

Combined management report

of the EnBW Group and EnBW AG

Fundamentals of the Group

31 Business model

- 31 Business principles
- 32 Assessment of the robustness of our business model against the background of climate change
- 33 Value added
- 36 Our operating segments
- 37 Group structure and business radius

40 Strategy, goals and performance management system

- 40 Strategy
- 44 Goals and performance management system

49 Corporate governance

- 49 Corporate management
- 49 Management and supervision
- 51 Compliance and data protection

53 In dialog with our stakeholders

- 53 Our stakeholders
- 53 Materiality analysis
- 53 Sustainable Development Goals
- 54 Sustainability ratings
- 55 Social engagement
- 56 Party donations and lobbying
- 56 In dialog with citizens
- 57 In dialog with our stakeholders

58 Research, development and innovation

- 58 Research and development: Goals
- 58 Research and development: Selected activities
- 60 Research and development: Expenditure and personnel
- 61 Innovation management
- 61 Innovation: Selected activities

62 Procurement

- 62 Efficient and sustainable procurement processes
- 64 Responsible raw materials procurement in the coal sector
- 66 Responsible raw materials procurement in the gas sector

Business report**67 General conditions**

- 67 Macroeconomic trends
- 67 Development of the sector and competitive situation
- 68 Cross-segment framework conditions
- 70 Smart Infrastructure for Customers segment
- 71 System Critical Infrastructure segment
- 72 Sustainable Generation Infrastructure segment

76 The EnBW Group

- 76 Finance and strategy goal dimensions
- 92 Customers and society goal dimension
- 97 Environment goal dimension
- 104 Employees goal dimension
- 110 EU taxonomy

116 EnBW AG

- 116 Results of operations of EnBW AG
- 118 Net assets of EnBW AG
- 119 Financial position of EnBW AG
- 120 Overall assessment of the economic situation and the development of EnBW AG
- 121 Opportunities and risks
- 121 Comments on reporting
- 121 EnBW share and dividend policy

122 Overall assessment of the economic situation of the Group**123 Forecast**

- 123 Expected trends in the finance and strategy goal dimensions
- 125 Expected trends in the customers and society goal dimension
- 126 Expected trends in the environment goal dimension
- 127 Expected trends in the employees goal dimension
- 127 Overall assessment of anticipated developments by the management

128 Report on opportunities and risks

- 128 Principles of the integrated opportunity and risk management system
- 129 Structure and processes of the integrated opportunity and risk management system
- 130 Structure and processes of the accounting-related internal control system
- 131 Non-financial declaration
- 134 Classification of opportunities and risks
- 134 Opportunity and risk position
- 140 Overall assessment by the management

141 Disclosures pursuant to sections 289a (1) and 315a (1) German Commercial Code (HGB) and explanatory report of the Board of Management**144 Indexes and tables**

- 144 Index for the non-financial declaration of the EnBW Group and EnBW AG
- 145 Index for the Task Force on Climate-related Financial Disclosures (TCFD)
- 146 Key performance indicators for the EU taxonomy

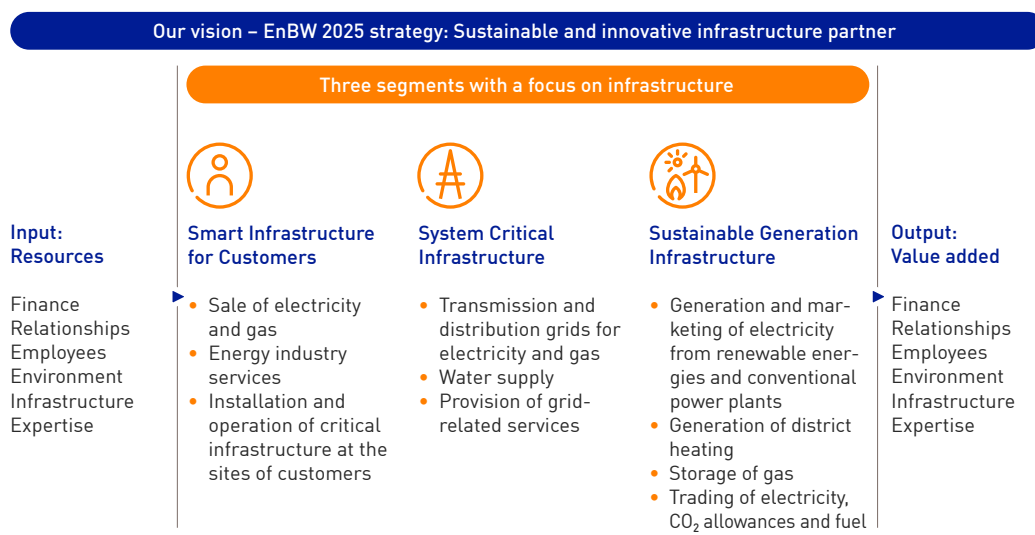
150 Declaration of the legal representatives

