausen GbR, Hausen im Wiesental	5, 13	50.00	330	-12
751	WKM Wasserkraftwerke Maulburg GmbH, Maulburg	5	50.00	523	-5
752	EE BürgerEnergie Adelsheim GmbH & Co. KG, Adelsheim	5	49.00	94	-6
753	KW Jungbach AG, St. Niklaus/Switzerland	5	49.00	4,335	324
754	"MOWA Mobile Waschanlagen GmbH", Overath (formerly MOWA Mobile Waschanlagen GmbH, Neunkirchen-Seelscheid)	5	49.00	473	439
755	Projektentwicklung Waldeck-Frankenberg GmbH & Co. KG, Korbach	5	49.00	698	-11
756	Projektentwicklung Waldeck-Frankenberg Verwaltungs GmbH, Korbach	5	49.00	28	1
757	REMONDIS Rhein-Wupper Verwaltungs GmbH, Düsseldorf	5	49.00	37	-1
758	HWM Holzwärme Müllheim GmbH, Müllheim	5	45.00	473	-5
759	Centrale Solaire de la Petite Vicomté SAS, Montpellier/France	5	44.00	-523	-261
760	Obere Donau Kraftwerke AG, Munich	5	40.00	3,180	0
761	Segalasses Énergie SARL, Toulouse/France	5	40.00	2,749	1,949
762	TWKW Trinkwasserkraftwerke Niedergesteln AG, Niedergesteln/Switzerland	5	40.00	1,880	152
763	Untergrundspeicher- und Geotechnologie-Systeme Gesellschaft mit beschränkter Haftung, Mittenwalde	5	40.00	6,708	535
764	Kraftwerk Ryburg-Schwörstadt AG, Rheinfelden/Switzerland	5, 7	38.00	37,838	1,692
765	Parc Éolien de Montelu SAS, Montpellier/France	5	34.00	-268	-215
766	Parc Éolien des Gassoillis SAS, Montpellier/France	5	34.00	-72	-6
767	GEIE Exploitation Minière de la Chaleur, Kutzenhausen/France	5, 13	33.33	2,930	-384
768	Windpark Hemme Infrastrukturgesellschaft GmbH & Co. KG, Walddorfhäslach	5	33.33	0	-5
769	Windpark Prütze II GmbH & Co. KG, Düsseldorf	5	33.33	1,231	11
770	Beteiligungsgesellschaft der EVU an der Kerntechnischen Hilfsdienst GmbH - GbR, Karlsruhe	5, 13	30.77	0	0
771	KWT Kraftwerke Törbel-Moosalp AG, Törbel/Switzerland	5	30.00	980	45
772	Baltic Windpark Beteiligungen GmbH & Co. KG, Stuttgart	5	29.17	25,644	722

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
773	Kraftwerke Gougra AG, Sierre/Switzerland	5	27.50	57,470	2,270
774	EE Bürgerenergie Heilbronn GmbH & Co. KG, Heilbronn	5	26.00	1,000	65
775	Parc Éolien de Lavacquerié SAS, Montpellier/France	5	26.00	286	100
776	Windpark Lindtorf GmbH, Rheine	5	26.00	2,703	193
777	Alb-Windkraft GmbH & Co. KG, Geislingen an der Steige	5	25.50	512	658
778	Kooperation Erneuerbare Energien im Landkreis Rottweil GmbH, Schramberg	5	25.00	62	-8
779	ANOG Anergienetz Obergoms AG, Obergoms/Switzerland	5	24.50	213	13
780	KWOG Kraftwerke Obergoms AG, Obergoms/Switzerland	5	24.10	13,727	911
781	CARDABELLE HOLDING SAS, Montpellier/France	11	20.00	-	-
782	Wasserkraftwerk Pfinztal GmbH & Co. KG, Pfinztal	5	20.00	201	-2
Other					
Fully consolidated companies					
783	Der neue Stöckach GmbH & Co KG, Obrigheim	3	100.00	53,570	-
784	ED Immobilien GmbH & Co. KG, Rheinfelden	6	100.00	0	106
785	ED Immobilien Verwaltungsgesellschaft mbH, Rheinfelden	6	100.00	32	0
786	EnBW Betriebs- und Servicegesellschaft mbH, Karlsruhe	3	100.00	25	-
787	EnBW Central and Eastern Europe Holding GmbH, Stuttgart	3	100.00	1,395,023	-
788	EnBW City GmbH & Co. KG, Obrigheim		100.00	8,885	9,398
789	EnBW Immobilienbeteiligungen GmbH, Karlsruhe		100.00	501,067	5,880
790	EnBW International Finance B.V., Amsterdam/The Netherlands		100.00	284,396	-12,888
791	EnBW New Ventures GmbH, Karlsruhe	3	100.00	58,739	-
792	EnBW Perspektiven GmbH, Karlsruhe	3	100.00	1,500	-
793	Facilma Grundbesitzmanagement und -service GmbH & Co. Besitz KG, Obrigheim		100.00	199,595	5,025
794	Neckarwerke Stuttgart GmbH, Stuttgart	3	100.00	1,880,237	-
795	NWS Finanzierung GmbH, Karlsruhe	3	100.00	1,237,605	-
796	symbiotic services GmbH, Karlsruhe	3	100.00	25	-
797	MURVA Grundstücks-Verwaltungsgesellschaft mbH & Co. KG, Grünwald	5	95.00	-5,529	1,262
798	VNG AG, Leipzig		79.83	1,079,976	596,358
799	ED Kommunal GmbH, Rheinfelden	6	73.57	37,526	1,332
800	EnBW Versicherungsvermittlung GmbH, Stuttgart		51.00	51	4,353
Non-consolidated affiliated entities¹⁴					
801	DZ-4 GmbH, Hamburg	5	100.00	823	-4,311
802	EnBW Bürgerbeteiligung Solar 1 GmbH, Stuttgart	3, 5	100.00	25	-
803	EnBW France SAS, Boulogne-Billancourt/France	5	100.00	4	-9
804	EnBW He Dreiht Management GmbH, Stuttgart (formerly EnBW Omega 127. Verwaltungsgesellschaft mbH, Stuttgart)	5	100.00	25	0
805	EnBW Offshore 4 GmbH, Stuttgart (formerly EnBW Omega 103. Verwaltungsgesellschaft mbH, Karlsruhe)	3, 5	100.00	25	-
806	EnBW Omega 107. Verwaltungsgesellschaft mbH, Stuttgart	3, 5	100.00	25	-
807	EnBW Omega 108. Verwaltungsgesellschaft mbH, Stuttgart	3, 5	100.00	25	-
808	EnBW Omega 121. Verwaltungsgesellschaft mbH, Karlsruhe	3, 5	100.00	25	-
809	EnBW Omega 122. Verwaltungsgesellschaft mbH, Karlsruhe	3, 5	100.00	25	-
810	EnBW Omega 123. Verwaltungsgesellschaft mbH, Stuttgart	3, 5	100.00	25	-
811	EnBW Omega 124. Verwaltungsgesellschaft mbH, Stuttgart	3, 5	100.00	25	-
812	EnBW Omega 125. Verwaltungsgesellschaft mbH, Stuttgart	3, 5	100.00	25	-
813	EnBW Omega 126. Verwaltungsgesellschaft mbH, Stuttgart	3, 5	100.00	25	-
814	EnBW Omega 132. Verwaltungsgesellschaft mbH, Stuttgart	11	100.00	-	-
815	EnBW Omega 133. Verwaltungsgesellschaft mbH, Stuttgart	11	100.00	-	-
816	EnBW Omega 134. Verwaltungsgesellschaft mbH, Stuttgart	11	100.00	-	-
817	EnBW Omega 135. Verwaltungsgesellschaft mbH, Stuttgart	11	100.00	-	-
818	EnBW Omega 136. Verwaltungsgesellschaft mbH, Stuttgart	11	100.00	-	-
819	EnBW Omega 137. Verwaltungsgesellschaft mbH, Stuttgart	11	100.00	-	-
820	EnBW Omega 138. Verwaltungsgesellschaft mbH, Stuttgart	11	100.00	-	-
821	EnBW Omega 139. Verwaltungsgesellschaft mbH, Stuttgart	11	100.00	-	-
822	EnBW Omega 140. Verwaltungsgesellschaft mbH, Stuttgart	11	100.00	-	-
823	EnBW Omega 141. Verwaltungsgesellschaft mbH, Karlsruhe	11	100.00	-	-