Fundamentals of the Group

Business model

Business principles

Business model



Our company is transforming itself from an integrated 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 expertise – for our corporate activities. As a result of the efficient application of these resources, we create value for ourselves and our stakeholders.

Since the start of 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, energy industry services and energy solutions, provision and expansion of quick-charging infrastructure and digital solutions for electromobility, broadband activities ⁷ in the telecommunications business 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 and waste management/environmental 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, 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. 40⁷.

The themes of **sustainability and climate protection** are becoming increasingly important issues at the center of public attention 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

According to the infront study “Champions of the Digital Transformation 2021,” EnBW has one of the best digital transformation programs of all Germany companies.

Online [↗](#)

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. As a Group, we aspire to halve our greenhouse gas emissions by 2030 and become climate neutral with respect to our own emissions (Scope 1 and 2 [🔗](#)) (p. 43⁷) 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 will be placed on the digital evolution of the business, developing skills and supporting our sustainability activities (examples can be found on p. 52⁷, 60⁷, 63⁷, 80⁷, 84⁷, 94⁷, 102⁷ and 106⁷).

Our company’s business model has proved itself to be robust and flexible during the **coronavirus pandemic**. Our integrated approach has proved its worth and is ensuring stability. The reliable supply of electricity, gas, water and heating to our customers was not at risk at any time. Furthermore, the huge importance of reliable infrastructure has become firmly entrenched in the social consciousness. The pandemic did not have any significant negative effect on the Group operating result in 2021.

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

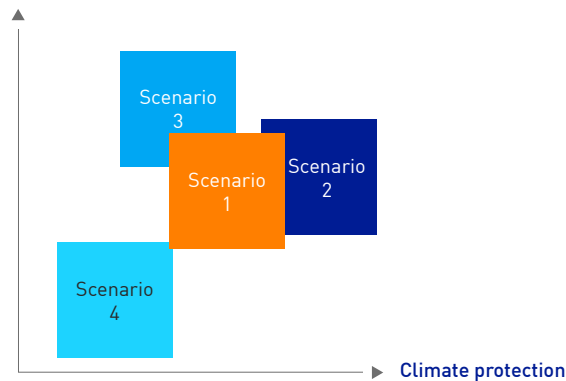
We have been analyzing the robustness of our business model with an increasing focus on climate change over the last few years, due to the growing importance of climate-related risks and the recommendations issued by the Task Force on Climate-related Financial Disclosures (TCFD) [🔗](#). Our strategic considerations take into account the requirements of the Energiewende 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 market analyses is **evaluating the different ways in which the Energiewende 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. 133⁷), which 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 Energiewende**. 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 amount 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**. Two scenarios assume “normal” economic growth within the scope of so-called potential growth (scenarios 1 and 2). In the first scenario, the climate targets defined in the EU Green Deal [🔗](#) are fully achieved. In the second scenario, these targets are not fully achieved because it is not possible to comprehensively solve the practical challenges associated with the implementation of the Energiewende. 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 one of these scenarios (scenario 3), it is assumed that a higher priority is assigned to economic development than to climate protection in society and politics, and greater growth is thus achieved during the period under consideration. In contrast, a period characterized by ongoing crises and weaker economic growth is assumed in the other scenario (scenario 4).

Energy industry scenarios for EnBW

Economic growth



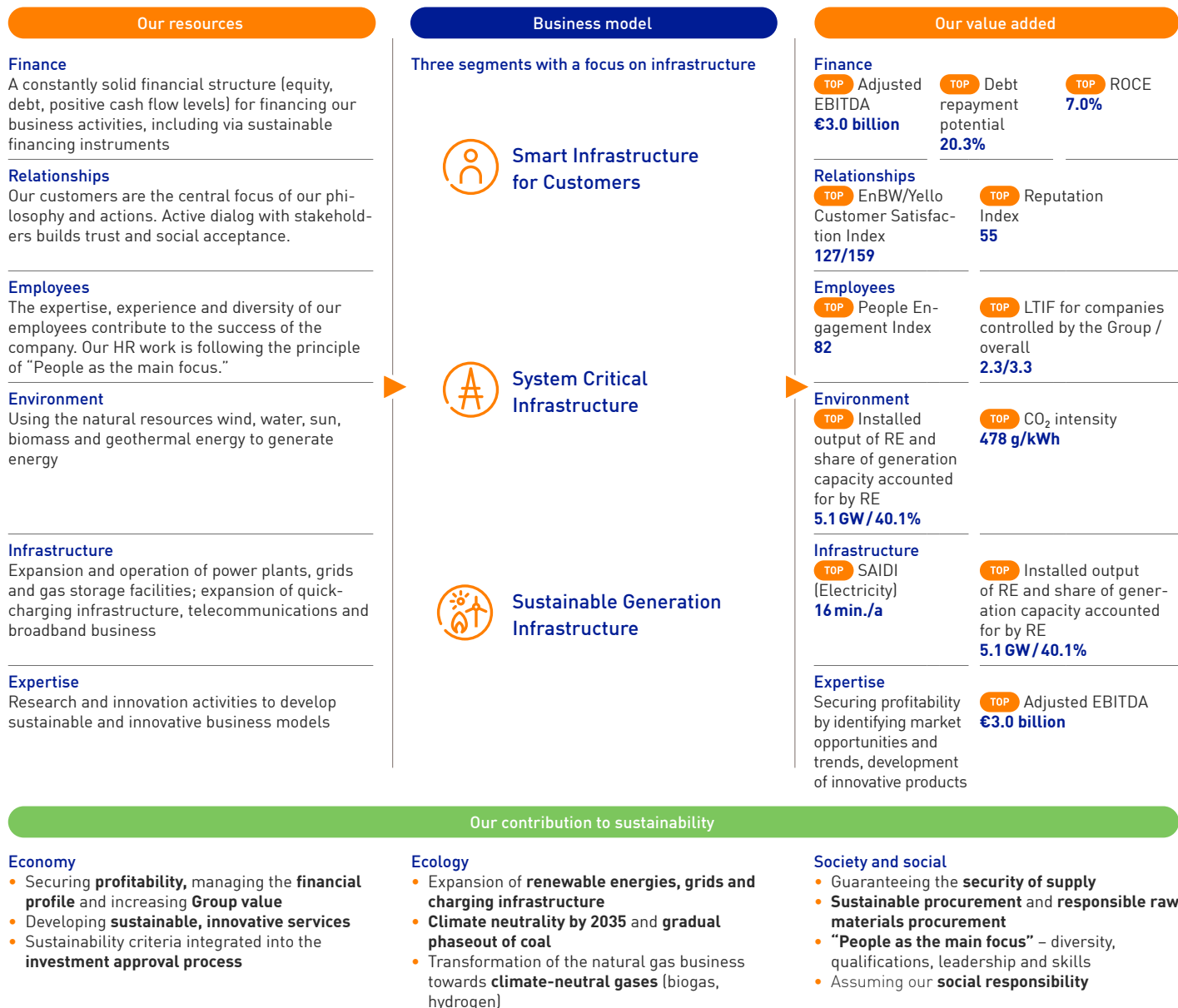
Within the scenarios, **variables** that have different characteristics depending on the scenario in question determine how the energy market develops. These include assumptions on the development of demand, the restructuring of the power plants as part of the phaseout of coal and the full decarbonization 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. The scenarios can thus 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. 53 ff.](#)) and the application of a variety of different resources. As a result of the efficient application 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 2021 financial year, we revised the presentation of our value added to make it more meaningful and have added some information to the end of the diagram. Information on the interdependencies can be found on [p. 47 f.](#)

Value added 2021 for EnBW and its stakeholders



Value added statement, [page 35](#) ⁷ | Overview of the segments, [page 36](#) ⁷ | In dialog with our stakeholders, [page 53](#) ff. ⁷ | Research, development and innovation, [page 58](#) ff. ⁷ | The EnBW Group, [page 76](#) ff. ⁷

We primarily measure the value added at EnBW using our key performance indicators (p. 45 ff. ⁷). Furthermore, we generate value for ourselves and our stakeholders in many other areas.