		Footnote	Capital share ¹ (in %)	Equity ² (in T€)	Earnings ² (in T€)
824	EnBW Omega 143. Verwaltungsgesellschaft mbH, Karlsruhe	11	100.00	-	-
825	EnBW Omega 144. Verwaltungsgesellschaft mbH, Karlsruhe	11	100.00	-	-
826	EnBW Omega 145. Verwaltungsgesellschaft mbH, Karlsruhe	11	100.00	-	-
827	EnBW Omega Fünfundneunzigste Verwaltungsgesellschaft mbH, Karlsruhe	3, 5	100.00	25	-
828	EnBW Omega Neunundachtzigste Verwaltungsgesellschaft mbH, Karlsruhe	3, 5	100.00	25	-
829	EnBW Omega Sechsendachtzigste Verwaltungsgesellschaft mbH, Karlsruhe	3, 5	100.00	25	-
830	EnBW Omega Vierundneunzigste Verwaltungsgesellschaft mbH, Karlsruhe	3, 5	100.00	25	-
831	EnBW Real Estate GmbH, Obrigheim	6	100.00	141	10
832	EnBW Senergi Immobilien GmbH, Karlsruhe	5	100.00	73	0
833	EnBW vernetzt Beteiligungsgesellschaft mbH, Stuttgart	5	100.00	254	5
834	EnBW Übertragungsnetz Immobilien Verwaltungsgesellschaft mbH, Karlsruhe (formerly EnBW Omega 142. Verwaltungsgesellschaft mbH, Karlsruhe)	11	100.00	-	-
835	He Dreiht Investor GmbH, Karlsruhe (formerly: EnBW Omega 128. Verwaltungsgesellschaft mbH, Karlsruhe)	5	100.00	25	0
836	KMS Verwaltungsgesellschaft mbH, Stuttgart	5	100.00	43	0
837	MGMTree GmbH, Leipzig	5	100.00	91	-14
838	Regionalnetze GmbH & Co. KG, Stuttgart	5	100.00	0	0
839	Regionalnetze Verwaltungs-GmbH, Stuttgart	5	100.00	23	0
840	Rheintal PE GmbH & Co. KG, Bad Homburg v. d. Höhe	5	100.00	70,567	5,059
841	VNG Innovation Consult GmbH, Leipzig	5	100.00	26	9
842	VNG Innovation GmbH, Leipzig	3, 5	100.00	2,653	-
843	GDiesel Technology GmbH, Leipzig	5	60.00	281	-254
Investments¹⁴					
844	ED Pflege Donau GmbH & Co. KG, Rheinfelden Baden	11	100.00	-	-
845	UnigestionFLEX SCS SICAV RAIF, Luxembourg/Luxembourg	5	100.00	362,136	78,126
846	WP Global Germany Private Equity L.P., Wilmington, Delaware/USA	5, 13	100.00	224,225	57,532
847	Sirius EcoTech Fonds Düsseldorf GmbH & Co. KG i.L., Düsseldorf		78.15		
848	ID Quadrat Verwaltungsgesellschaft mbH, Düsseldorf	5	50.00	26	1
849	Innovative Immobilien Duisburg Düsseldorf ID Quadrat GmbH & Co. Betriebsgesellschaft KG, Düsseldorf	5	50.00	4,094	-13
850	Intelligent Energy System Services GmbH, Ludwigsburg	5, 9	50.00	1,456	568
851	Neuss-Düsseldorfer Häfen GmbH & Co. KG, Neuss	5	50.00	89,907	6,932
852	Neuss-Düsseldorfer Häfen Verwaltungs-GmbH, Neuss	5	50.00	63	2
853	regiodata GmbH, Lörrach	5	35.00	1,925	1,275
854	EFR Europäische Funk-Rundsteuerung GmbH, Munich	5	25.10	4,834	2,966
855	vialytics GmbH, Stuttgart	5	24.45	-192	-1,418
856	GasLINE Telekommunikationsnetz-Geschäftsführungsgesellschaft deutscher Gasversorgungsunternehmen mbH, Straelen	5	23.39	74	2

1 Shares of the respective parent company calculated in accordance with section 313 [2] HGB (as of 31/12/2022).

2 In the case of separate entities, the figures stem from financial statements prepared pursuant to local principles and do not show the contributions of each entity to the consolidated financial statements.

3 Profit and loss transfer agreement and/or domination agreement and/or loss assumption agreement.

4 Profit and loss transfer agreement with third parties.

5 Previous year's figures.

6 Preliminary figures.

7 Divergent financial year.

8 Control due to contractual agreement.

9 Joint control pursuant to IFRS 11.

10 Before taking treasury shares of the company into account.

11 New company, annual financial statements not yet available.

12 Other shareholdings included due to contractual control arrangements.

13 Companies whose shareholder with unlimited liability is a company that is included in the consolidated financial statements.

14 Includes non-consolidated affiliated entities and other investments that are not fully consolidated or accounted for using the equity method because of their minor importance. They are recognized instead at their acquisition costs.

(39) Significant events after the reporting date

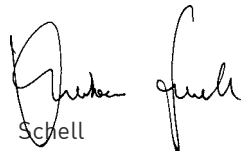
On 17 January 2023, EnBW issued two corporate bonds with a total volume of €1.25 billion. The proceeds from the bonds will be used for implementing aspects of the company's strategy that focus on sustainability, although they are not earmarked for specific projects. The two bonds have volumes of €500 million and €750 million, terms of 5.5 years and 12 years and coupons of 3.5% and 4.0%, respectively.

On 29 January 2023, Block 7 of the Heilbronn power plant suffered significant damage to its ventilation/exhaust gas system and the entire block will be unavailable for a prolonged period as a result. The cause of the damage is currently still unknown. The initial findings on the cause of the damage, the duration of the repair work and non-availability of the power plants, and the repair costs should be available in two to three months. Initial estimates suggest that financial losses could be in the low to mid three-digit million euro range.

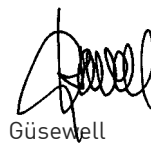
The credit line that was concluded with KfW by VNG on 5 April 2022 with a volume of €660 million and a term until April 2023 was terminated prematurely by VNG on 7 February 2023. This credit line was not utilized at any time. It was concluded exclusively to provide additional financial security in response to the potential risk of extreme developments on the market that could not be excluded due to the impact the war between Russia and Ukraine is having on the energy markets.

Karlsruhe, 13 March 2023

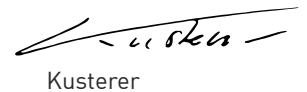
EnBW Energie Baden-Württemberg AG



Schell



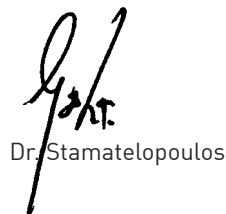
Güsewell



Kusterer



Rückert-Hennen



Dr. Stamatelopoulos

Independent auditor's report

To EnBW Energie Baden-Württemberg AG Report on the audit of the consolidated financial statements and of the group management report

Opinions

We have audited the consolidated financial statements of EnBW Energie Baden-Württemberg AG, Karlsruhe, and its subsidiaries (the Group), which comprise the income statement and statement of comprehensive income for the fiscal year from 1 January to 31 December 2022, the balance sheet as at 31 December 2022, the cash flow statement and the statement of changes in equity for the fiscal year from 1 January to 31 December 2022, and the notes to the 2022 financial statements of the EnBW Group, including a summary of significant accounting policies. In addition, we have audited the group management report of EnBW Energie Baden-Württemberg AG, which has been combined with the management report of EnBW Energie Baden-Württemberg AG, for the fiscal year from 1 January to 31 December 2022. In accordance with the German legal requirements, we have not audited the content of the parts of the group management report specified in the appendix to the auditor's report and the company information stated therein that is provided outside of the Annual Report and is referenced in the group management report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB ["Handelsgesetzbuch": German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2022, and of its financial performance for the fiscal year from 1 January to 31 December 2022, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the group management report does not extend to the content of the components of the group management report named in the appendix to the auditor's report.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and the EU Audit Regulation (No 537/2014, referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Art. 10 (2) f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Art. 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Key audit matters in the audit of the consolidated financial statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the fiscal year from 1 January to 31 December 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon; we do not provide a separate opinion on these matters.