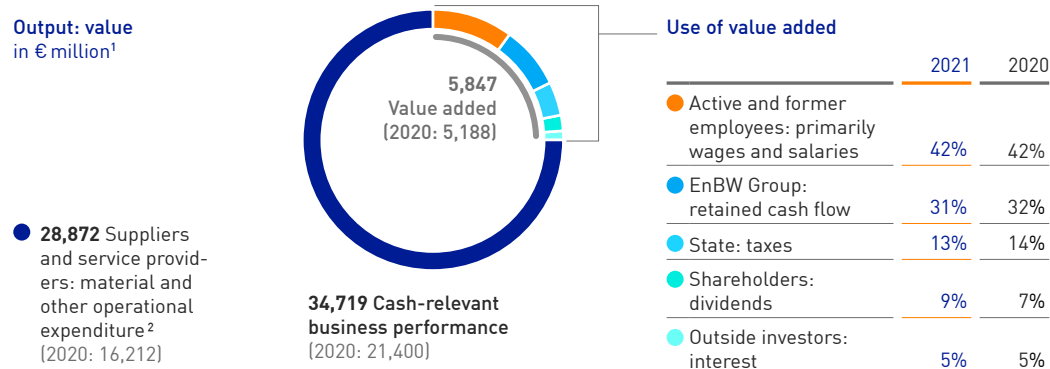
The value added statement shows the value we generate for important stakeholders using the resource **finances** (p. 35 ⁷). An important factor for the resource **relationships** is building customer loyalty to strengthen trust in EnBW as a partner and supplier. In addition, we generate value by engaging in social issues through activities for our target groups of end customers, business partners, local authorities and citizens. Always having the right **employees** with the right skills in the right place is a key focus of the HR policy. We also create room for personal development, offer apprenticeships and courses for students, run a multistage career integration program for refugees and migrants and are active in the area of diversity. We create value with the resource **environment** by improving our carbon footprint and safely dismantling the nuclear power plants. In addition, we generate value by expanding and integrating renewable energy power plants, developing energy efficient products and engaging in sustainable and responsible procurement. EnBW mainly generates value in relation to **infrastructure** by pushing forward the Energiewende and mobility transition. We operate the largest quick-charging network in Germany and invest in the expansion of renewable

energies. We use our **expertise** to generate value by creating innovative products for the benefit of our customers, developing new, resource-friendly concepts in the areas of energy, mobility and urban infrastructure, and providing venture capital for young companies.

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. 53 ff.⁷).

Value added of the EnBW Group



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 16.8% (previous year restated: 24.2%). This decrease was mainly attributable to the change in the cash-relevant business performance and in cash-relevant expenses. 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 flow⁸ 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 described in detail on [p. 53⁷](#), we identified the material events in the 2021 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 2021

- Commissioning of one of the largest quick-charging parks in Germany at the Kamener Kreuz interchange ([p. 94⁷](#))
- EnBW mobility+ starts cooperation with Bauhaus DIY stores and Rewe Group to expand charging infrastructure ([p. 94⁷](#))
- New EnBW HyperNetwork advertising campaign launched in the summer ([p. 94⁷](#))



System Critical Infrastructure

Significant events in 2021

- Netze BW becomes climate neutral ([p. 41⁷](#))
- Continued progress in the ULTRANET and SuedLink projects ([p. 71⁷](#))
- Joint venture from the energy industry including NetzeBW has bid accepted for the 450 MHz frequencies ([p. 71⁷](#))
- Bid accepted to equip 170 sites in Baden-Württemberg with 450 MHz communication network
- Start of construction of a gas compressor station in Rheinstetten by terranets bw
- A further 98 local authorities invest in Netze BW in the second subscription phase as part of the participation model "EnBW connects" ([p. 95⁷](#))



Sustainable Generation Infrastructure

Significant events in 2021

- Bid accepted for two sites in Great Britain for the development of offshore wind farms with a total capacity of 3 GW in cooperation with bp ([p. 40⁷](#) and [73⁷](#))
- Start of construction for the two solar parks Gottesgabe and Alttrebbin in Brandenburg with an output of around 150 MWp each ([p. 97⁷](#))
- Conclusion of long-term contracts with Fraport and Covestro for the supply of electricity from the He Dreiht offshore wind farm that requires no state funding and Germany's largest solar park Weesow-Willmersdorf
- Contract signed for the phaseout of brown coal ([p. 42⁷](#) and [44⁷](#))
- Plans presented for fuel switch projects at the power plant sites in Heilbronn, Stuttgart-Münster and Altbach-Deizisau ([p. 56⁷](#))