Below, we describe what we consider to be the key audit matters:

1. Valuation of the cash-generating unit conventional power plants

Reasons why the matter was determined to be a key audit matter

We classified the valuation of the cash-generating unit conventional power plants as a key audit matter because the determination of the recoverable amount is highly dependent on the assessment of future cash flows by the executive directors and in our view poses an increased risk of incorrect accounting with respect, in particular, to the regular adjustment to assumptions for the short, medium and long-term planning forecasts. In order to create these planning forecasts, it is necessary to derive scenarios that describe potential future developments as realistically as possible. The scenarios derived by the executive directors differ primarily regarding the degree of climate protection and the sustainable economic growth that is achievable in the long term. The discretionary assumptions include, in particular, the projected cash flows based on pricing assumptions for fuel, CO₂ allowances and electricity, the discount rates used and the determination of the remaining service lives of the coal power plants, which are especially influenced by the law for reducing and ending coal-fired generation and amending other laws (Coal Phaseout Act), the decision issued by the German Federal Constitutional Court on climate protection on 24 March 2021 and the implementation of the EU Green Deal into effective guidelines. In addition, the war between Russia and Ukraine has changed the energy sector framework. Joining the Science Based Targets initiative (SBTi) also provides for an ongoing identification of the goals for climate neutrality of EnBW based on remaining greenhouse gas budgets for the various emission categories, which is associated with a further reduction of the coal-fired generation capacity in the future. The assessments made by the executive directors on this basis with respect to the planned phaseout path for coal power plants at EnBW have a significant influence on the valuation.

Auditor's response

As part of our audit procedures, we analyzed the valuation process, the valuation model including the associated parameters and the accounting principles used to determine the recoverable amount of the cash-generating unit conventional power plants. The short and medium-term pricing assumptions are derived from liquidity markets, contracts for forward transactions and current market data, taking into account the exceptional situation on the energy markets in the second half of 2022, which was characterized by a sharp increase in volatility. We evaluated these pricing forecasts made on the basis of the budget prepared by the Board of Management and approved by the Supervisory Board, as well as the medium-term plans prepared by the Board of Management and acknowledged by the Supervisory Board. In addition, we assessed the plausibility of the derived pricing assumptions based on our own valuation analyses using market data. The long-term price assumptions are derived using different scenarios, whereby the key parameters are the achievement of certain climate protection targets and the development of prices for gas, coal, oil and CO₂ allowances. These pricing assumptions have a significant influence on the relative profitability of the individual generation capacities in the different scenarios. An economic market model is used to derive the assumptions for electricity prices. We discussed the key assumptions, scenarios and their weighting with those responsible for planning and analyzed them based on external market assessments and a comparison with the assumptions made in the prior year. We also involved our own energy market specialists in the process for evaluating the pricing assumptions. Other influencing factors are the costs for the power plants that depend on their planned remaining service lives and which we evaluated as part of the audit by, among other things, questioning those responsible for planning and making comparisons with the inspection plans. To assess the remaining service lives of the coal power plants applied in the valuation, we tested the approach and interpretation of the executive directors to the phaseout path taking into account the current energy policy conditions and EnBW's strategy for climate neutrality. We investigated the process for determining other key valuation assumptions such as the discount rate and the market price premium

using our own valuation specialists on the basis of an analysis of market indicators. Furthermore, we tested the accuracy of the calculations in the valuation model and the calculation of the reported write-ups.

Our audit procedures did not lead to any reservations concerning the valuation of the cash-generating unit conventional power plants.

Reference to related disclosures

With regard to the recognition and measurement policies applied for the valuation of the cash-generating unit conventional power plants, we refer to the disclosures in the notes to the consolidated financial statements in the section "Significant accounting policies" under "Property, plant and equipment" and in the section "Exercise of judgment and estimates when applying accounting policies" under "Property, plant and equipment," which explain the key judgments made when evaluating the power plants. Please refer to the information in the notes to the consolidated financial statements in note (2) "Other operating income" for explanations of the reported write-ups.

2. Valuation of the individual EnBW offshore wind farms

Reasons why the matter was determined to be a key audit matter

We classified the valuation of the cash-generating units of the individual EnBW offshore wind farms as a key audit matter because the determination of the recoverable amounts is highly dependent on the assessment of future cash flows by the executive directors and in our view poses an increased risk of incorrect accounting with respect, in particular, to the regular adjustment to assumptions for the short, medium and long-term planning forecasts. In order to create these planning forecasts, it is necessary to derive scenarios that describe potential future developments as realistically as possible. The scenarios derived by the executive directors differ primarily regarding the degree of climate protection and the sustainable economic growth that is achievable in the long term. The discretionary assumptions include the projected cash flows, discount rates used and the underlying wind forecasts. In addition, the fewer and fewer operating years with the EEG ["Erneuerbare-Energien-Gesetz": German Renewable Energy Act] funding in the future has an effect on the value of the individual offshore wind farms. In addition, the war between Russia and Ukraine has changed the energy sector framework. The assessments made by the executive directors with respect to the discretionary assumptions have a significant influence on the valuation.

Auditor's response

As part of our audit, we analyzed the evaluation process, the valuation model including the associated parameters and the accounting principles used to determine the recoverable amount for the cash-generating units of the individual EnBW offshore wind farms. The short and medium-term pricing assumptions are derived from liquidity markets, contracts for forward transactions and current market data, taking into account the exceptional situation on the energy markets in the second half of 2022, which was characterized by a sharp increase in volatility. We evaluated these pricing forecasts made on the basis of the budget prepared by the Board of Management and approved by the Supervisory Board, as well as the medium-term plans prepared by the Board of Management and acknowledged by the Supervisory Board. In addition, we assessed the plausibility of the derived pricing assumptions based on our own valuation analyses using market data. The long-term price assumptions are derived using different scenarios, which differ based on the achievement of certain climate protection targets. An economic market model is used to derive the assumptions for electricity prices. We discussed the key assumptions, scenarios and their weighting with those responsible for planning and analyzed them based on external market assessments and a comparison with the assumptions made in the prior year. We also involved our own energy market specialists in the process for evaluating the pricing assumptions. In order to assess the wind forecasts on which the valuations are based, we discussed the main reasons for deviations between the forecasts and the actual wind conditions in the past fiscal year for the individual EnBW offshore wind farms and the findings from wind appraisals obtained with respect to the effects of atmospheric congestion with those responsible for planning and, using our experience in the sector, carried out a comparison using the underlying wind forecasts in the last few years. We investigated the process for determining other key valuation assumptions such as the discount rate and the market price premium using our own valuation specialists on the basis of an analysis of market indicators. Furthermore, we tested the accuracy of the calculations in the valuation model and the calculation of the reported impairment losses.

Our audit procedures did not lead to any reservations concerning the valuation of the cash-generating units of the individual EnBW offshore wind farms.

Reference to related disclosures

For information on the accounting policies and valuation methods used to evaluate the individual EnBW offshore wind farms, please refer to the information in the notes to the consolidated financial statements in the section "Significant accounting policies / Property, plant and equipment" and the section "Exercise of judgment and estimates when applying accounting policies," which explain the key judgments made when evaluating the power plants. Please refer to the information in the notes to the consolidated financial statements in note (6) "Amortization and depreciation" for explanations of the reported impairment losses.

3. Accounting and valuation methods for energy trading transactions

Reasons why the matter was determined to be a key audit matter

The energy trading business unit at EnBW is responsible for central access to the relevant markets along the value added chain for electricity, gas, fuels and emission allowances and sells the electricity generated by the renewable energy and conventional power plants. The product portfolio comprises physical and financial trading products on various stock exchanges and the over-the-counter market for electricity, gas, coal, freight, oil, LNG and CO₂ allowances, as well as structured contracts and gas storage.

We classified the accounting and valuation methods for energy trading transactions as a key audit matter because the complexity of accounting for and valuing certain energy trading transactions as derivatives according to IFRS 9 or as executory contracts according to IAS 37 is subject to uncertainties and a degree of discretionary judgment. The large trading volume and the high volatility on the energy trading markets could lead to an increased risk of incorrect accounting. As a result of the exceptional situation on the energy markets in the second half of 2022, there were also increased demands placed on liquidity management in the area of energy trading.

The contracts concluded by the energy trading business unit are derivative financial instruments, leases or contracts for the purchase or sale of non-financial items (executory contracts). The transactions accounted for as derivative financial instruments are entered into as hedges in some cases to hedge price risks from future sales and procurement transactions. Leases are accounted for according to IFRS 16. Executory contracts must be regularly assessed according to IAS 37 to determine whether they are onerous contracts. The valuation of standard products is based on forward market prices (stock markets, broker platforms), while the valuation of complex contracts is carried out using the Company's own valuation models.

Auditor's response

As part of our audit procedures, we analyzed the energy trading organization at the Company and evaluated the internal control system across all trading and valuation processes. In particular, we assessed the structure and execution of trading transactions, the processes used to evaluate standard trading products and complex derivatives, the issuing and verification of incoming and outgoing invoices and the calculation of invoicing amounts from individual transactions and, where relevant, their netting.

Furthermore, we assessed the organization of the structures and processes as well as the risk management and risk controlling processes including the trading systems used. In the process, we also assessed whether the segregation of functions was observed and evaluated the procedures relating to energy trading transactions, as well as the assessment of these procedures. During the evaluation of the effectiveness of the internal control system in the energy trading business unit, we tested the established control measures.

As part of our audit procedures for derivatives and the requirements placed on liquidity management, we obtained bank confirmations for the clearing accounts and external balance confirmations for over-the-counter transactions as audit evidence for their existence and amount. To assess the foreign currency derivatives that were entered into for the procurement of fuels (especially oil and coal), we reevaluated foreign currency derivatives on a sample basis and assessed the hedging relationship using documentation from the trading business.

To assess the accounting for transactions that are to be settled physically, which do not come under the scope of IFRS 9 in accordance with the own use exemption, we examined the implemented processes and assessed the audit evidence presented to us by those responsible for this accounting. This included, in particular, a contract analysis, the separation of portfolios and an assessment of whether a possible net settlement had been achieved. Furthermore, we tested – both for various accounting portfolios and also for individual, separately managed electricity and gas procurement contracts – the assessments of the accountants to see whether there were any onerous contracts existing on the reporting date for which it was necessary to recognize provisions for potential losses pursuant to IAS 37. We checked whether hedges that are used to hedge energy price risks from future sales and procurement transactions had been properly allocated based on documentation for the hedging relationships consisting of the hedged transaction and the hedging instrument.

In order to assess the measurement of financial instruments according to IFRS 13, we tested the price curves for standard trading products. We checked observable prices used as input parameters for the energy trading valuation model against information available externally (prices from stock markets and broker platforms). We reevaluated standard trading products and products with contract-specific components on a sample basis and evaluated whether the valuation of the transactions recognized meet our expectations. To assess complex energy trading transactions, the energy trading department uses internally developed valuation models. Complex stochastic models are necessary, for example, to assess flexibilities such as swing options and storage capacities. Our internal valuation specialists analyzed these models and also assessed them with respect to their consistency and merchantability. Our evaluation also covered whether all of the contractual components relevant to the valuation were taken into account in the respective valuation model.

Our audit procedures did not lead to any reservations concerning the accounting and valuation methods for energy trading transactions.

Reference to related disclosures

For information on the accounting policies and valuation methods used for energy trading business accounting, we refer to the information in the notes to the consolidated financial statements in the section “Significant accounting policies / Derivatives” and the section “Exercise of judgment and estimates when applying accounting policies,” which explain the key judgments made in accounting for and evaluating derivatives and executory contracts. Information on energy trading and its impact on the consolidated financial statements can be found in the notes to the consolidated financial statements in note [26] “Accounting for financial instruments.”

4. Valuation of the provisions relating to nuclear power

Reasons why the matter was determined to be a key audit matter

We classified the valuation of the provisions relating to nuclear power as a key audit matter because the recognition and the subsequent valuation highly depend on the estimates and assumptions of the executive directors. We therefore believe there is an increased risk of incorrect accounting. In particular, the decommissioning and disposal costs – including rate of increase of costs – that are primarily derived from sector-specific appraisals by external specialists belong to the assumptions subject to judgment. In addition, the calculation of the term-specific discount rates has an underlying significant impact on the valuation. There was also an effect from the temporary term extension for the nuclear power plants

Auditor's response

As part of our audit procedures, we analyzed the process implemented and the recognition and measurement policies applied for the valuation of the provisions relating to nuclear power and obtained an understanding of the processes installed by the executive directors. We also evaluated the underlying significant assumptions for the valuation and the valuation method. We examined the valuation based on external appraisals, which are used to derive significant assumptions. We also assessed the expertise and objectivity of the independent external expert for the cost estimate. We compared the specific costs used in the valuation model for selected decommissioning and disposal activities with the cost estimates of the external experts. We tested the accuracy of the calculations in the valuation models and cost increases, which were taken into account using the external appraisals and the Company's analyses based on their experience with cost increases in prior fiscal years. In addition, we verified the derivation of the interest rates for the respective terms using market data.

Our audit procedures did not lead to any reservations concerning the valuation of the provisions for nuclear power.

Reference to related disclosures

With regard to the recognition and measurement policies applied for the valuation of the provisions relating to nuclear power, we refer to the disclosures in the notes to the consolidated financial statements in the section "Significant accounting policies / Provisions relating to nuclear power." Information on the development of provisions, on significant valuation assumptions and valuation parameters and their sensitivities can be found in the section "Exercise of judgment and estimates when applying accounting policies" and under note (21) "Provisions."

Emphasis of matter – Immanent risk due to uncertainties with respect to whether the Company's interpretation of the EU Taxonomy Regulation complies with the law

We draw attention to the information provided by the executive directors in the section "EU taxonomy" of the group management report, which has been combined with the management report of EnBW Energie Baden-Württemberg AG. This section indicates that the EU Taxonomy Regulation and the associated delegated acts contain formulations and terms that are still subject to significant uncertainties in their interpretation and for which clarifications have in some cases not yet been published. The executive directors describe how they have interpreted the requirements in the EU Taxonomy Regulation and the associated delegated acts. Due to the immanent risk that undefined legal terms may be interpreted differently, the legal conformity of the interpretation is subject to uncertainties. Our opinion on the group management report, which has been combined with the management report of EnBW Energie Baden-Württemberg AG, is not modified in this respect.

Other information

The Supervisory Board is responsible for the Report of the Supervisory Board. The executive directors and the Supervisory Board are responsible for the declaration of compliance with the German Corporate Governance Code pursuant to Sec. 161 AktG ["Aktiengesetz": German Stock Corporation Act], which is part of the declaration of corporate management, and for the remuneration report pursuant to Sec. 162 AktG. In all other respects, the executive directors are responsible for the other information. The other information comprises the parts of the Annual Report mentioned in the appendix.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

Responsibilities of the executive directors and the Supervisory Board for the consolidated financial statements and the group management report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB, and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets liabilities, financial position, and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than the risk of not detecting a material misstatement resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other legal and regulatory requirements

Report on the assurance on the electronic rendering of the consolidated financial statements and the group management report prepared for publication purposes in accordance with Sec. 317 (3a) HGB

Opinion

We have performed assurance work in accordance with Sec. 317 (3a) HGB to obtain reasonable assurance about whether the rendering of the consolidated financial statements and the group management report (hereinafter the "ESEF documents") contained in ENBW_AG_KAuKLB_ESEF-2022-12-31.zip and prepared for publication purposes complies in all material respects with the requirements of Sec. 328 (1) HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained within these renderings nor to any other information contained in the file identified above.

In our opinion, the rendering of the consolidated financial statements and the group management report contained in the file identified above and prepared for publication purposes complies in all material respects with the requirements of Sec. 328 (1) HGB for the electronic reporting format. Beyond this assurance opinion and our audit opinions on the accompanying consolidated financial statements and the accompanying group management report for the fiscal year from 1 January to 31 December 2022 contained in the "Report on the audit of the consolidated financial statements and of the group management report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the file identified above.

Basis for the opinion

We conducted our assurance work on the rendering of the consolidated financial statements and the group management report contained in the file identified above in accordance with Sec. 317 (3a) HGB and the IDW Assurance Standard: Assurance on the Electronic Rendering of Financial Statements and Management Reports Prepared for Publication Purposes in Accordance with Sec. 317 (3a) HGB (IDW AsS 410) (06.2022). Our responsibility in accordance therewith is further described in the "Group auditor's responsibilities for the assurance work on the ESEF documents" section. Our audit firm applies the IDW Standard on Quality Management 1: Requirements for Quality Management in the Audit Firm (IDW QS 1).

Responsibilities of the executive directors and the Supervisory Board for the ESEF documents

The executive directors of the Company are responsible for the preparation of the ESEF documents including the electronic rendering of the consolidated financial statements and the group management report in accordance with Sec. 328 (1) Sentence 4 No. 1 HGB and for the tagging of the consolidated financial statements in accordance with Sec. 328 (1) Sentence 4 No. 2 HGB.

In addition, the executive directors of the Company are responsible for such internal control as they have determined necessary to enable the preparation of ESEF documents that are free from material intentional or unintentional non-compliance with the requirements of Sec. 328 (1) HGB for the electronic reporting format.