Sales in 2021



Number of B2C and B2B customers in 2021

Around **5.5** million

Key figures in 2021

5,407 employees (as of 31/12/2021)
€323.1 million adjusted EBITDA
€274.1 million investment
10.9% share of adjusted EBITDA

Development of adjusted EBITDA in € billion

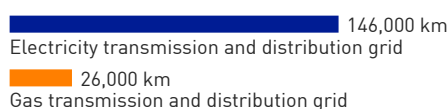
0.3

2021

0.6

Target 2025

Grid lengths in 2021



Transmission volumes in 2021

Electricity	60.3 billion kWh
Gas	35.8 billion kWh

Key figures in 2021

10,686 employees (as of 31/12/2021)
€1,288.5 million adjusted EBITDA
€1,647.0 million investment
43.5% share of adjusted EBITDA

Development of adjusted EBITDA in € billion

1.3

2021

1.3

Target 2025

Installed output 2021



Generation portfolio in 2021¹

Electricity generation	42,220 GWh
Installed output	12,647 MW

Key figures in 2021

7,051 employees (as of 31/12/2021)
€1,535.1 million adjusted EBITDA
€837.0 million investment
51.9% share of adjusted EBITDA

Development of adjusted EBITDA in € billion

1.5

2021

1.3

Target 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 42,399 GWh (excluding redispatch volumes), of which 11,692 GWh is generated from renewable energy sources. The total installed output of the EnBW Group is 12,722 MW, of which 5,100 MW is from renewable energy power plants. The totals for generation and installed output for the Group are shown in detail on [p. 98⁷](#).

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 231 fully consolidated companies, 25 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. 49 f.](#)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

● Austria

SMATRICS EnBW GmbH, Vienna

● Sweden

EnBW Sverige AB, Falkenberg

● Switzerland

Energiedienst Holding AG, Laufenburg

● Czech Republic

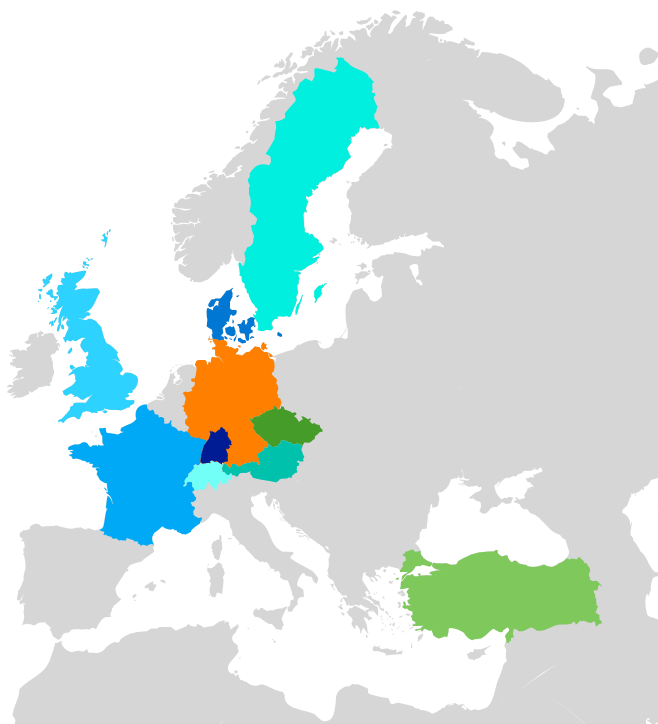
Pražská energetika a.s., Prague

● Turkey

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

Other activities

USA and Taiwan



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 [37] “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. In Denmark and Sweden, we are represented by our subsidiaries Connected Wind Services (CWS) and EnBW Sverige, respectively. In Turkey, we work together in the renewable energies sector with our partner Borusan. In Great Britain, we secured the offshore wind rights for the construction of offshore wind farms together with our partner bp in the first quarter of 2021. 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 expanding onto the Austrian market with our joint venture 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** ⁸ across Germany with the telecommunications company Plusnet. Our subsidiary NetCom BW has its main focus in this sector in Baden-Württemberg. Following our success in the auction for offshore wind rights off the coast of New York at the end of February 2022, we are selling 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.