The Supervisory Board is responsible for overseeing the process for preparing the ESEF documents as part of the financial reporting process.

Group auditor's responsibilities for the assurance work on the ESEF documents

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material intentional or unintentional non-compliance with the requirements of Sec. 328 (1) HGB. We exercise professional judgment and maintain professional skepticism throughout the assurance work. We also:

- Identify and assess the risks of material intentional or unintentional non-compliance with the requirements of Sec. 328 (1) HGB, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF documents, i.e., whether the file containing the ESEF documents meets the requirements of Commission Delegated Regulation (EU) 2019/815, in the version in force at the date of the financial statements, on the technical specification for this file.
- Evaluate whether the ESEF documents enable an XHTML rendering with content equivalent to the audited consolidated financial statements and to the audited group management report.
- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) in accordance with the requirements of Articles 4 and 6 of Commission Delegated Regulation (EU) 2019/815, in the version in force at the date of the financial statements, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

Further information pursuant to Art. 10 of the EU Audit Regulation

We were elected as group auditor by the Annual General Meeting on 5 May 2022. We were engaged by the Supervisory Board on 12 December 2022. We have been the group auditor of EnBW Energie Baden-Württemberg AG without interruption since fiscal year 2019.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Art. 11 of the EU Audit Regulation (long-form audit report).

Other matter – Use of the auditor's report

Our auditor's report must always be read together with the audited consolidated financial statements and the audited group management report as well as the assured ESEF documents. The consolidated financial statements and the group management report converted to the ESEF format – including the versions to be published in the Unternehmensregister [German Company Register] – are merely electronic renderings of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the ESEF report and our assurance opinion contained therein are to be used solely together with the assured ESEF documents made available in electronic form.

German Public Auditor responsible for the engagement

The German Public Auditor responsible for the engagement is Prof. Dr. Steffen Kuhn.

Stuttgart, 13 March 2023

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Prof. Dr. Wollmert
Public Auditor

Prof. Dr. Kuhn
Public Auditor

Appendix to the auditor's report:

1. Parts of the group management report whose content is not audited

We did not audit the content of the following parts of the group management report that are considered "other information":

- The group declaration of corporate management made available on the website of the Group stated in the group management report.
- The declaration of the legal representatives according to Sec. 297 (2) Sentence 4 HGB contained in the group management report.
- The chapter "Appropriateness and effectiveness of the risk management system and the internal control system (iRM)" in the report on opportunities and risks of the group management report.

2. Additional other information

In addition, "Other information" includes other sections intended for the Annual Report, a version of which we received before issuing this auditor's report, especially the sections:

- "Performance indicators of the EnBW Group"
- "EnBW at a glance"
- „Service“
- „Interview“
- "Report of the Supervisory Board (condensed)"
- "The Board of Management"
- "The future in our hands"
- "Declaration of corporate management"
- "The Supervisory Board"
- "Offices held by members of the Board of Management"
- "Other offices held by members of the Supervisory Board"
- "Multi-year overview"

but not the consolidated financial statements, not the group management report disclosures whose content is audited and not our auditor's report thereon.

3. Company information outside the Annual Report referenced in the group management report

Besides the cross-reference under "1. Parts of the group management report whose content is not audited," the group management report contains other cross-references to websites of the Group. The information available via the latter cross-references is not part of the Annual Report."

Corporate bodies

- 297** **The Supervisory Board**
- 300** **Offices held by members of the Board of Management**
- 301** **Other offices held by members of the Supervisory Board**

The Supervisory Board

Members

Status

- Active member
- Inactive member

As of 13 March 2023

Further information on our **Supervisory Board** can be found here.

[Online ↗](#)

- **Lutz Feldmann, Bochum**
Independent business consultant
Chairman of the Supervisory Board
- **Achim Binder, Stuttgart**
Since 11 July 2022 Chairman of the Group works council for the EnBW Group and Chairman of the central works council “grids sector” of EnBW Energie Baden-Württemberg AG and Chairman of the regional service works council of Netze BW GmbH, Stuttgart
Deputy Chairman of the Supervisory Board
- **Dr. Danyal Bayaz, Stuttgart**
Minister for Finance of the Federal State of Baden-Württemberg
- **Dr. Dietrich Birk, Göppingen**
Managing Director of the Regional Association for Baden-Württemberg at the Verband Deutscher Maschinen- und Anlagenbau e.V. Baden-Württemberg (VDMA)
- **Stefanie Bürkle, Sigmaringen**
District Administrator of the Sigmaringen district
- **Stefan Paul Hamm, Gerlingen**
Since 1 January 2022 Deputy Regional Head of Department A for Financial Services, Communication and Technology, Culture, Utilities and Waste Management, ver.di State district Baden-Württemberg
- **Michaela Kräutter, Stutensee**
Union Secretary for Financial Services, Communication and Technology, Culture, Utilities and Waste Management and State Union Secretary for Employees, ver.di Central Baden/North Black Forest district
- **Christina Ledong, Leipzig**
Second Deputy Chairwoman of the Group works council for the EnBW Group, Chairwoman of the Group works council for VNG AG and Chairwoman of the joint works council for VNG AG, ONTRAS Gastransport GmbH, VNG Gasspeicher GmbH and VNG Handel & Vertrieb GmbH (member of the Supervisory Board since 8 February 2023)
- **Klarissa Lerp, Düsseldorf**
member of the Group works council for the EnBW Group, Chairwoman of the works council and First Deputy Chairwoman of the Supervisory Board at Stadtwerke Düsseldorf AG and member of the Supervisory Board of Netzgesellschaft Düsseldorf mbH (member of the Supervisory Board since 8 November 2022)
- **Dr. Hubert Lienhard, Heidenheim an der Brenz**
Supervisory Board member for various German companies
- **Bernad Lukacin, Karlsdorf-Neuthard**
Spokesperson for specialized tasks in the “market sector” of EnBW Energie Baden-Württemberg AG
member of the Group works council for the EnBW Group, Chairman of the central works council for the “market sector” and Chairman of the Karlsruhe works council for the “market sector” of EnBW Energie Baden-Württemberg AG (member of the Supervisory Board since 8 February 2023)
- **Marika Lulay, Heppenheim**
Chairwoman of the Managing Directors (CEO) and member of the Board of Directors at GFT Technologies SE, Stuttgart
- **Dr. Wolf-Rüdiger Michel, Rottweil**
District Administrator of the Rottweil district
- **Thorsten Pfirmann, Neuburg am Rhein**
Full-time works council representative in the “generation sector” of EnBW Energie Baden-Württemberg AG (member of the Supervisory Board since 8 February 2023)
- **Gunda Röstel, Flöha**
Commercial Director of Stadtentwässerung Dresden GmbH and Authorized Officer of Gelsenwasser AG
- **Joachim Rudolf, Plochingen**
Industrial mechanic in the “generation sector” of EnBW Energie Baden-Württemberg AG
Full-time chairman of the works council (member of the Supervisory Board since 8 February 2023)

Status

- Active member
- Inactive member

As of 13 March 2023

Further information on our **Supervisory Board** can be found here.

[Online ↗](#)

- **Harald Sievers, Ravensburg**
District Administrator of the Ravensburg district
- **Ulrike Weindel, Karlsruhe**
Member of the Group works council for the EnBW Group as well as Chairwoman of the central works council for the “functional units” and Chairwoman of the Karlsruhe works council for the “functional units” of EnBW Energie Baden-Württemberg AG, Karlsruhe
- **Lothar Wölfle, Friedrichshafen**
District Administrator of the Lake Constance district
- **Dr. Bernd-Michael Zinow, Karlsruhe**
Head of the functional unit Legal Services, Auditing, Compliance and Regulation (General Counsel) at EnBW Energie Baden-Württemberg AG, Karlsruhe
- **Dietrich Herd, Philippsburg**
Since 9 May 2022 Senior Manager
Until 8 May 2022 Chairman of the Group works council for the EnBW Group as well as Chairman of the central works council for the “generation sector” and Chairman of the Philippsburg nuclear power plant works council for the “generation sector” of EnBW Energie Baden-Württemberg AG, Karlsruhe
Deputy Chairman of the Supervisory Board (member of the Supervisory Board until 8 February 2023)
- **Thomas Landsbek, Wangen im Allgäu**
Since 1 November 2022 Senior Manager
EnBW mobility+ AG & Co. KG, Karlsruhe
Since 1 January 2023 Managing Director of SMATRICS EnBW GmbH, Vienna
Until 2 June 2022 member of the Group works council for the EnBW Group as well as Chairman of the central works council for the “market sector” and until 31 October 2022 Chairman of the Stuttgart works council for the “market sector” of EnBW Energie Baden-Württemberg AG, Karlsruhe
(member of the Supervisory Board until 8 February 2023)
- **Dr. Nadine Müller, Berlin**
Head of the Department for Innovation and Good Work at ver.di Central Administration, Berlin
(member of the Supervisory Board until 8 February 2023)
- **Jürgen Schäfer, Bissingen**
Member of the works council of TransnetBW GmbH
(member of the Supervisory Board until 8 February 2023)
- **Jürgen Umlauf, Düsseldorf**
Until 28 July 2022 member of the Supervisory Board at Stadtwerke Düsseldorf AG and until 17 August 2022 at Netzgesellschaft Düsseldorf mbH
Until 8 April 2022 member of the Group works council for the EnBW Group and Chairman of the works council of Stadtwerke Düsseldorf AG
(member of the Supervisory Board until 7 November 2022)

Status

- Active member
- Inactive member

As of 13 March 2023

Further information on our **Supervisory Board** can be found here.

[Online ↗](#)

Committees

Personnel committee

- **Lutz Feldmann**
Chairman
- **Dr. Danyal Bayaz**
- **Achim Binder**
- **Stefan Paul Hamm**
- **Joachim Rudolf**
(since 15 February 2023)
- **Lothar Wölfle**
- **Dietrich Herd**
(until 8 February 2023)

Audit committee

- **Gunda Röstel**
Chairwoman
- **Stefanie Bürkle**
- **Michaela Krütter**
- **Dr. Hubert Lienhard**
- **Bernad Lukacin**
(since 15 February 2023)
- **Dr. Wolf-Rüdiger Michel**
- **Thorsten Pfirrmann**
(since 15 February 2023)
- **Ulrike Weindel**
- **Thomas Landsbek**
(until 8 February 2023)
- **Jürgen Schäfer**
(until 8 February 2023)

Ad hoc committee (since 7 June 2010)

- **Dr. Bernd-Michael Zinow**
Chairman
- **Achim Binder**
(since 15 February 2023)
- **Gunda Röstel**
- **Harald Sievers**
- **Dietrich Herd**
(until 8 February 2023)

Finance and investment committee

- **Lutz Feldmann**
Chairman
- **Dr. Danyal Bayaz**
- **Achim Binder**
- **Dr. Dietrich Birk**
- **Stefan Paul Hamm**
- **Joachim Rudolf**
(since 15 February 2023)
- **Lothar Wölfle**
- **Dr. Bernd-Michael Zinow**
- **Dietrich Herd**
(until 8 February 2023)

Digitalization committee (since 1 January 2019)

- **Dr. Hubert Lienhard**
Chairman
- **Christina Ledong**
(since 15 February 2023)
- **Bernad Lukacin**
(since 15 February 2023)
- **Marika Lulay**
- **Harald Sievers**
- **Ulrike Weindel**
- **Dr. Nadine Müller**
(until 8 February 2023)
- **Jürgen Schäfer**
(until 8 February 2023)

Special committee (since 29 September 2022)

- **Lutz Feldmann**
Chairman
- **Dr. Danyal Bayaz**
- **Achim Binder**
- **Stefan Paul Hamm**
- **Gunda Röstel**
- **Joachim Rudolf**
(since 15 February 2023)
- **Lothar Wölfle**
- **Dr. Bernd-Michael Zinow**
- **Dietrich Herd**
(until 8 February 2023)

Nomination committee

- **Lutz Feldmann**
Chairman
- **Dr. Danyal Bayaz**
- **Dr. Dietrich Birk**
- **Dr. Wolf-Rüdiger Michel**
- **Gunda Röstel**
- **Lothar Wölfle**

Mediation committee (committee pursuant to section 27 (3) German Co-determination Act (MitbestG))

- **Lutz Feldmann**
Chairman
- **Dr. Danyal Bayaz**
- **Achim Binder**
(since 15 February 2023)
- **Klarissa Lerp**
(since 8 December 2022)
- **Jürgen Umlauf**
(until 7 November 2022)
- **Dietrich Herd**
(until 8 February 2023)

Offices held by members of the Board of Management

Status

- Active member
- Inactive member

Disclosures of office holders pursuant to section 285 no. 10 German Commercial Code (HGB)

- Membership in other statutory supervisory boards
- Membership in comparable domestic and foreign control bodies of business enterprises

As of 13 March 2023

Further information on our **Board of Management** can be found here.

[Online ↗](#)

- **Andreas Schell**
(since 15 November 2022)
- **Dirk Güsewell**
 - Netze BW GmbH (Chairman)
 - terranets bw GmbH (Chairman)
 - TransnetBW GmbH (Chairman)
 - VNG AG (Chairman)
(since 30 June 2022)
- **Thomas Kusterer**
 - Energiedienst AG (Chairman)
 - VNG AG (Chairman)
(until 30 June 2022)
 - SICK AG (since 19 May 2022)
 - Energiedienst Holding AG
(President of the Administrative Board)
- **Colette Rückert-Hennen**
 - Stadtwerke Düsseldorf AG (Chairwoman)
(since 29 July 2022)
 - Pražská energetika a.s.
(Deputy Chairwoman)
- **Dr. Georg Stamatelopoulos**
 - EnBW Kernkraft GmbH (Chairman)
 - Illwerke vkw AG
 - Schluchseewerk AG (Chairman)
 - Großkraftwerk Mannheim AG
- **Dr. Frank Mastiaux**
(until 30 September 2022)
 - Alstom S. A.

Other offices held by members of the Supervisory Board

Status

- Active member
- Inactive member

Disclosures of office holders pursuant to section 285 no. 10 German Commercial Code (HGB)

- Membership in other statutory supervisory boards
- Membership in comparable domestic and foreign control bodies of business enterprises

As of 13 March 2023

Further information on our **Supervisory Board** can be found here.

[Online ↗](#)

- **Lutz Feldmann**
 - Villa Claudius gGmbH (Chairman)
 - Thyssen'sche Handelsgesellschaft mbH (Chairman)
- **Achim Binder**
 - Netze BW GmbH (Deputy Chairman)
- **Dr. Danyal Bayaz**
 - Baden-Württemberg Stiftung gGmbH
 - Landesbank Baden-Württemberg, Anstalt des öffentlichen Rechts (Deputy Chairman)
 - Landeskreditbank Baden-Württemberg, Förderbank, Anstalt des öffentlichen Rechts (Chairman of the Administrative Board)
 - Kreditanstalt für Wiederaufbau, Anstalt des öffentlichen Rechts (until 31 December 2022)
 - Cyber Valley GmbH (Deputy Chairman) (since 15 November 2022)
- **Dr. Dietrich Birk**
 - Netze BW GmbH
 - SRH Holding (SdbR)
 - Green Hydrogen Technology GmbH (since 1 April 2022)
- **Stefanie Bürkle**
 - SWEG Südwestdeutsche Landesverkehrs-GmbH
 - Hohenzollerische Landesbank Kreissparkasse Sigmaringen, Anstalt des öffentlichen Rechts (Chairwoman of the Administrative Board)
 - Flugplatz Mengen-Hohentengen GmbH (Chairwoman)
 - SRH Kliniken Landkreis Sigmaringen GmbH (Chairwoman)
 - Sparkassenverband Baden-Württemberg, Anstalt des öffentlichen Rechts
 - Verkehrsverbund Neckar-Alb-Donau GmbH (naldo) (Chairwoman)
 - Wirtschaftsförderungs- und Standortmarketinggesellschaft Landkreis Sigmaringen mbH (Chairwoman)
 - Zweckverband Oberschwäbische Elektrizitätswerke (Deputy Chairwoman)
 - Zweckverband Thermische Abfallverwertung Donautal (TAD) (Deputy Chairwoman)
- **Stefan Paul Hamm**
 - Netze BW GmbH
- **Michaela Kräuter**
 - EnBW Kernkraft GmbH
 - Netze BW GmbH
- **Christina Ledong**
 - VNG AG (since 14 February 2012) (since 13 July 2018 Second Deputy Chairwoman)
- **Klarissa Lerp**
 - Stadtwerke Düsseldorf AG (Deputy Chairwoman) (since 29 July 2022)
 - Netzgesellschaft Düsseldorf mbH (since 12 July 2018) (since 17 August 2022 Deputy Chairwoman)
 - RheinWerke GmbH (since 18 July 2022) (until 30 November 2022)
- **Dr. Hubert Lienhard**
 - Heraeus Holding GmbH
 - Siemens Energy AG
 - SMS group GmbH
 - TransnetBW GmbH
 - Voith GmbH & Co. KGaA (until 1 March 2022)
 - Voith Management GmbH (until 9 December 2022)
 - KAEFER SE & Co. KG (since 1 May 2022)
 - Heitkamp & Thumann KG
 - Siemens Gas and Power Management GmbH
- **Bernad Lukacin**
- **Marika Lulay**
 - Wüstenrot & Württembergische AG (until 10 August 2022)
 - GFT Technologies SE
 - Aareal Bank AG (since 31 August 2022)
- **Dr. Wolf-Rüdiger Michel**
 - Kreisbaugenossenschaft Rottweil eG (Chairman)
 - SV Sparkassenversicherung Holding AG
 - Komm.ONE, Anstalt des öffentlichen Rechts (formerly ITEOS)
 - Kreissparkasse Rottweil, Anstalt des öffentlichen Rechts (Chairman)