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



Our **most important participating interests** in relation to the value added chain and their contribution to the result of the EnBW Group include the following groups of companies:

Energiedienst (ED), based in Laufenberg, Switzerland, has around 1,000 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 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 1,400 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. ONTRAS Gastransport operates and markets the second-largest German gas transmission grid as an independent transmission system 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.

Through our sales brands, we stay in close proximity to our customers and remain consistently oriented to their needs. 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**, 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, energy services and mobile communication 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 with electricity, gas, heating and drinking water under the **Stadtwerke Düsseldorf brand**. In the B2B sector, the range of services is directed at business and industrial customers with the sales focus being placed increasingly on Düsseldorf and the local region. VNG, based in Leipzig, supplies domestic and foreign trading companies, redistributors, public utilities and large customers with gas under the **VNG brand**. The company goldgas, a subsidiary of VNG, sells gas and electricity – especially to private households, commercial customers and property management companies in Germany – under the **goldgas brand**.

Strategy, goals and performance management system

Strategy

Sustainable and innovative infrastructure partner

We have successfully concluded the EnBW 2020 strategy. 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 finance, strategy, customers and society, environment and employees. Sustainability is an integral component of our corporate strategy, guaranteeing the creation of economic, ecological and social value for our stakeholders.

Our EnBW 2025 strategy is increasingly placing 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 business in which we have already made significant progress. We are also involved in the expansion of urban infrastructure. As we understand it, urban infrastructure concerns, for example, the smart networking of the 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 with, for example, 5G technology ⁸.

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. We want to further expand our quick-charging infrastructure to 2,500 sites 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 the German market. On the German home electricity storage market for solar electricity, we also aim to join the leading group of suppliers with our subsidiary SENEK. 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.

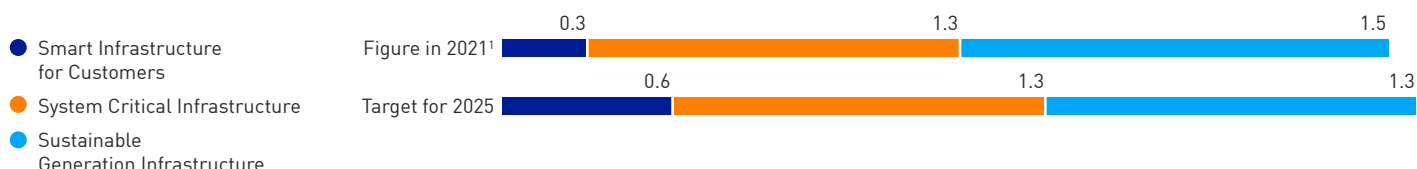
In the **System Critical Infrastructure** segment, our grid subsidiaries for electricity and gas will further expand the transmission grids into an important cornerstone of our earnings alongside the distribution grids. In addition, they will upgrade the electricity distribution grids so that they are ready to meet the challenges of the future and ensure they are optimally prepared for the demands that will be placed on them by electromobility and the decentralized feed-in of energy. We will continue our participation model for local authorities to participate in the 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 gas such as green hydrogen in the future.

Renewable energies 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 have entered into a joint venture to build two offshore wind farms with a total capacity of 3.0 GW off the coast of Great Britain and place them into operation from 2028. In the gas business, we will further strengthen our strong position, especially in the area of climate-neutral gases. We have defined a clear phaseout plan for coal-based conventional generation by the end of 2035 at the latest and plan to switch over some of our coal power plants to gas as a more climate-friendly fuel and later to

hydrogen. The last nuclear power plant operated by EnBW will be disconnected from the grid by the end of 2022 at the latest. We are adapting our trading activities to the changes in our generation portfolio and the energy markets.

We want to use this portfolio to increase our **adjusted EBITDA** [?] to €3.2 billion by 2025. All three segments will contribute to the achievement of this target.

Sustainable growth Adjusted EBITDA in € billion



¹ The sum of the three segments does not correspond to the adjusted EBITDA for the EnBW Group. €-187.4 million is attributable to Other/Consolidation in the 2021 financial year.

EnBW is planning **net investment** of around €12 billion between 2021 and 2025. Some 80% of this investment is intended for growth projects. 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 HeDreht offshore wind farm, and further developments in the Smart Infrastructure for Customers segment: for example, in the areas of broadband, 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 (p. 86[↗]). Since the 2021 financial year, we now also take sustainability aspects into account, alongside economic and strategic factors, when assessing our investment projects (p. 48[↗]).