Status

- Active member
- Inactive member

Disclosures of office holders pursuant to section 285 no. 10 German Commercial Code (HGB)

- Membership in other statutory supervisory boards
- Membership in comparable domestic and foreign control bodies of business enterprises

As of 13 March 2023

Further information on our **Supervisory Board** can be found here.

[Online ↗](#)

- Schwarzwald Tourismus GmbH
 - SMF Schwarzwald Musikfestival GmbH
 - Sparkassen-Beteiligungen Baden-Württemberg GmbH
 - Sparkassenverband Baden-Württemberg, Körperschaft des öffentlichen Rechts
 - Wirtschaftsförderungsgesellschaft Schwarzwald-Baar-Heuberg mbH
 - Zweckverband Bauernmuseum Horb/Sulz
 - Zweckverband Oberschwäbische Elektrizitätswerke (Deputy Chairman)
 - Zweckverband Verkehrsverbund Schwarzwald-Baar-Heuberg (since 1 January 2023) (Deputy Chairman)
 - Zweckverband RBB Restmüllheizkraftwerk Böblingen (Deputy Chairman)
 - ZTN-Süd Warthausen
- **Thorsten Pfirmann**
 - **Gunda Röstel**
 - Universitätsklinikum Carl Gustav Carus Dresden an der Technischen Universität Dresden, Anstalt des öffentlichen Rechts (Deputy Chairwoman)
 - VNG AG
 - Netze BW GmbH
 - Hochschulrat der Technischen Universität Dresden, Körperschaft des öffentlichen Rechts (Chairwoman)
 - Stadtwerke Burg GmbH
 - **Joachim Rudolf**
 - **Harald Sievers**
 - Oberschwabenklinik gGmbH (Chairman)
 - Gesellschaft für Wirtschafts- und Innovationsförderung Landkreis Ravensburg mbH (WiR) (Chairman)
 - Ravensburger Entsorgungsanlagen-gesellschaft mbH (REAG) (Chairman)
 - Bodensee-Oberschwaben Verkehrsverbund GmbH (Chairman)
 - Kreissparkasse Ravensburg (Chairman of the Administrative Board)
 - Landesbausparkasse Südwest, Anstalt des öffentlichen Rechts
 - Zweckverband Oberschwäbische Elektrizitätswerke
 - **Ulrike Weindel**
 - **Lothar Wölflé**
 - Abfallwirtschaftsgesellschaft der Landkreise Bodenseekreis und Konstanz (Deputy Chairman)
 - Bodensee-Oberschwaben Verkehrsverbund GmbH (Deputy Chairman)
 - Bodensee-Oberschwaben-Bahn Verkehrsgesellschaft mbH (Chairman)
 - Sparkasse Bodensee (Chairman)
 - Zweckverband Oberschwäbische Elektrizitätswerke (Chairman)
 - Zweckverband Breitband Bodensee (Deputy Chairman)
 - Wirtschaftsförderungsgesellschaft Bodenseekreis GmbH (Chairman)
 - Regionales Innovations- und Technologietransfer Zentrum GmbH (RITZ) (Chairman)
 - **Dr. Bernd-Michael Zinow**
 - TransnetBW GmbH
 - VNG AG
 - TransnetBW SuedLink GmbH & Co. KG
 - **Dietrich Herd**
 - EnBW Kernkraft GmbH
 - **Thomas Landsbek**
 - BürgerEnergiegenossenschaft Region Wangen im Allgäu eG
 - EnBW mobility+ AG & Co. KG (until 30 November 2022)
 - **Dr. Nadine Müller**
 - **Jürgen Schäfer**
 - **Jürgen Umlauf**
 - Stadtwerke Düsseldorf AG (Deputy Chairman) (until 28 July 2022)
 - Netzgesellschaft Düsseldorf mbH (until 17 August 2022)
 - RheinWerke GmbH (until 17 July 2022)

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Multi-year overview

Financial and strategic performance indicators

EnBW Group		2022	2021	2020	2019	2018
Earnings						
External revenue	in € million	56,003	32,148	19,694	19,436	20,815
TOP Adjusted EBITDA	in € million	3,286	2,959	2,781	2,433	2,158
EBITDA	in € million	4,473	2,804	2,663	2,245	2,090
Adjusted EBIT	in € million	1,671	1,403	1,392	945	958
EBIT	in € million	2,141	159	1,103	597	876
Adjusted Group net profit ¹	in € million	973	1,203	683	787	438
Group net profit ¹	in € million	1,738	363	596	734	334
EnBW share price as of 31/12	in €	87.00	76.00	56.00	50.50	29.20
Earnings per share from Group net profit ¹	in €	6.42	1.34	2.20	2.71	1.23
Dividend per share / dividend payout ratio ^{2,3}	in €/in %	1.10/31	1.10/36	1.00/40	0.70/40	0.65/40
Balance sheet						
Non-current assets	in € million	33,618	31,544	30,644	29,321	24,643
Total assets	in € million	69,504	71,273	45,965	43,288	39,609
Equity	in € million	12,769	8,499	7,769	7,445	6,273
Equity ratio	in %	18.4	11.9	16.9	17.2	15.8
Net debt ^{4,6}	in € million	10,847	10,351	14,407	12,852	9,587
Net financial debt ^{4,6}	in € million	7,214	4,466	7,232	6,022	3,738
Cash flow						
Retained cash flow	in € million	2,535	1,784	1,639	1,241	999
TOP Debt repayment potential in % ^{4,5,6}	in %	23.4	17.2	11.4	-	-
Internal financing capability ⁵	in %	-	-	102.8	90.0	92.2
Net cash investment	in € million	2,768	2,471	1,827	2,481	1,300
Profitability						
TOP Value spread ⁷	in %	1.1	2.0	-	-	-
Return on capital employed (ROCE) ^{6,7}	in %	7.9	6.9	6.3	5.2	6.5
Weighted average cost of capital before tax	in %	6.8	4.9	5.2	5.2	6.3
Average capital employed ⁶	in € million	22,691	22,250	23,026	19,315	16,053
Sales						
Electricity	in billion kWh	106	108	107	153	137
Gas	in billion kWh	509	495	442	362	329
Smart Infrastructure for Customers						
TOP Adjusted EBITDA ⁶	in € million	510	344	335	326	268
External revenue ⁶	in € million	18,773	13,924	9,965	9,350	7,348
System Critical Infrastructure						
TOP Adjusted EBITDA ⁶	in € million	1,046	1,263	1,347	1,355	1,177
External revenue ⁶	in € million	6,679	4,413	3,657	3,460	3,215
Sustainable Generation Infrastructure						
TOP Adjusted EBITDA ⁶	in € million	1,935	1,540	1,278	925	729
External revenue ⁶	in € million	30,543	13,804	6,064	6,623	10,246

¹ In relation to the profit/loss attributable to the shareholders of EnBW AG.

² For 2022, subject to approval from the ordinary Annual General Meeting on 03/05/2023.

³ Adjusted for the valuation effects of IFRS 9 in 2021 and 2019.

⁴ For the calculation of the net debt and debt repayment potential, please refer to the section "The EnBW Group" of the management report.

⁵ The debt repayment potential replaced the internal financing capacity as a key performance indicator in 2021.

⁶ The figures for the 2021 financial year have been restated.

⁷ The value spread replaces the return on capital employed (ROCE) as a key performance indicator in 2022.

Non-financial performance indicators

		2022	2021	2020	2019	2018
Customers and society goal dimension						
TOP Reputation Index		58	55	56	53	51
TOP EnBW/Yello Customer Satisfaction Index		139/166	127/159	132/159	116/157	120/152
TOP SAIDI electricity in min./year		16.6	15.8	15.3	14.5	16.8
SAIDI gas in min./year ¹		< 1	< 1	< 1	-	-
Environment goal dimension						
TOP Installed output of renewable energies (RE) in GW and the share of the generation capacity accounted for by RE	in GW/in %	5.4/41.7	5.1/40.1	4.9/39.0	4.4/31.8	3.7/27.9
TOP CO ₂ intensity excluding nuclear generation ^{2,3,6}	in g/kWh	491	478	342	406	548
CO ₂ intensity including nuclear generation ^{4,6}	in g/kWh	401	386	268	235	340
Own electricity generation ^{5,6}	in GWh	42,084	42,399	35,149	47,807	53,492
Total final energy consumption ^{3,7}	in GWh	1,072	1,019	1,057	975	1,084
Proportion of RE in final energy consumption ^{3,8}	in %	20.2	20.2	15.8	13.7	12.5
Direct CO ₂ emissions (Scope 1) ³	in million t CO ₂ eq	17.5	16.4	9.5	10.8	16.6
Indirect CO ₂ emissions (Scope 2) ⁹	in million t CO ₂ eq	0.5	0.4	0.8	0.9	1.0
Upstream indirect CO ₂ emissions (Scope 3)	in million t CO ₂ eq	5.9	8.9	7.2	6.0	3.3
Downstream indirect CO ₂ emissions (Scope 3)	in million t CO ₂ eq	31.8	52.0	42.6	36.0	13.6
CO ₂ emissions avoided ¹⁰	in million t CO ₂ eq	10.0	9.8	8.9	7.9	6.9
SO ₂ intensity of own electricity generation ^{2,3,6}	in mg/kWh	259	233	226	181	295
NO _x intensity of own electricity generation ^{2,3,6}	in mg/kWh	286	269	253	231	337
Carbon monoxide (CO) intensity of own electricity generation ^{2,3,11}	in mg/kWh	22.2	27.5	21.1	-	-
Particulate matter (total) intensity of own electricity generation ^{2,3,11}	in mg/kWh	5.7	5.1	4.1	-	-
Extracted water ¹²	in million m ³	1,131	1,076	972	1,661	1,999
Water consumption ^{3,13}	in million m ³	37	35	34	40	54
Total waste ³	in t	656,642	671,629	653,273	691,115	649,062
Hazardous waste ³	in t	65,424	69,505	69,539	60,429	64,154
Non-hazardous waste ³	in t	519,218	602,124	583,734	630,686	584,909
Recycling rate ³	in %	96	96	94	96	96
Radioactive waste	in g/kWh	0.0006	0.0006	0.0008	0.0012	0.0010
Coverage ISO 14001 or EMAS ¹⁴	in %	78.2	73.3	74.8	75.5	76.9
Coverage ISO 50001 ¹⁴	in %	47.8	43.5	47.8	47.2	46.5

1 The performance indicator was reported for the first time in 2021. There are no values available for the comparative periods 2018 to 2019.

2 The calculation for this performance indicator does not include nuclear generation and the share of positive redispatch that cannot be controlled by EnBW.

3 The figures for the previous year have been restated.

4 Including nuclear generation and the share of positive redispatch that cannot be controlled by EnBW. The performance indicator will be reported until nuclear energy is finally phased out in 2022.

5 The generation volumes are reported without the controllable volumes for redispatch deployment since 2020.

6 Includes long-term procurement agreements and partly owned power plants.

7 Includes final energy consumption of production including pump energy, energy consumption of grid facilities (electricity, gas and water) excluding grid losses, energy consumption of buildings and vehicles.

8 For electricity consumption for which the proportion of renewable energies is unknown, the Bundesmix (federal mix) label for electricity of the respective reporting year is assumed. For fuels, a proportion of 5% bioethanol is generally assumed.

9 Market-based method. According to the location-based method, the Scope 2 emissions were 759 thousand t CO₂eq in 2021 and 921 thousand t CO₂eq in 2022.

10 Through the expansion of renewable energies, energy efficiency projects at the sites of customers/partners and the generation and sale of biogas.

11 Variations in the group of consolidated companies (excluding GKM, Fernwärme Ulm and contracting plants). The performance indicator was reported for the first time in 2020. There are no values available for the comparative periods 2018 to 2019.

12 Total extracted water from surface/river water, well/ground water and drinking water. Does not include water for the drinking water supply.

13 Includes evaporation and wastewater.

14 Measured in % of employees.

Non-financial performance indicators

		2022	2021	2020	2019	2018
Employees goal dimension						
TOP People Engagement Index (PEI) ¹		81	82	83	–	–
TOP LTIF for companies controlled by the Group ^{2,3} / LTIF overall ³		2.6/4.1	2.3/3.3	2.1/3.6	2.1/3.8	2.3/3.6
Number of employees as of 31/12		26,980	26,064	24,655	23,293	21,775
Number of full-time equivalents ⁴		25,339	24,519	23,078	21,843	20,379
Number of employees in Germany	in %	89.8	90.0	89.9	89.7	90.1
Number of employees abroad	in %	10.2	10.0	10.1	10.3	9.9
Employees covered by collective bargaining agreement	in %	83.9	85.3	87.6	88.6	90.8
Number of deaths after work accidents		1	2	0	1	1
Sickness ratio	in %	5.3	4.1	4.3	4.9	5.1
Proportion of women in the overall workforce	in %	27.8	27.7	27.0	26.8	26.4
Proportion of women in management positions	in %	19.5	18.1	17.2	17.4	15.3
Employee turnover ratio ⁵	in %	7.9	6.2	5.9	6.3	6.5
Time spent on further training and education per employee	in days	6.7	7.3	6.8	5.3	5.6

1 Variations in the group of consolidated companies (all companies with more than 100 employees are considered [except ITOs]). Companies that were fully consolidated for the first time in the fourth quarter of 2022 were not included in the employee surveys for the PEI. The performance indicator was reported for the first time in 2020. No figures are available for the comparative periods 2018 to 2019.

2 Companies that were fully consolidated for the first time during the 2022 financial year were not included in the calculations for the LTIF performance indicators. Excluding companies in the area of waste management.

3 LTIF indicates how many LTI occurred per one million working hours performed. Variations in the group of consolidated companies (all companies with more than 100 employees are generally considered, excluding agency workers and contractors).

4 Converted into full-time equivalents.

5 There are no mass redundancies included in the stated figures. There have been no compulsory redundancies at EnBW during this period.

Important notes

Publication in the German Federal Gazette

The complete consolidated financial statements prepared by EnBW Energie Baden-Württemberg AG and audited by Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft and the management report, which is combined with the Group management report, will be published in the German Federal Gazette (“Bundesanzeiger”) together with the unqualified audit opinion. The necessary documents will be submitted to the German Federal Gazette (“Bundesanzeiger”) by 30 April 2023 at the latest.

No offer or investment recommendation

This report has been prepared for information purposes only. It does not constitute an offer, an invitation or a recommendation to purchase or sell securities issued by EnBW Energie Baden-Württemberg AG (EnBW), a company of the EnBW Group or any other company. This report also does not constitute a request, invitation or recommendation to vote or give consent. All descriptions, examples and calculations are included in this report for illustrative purposes only.

Forward-looking statements

This report contains forward-looking statements that are based on current assumptions, plans, estimates and forecasts made by the management of EnBW. Forward-looking statements of this kind are therefore only valid at the time they were first published. Forward-looking statements are indicated by the context, but may also be identified by the use of the words “can,” “will,” “should,” “plans,” “intends,” “expects,” “thinks,” “estimates,” “forecasts,” “potential,” “continued” and similar expressions.

By nature, forward-looking statements are subject to risks and uncertainties that cannot be controlled or accurately predicted by EnBW. Actual events, future results, the financial position, development or performance of EnBW and the companies of the EnBW Group may thus diverge considerably from the forward-looking statements made in this report. Therefore, it cannot be guaranteed nor can any liability otherwise be assumed that these forward-looking statements will prove complete, correct or precise, or that expected and forecast results will actually occur in the future.

No obligation to update the information

EnBW assumes no obligation of any kind to update the information contained in this report or to adjust or otherwise update forward-looking statements to future events or developments. This Annual Report can be downloaded from the Internet in German or English. In cases of doubt, the German version shall be authoritative.

Financial calendar 2023



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