Anchoring sustainability as a strategic compass

Sustainability is closely linked to the core business at EnBW and has thus been resolutely and consistently taken into account in the development of the company for many years. The **EnBW sustainability program** comprises 25 measures and covers all areas of the Group. It addresses sustainability risks and strengthens or establishes higher level management processes, core operating processes and supporting processes in the business and functional units. We made some important **progress** with these measures in the 2021 financial year – here are some examples:

Management processes:

- We are aiming to achieve “**climate neutrality throughout the entire Group by 2035.**” The steps required to phase out coal power have now been planned and initiated, and the first measures have already been implemented (p. 44[↗]).
- “**Integration of sustainability evaluation into portfolio and investment decisions:**” We resolutely test and evaluate our decisions and investments against sustainability criteria. As a result, our future investments will make a contribution to sustainability (p. 48[↗]).
- “**Evaluation of the EnBW portfolio based on EU taxonomy** [?] :” Key performance indicators for our taxonomy-aligned business activities are published as part of our integrated reporting (p. 110ff.[↗] and p. 146ff.[↗]).

Core processes:

- Green electricity is making a contribution to “**sustainable sales.**” It has now become the standard in the product portfolio of EnBW and Yello. For example, the proportion of Yello’s total customer base that is supplied with green electricity continued to increase during the reporting year (p. 94[↗]).
- “**Sustainable Netze BW and rollout to further grid companies:**” Netze BW has been climate neutral since this reporting year (p. 44[↗]). The Smart Grid [?] competence center, in which the subsidiaries of EnBW are represented, is pushing forward key themes such as climate neutrality.
- As part of “**responsible raw materials procurement (including Gas/LNG** [?]),” the due diligence processes from the area of coal procurement have been transferred to the procurement of LNG/gas (p. 66[↗]).

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

Online [↗](#)

Supporting processes:

- As part of our **“Sustainable procurement,”** we introduced the Supplier Code of Conduct in July 2021. It includes minimum sustainability requirements and establishes a shared set of values that act as the binding framework for the cooperation with our suppliers (p. 637).
- **“Sustainable real estate management”** is being achieved using specific targets (such as a 75% reduction in CO₂ emissions within the portfolio by 2030 compared to 2018) and initiatives (such as green electricity and biodiversity) (p. 1027).
- **“Paper reduction and recycling:”** We have set ourselves the goal of significantly reducing paper consumption. We have already implemented various digital initiatives for maintaining contact with customers (p. 1027).

The next level of ambition: the EnBW sustainability agenda

The measures published in the fall of 2020 in our 25-point sustainability program were either implemented or pushed forward as a priority in 2021, and will in the next stage be transferred into our EnBW sustainability agenda that we will start to implement in our operating business in 2022. The aim is to anchor sustainability in our strategic business activities and thus strengthen our competitiveness. The flagship projects and measures developed as part of the EnBW sustainability agenda will make an important contribution to the long-term success of our business and integrate sustainability in our activities and solutions. They will thus make a clear contribution to value added and to minimizing risks. We developed the EnBW sustainability agenda in a multistage process that incorporated both relevant stakeholders and also our corporate values. The **EnBW sustainability agenda defines four key strategic themes:**

Strategic themes of the EnBW sustainability agenda

1 New energy and climate neutrality EnBW is rethinking and redesigning energy generation to shape the path towards climate neutrality, without losing sight of the importance of the security of supply. Renewable energies Climate neutrality Hydrogen	2 Infrastructure transition EnBW is making a significant contribution to shaping the living environments of the future using novel, networked mobility and supply solutions. E-mobility Grids Buildings
3 Culture of sustainability EnBW is using its human resources and financing strategy to make ecological, social and economic responsibility the benchmark for its business activities. Corporate management Human resources Society	4 Protecting the natural environment EnBW is making a contribution to conserving our shared home for present and future generations through its engagement for society and the environment. Human rights Environmental protection Health

- The strategic theme **“New energy and climate neutrality”** addresses our measures to expand renewable energies and phase out coal-fired power generation in a socially responsible way in order to achieve our goal of climate neutrality. The use of green hydrogen will be gradually pushed forward in pilot projects, as will the construction of the necessary infrastructure.
- The strategic theme **“Infrastructure transition”** comprises our measures to develop climate-friendly mobility infrastructure, to develop the electricity and gas grids both for services for the public and to make them the backbone of the Energiewende, and to develop the broadband infrastructure to provide citizens with access to the Internet, especially in rural areas. The modernization and new construction of our own real estate and the development of climate-friendly districts that focus on the needs of people are the other aspects covered by this theme.
- The **“Culture of sustainability”** will anchor all of the sustainability dimensions in our internal processes and corporate culture. Sustainable human resources management will lay the foundations for the successful development of the company. At the same time, the areas of sustainable finance and sustainable bonds will be developed and expanded.
- For the strategic theme **“Protecting the natural environment,”** the measures in the sustainability agenda describe the specific negative ecological and environmental impacts that our business activities can have, which should be consistently and resolutely minimized. Human rights are not only guiding principles for all activities at EnBW but observance of them is also obligatory in our business relationships with our suppliers.

The EnBW sustainability agenda will be supported by a **comprehensive governance structure** that monitors the implementation of the agenda using clearly defined performance indicators. The measures can also be adjusted if necessary.

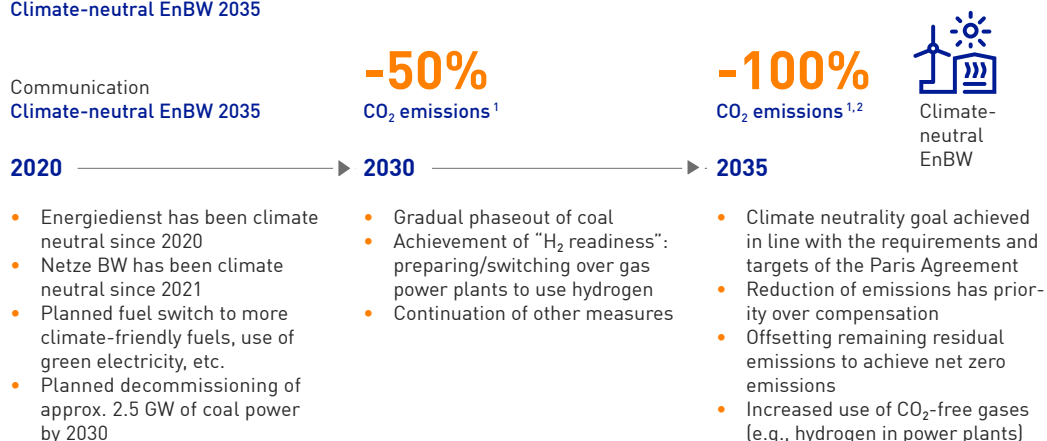
Climate neutrality by 2035 as a driver of the transformation

Climate neutrality is central to the EnBW sustainability agenda. Our targets for greenhouse gas emissions¹ in emission categories 1 and 2 are set for 2035. Scope 1 and 2² emissions 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. 100f.⁷). In the long term, it will only be possible to reduce Scope 3 emissions by switching to climate-neutral gases, which will probably not be available in sufficient quantities until the middle of the 2030s. The new German government's plans for an earlier phaseout of coal power will have an important influence on our goal of climate neutrality. A close examination of the energy policy issues associated with an earlier phaseout could lead, in certain circumstances, to a reassessment of our climate neutrality goal.

In the 2021 financial year, we announced our intention to develop science based targets by **joining the Science Based Targets initiative (SBTi)**. We will thus be able to expand our target of climate neutrality with respect to Scope 1 and 2 emissions **to also include a target for the Scope 3 emission category**. Our commitment to developing sciencebased targets will enable us to define our target of climate neutrality much more specifically and allow us to examine, in our decision-making processes, whether our entire value added chain conforms with the goals of the Paris Agreement.

Once the science based targets have been developed, residual **greenhouse gas budgets for the Scope 1, 2 and 3 emissions at EnBW** will have been defined. Using these greenhouse gas budgets and the transparency they will bring, it will be possible to develop targeted measures to reduce our greenhouse gas emissions along the value added chain that will comply with the goals of the Paris Agreement. 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.

Climate-neutral EnBW 2035



¹ The EnBW climate-neutrality target refers to our own emissions (Scope 1 and 2). Scope 3 is mainly influenced by the gas consumption of our customers and would require the use of climate-neutral gases in the future. The target refers to CO₂eq (CO₂, CH₄, N₂O and SF₆). The reference year is 2018.

² Includes in part the offsetting of remaining residual emissions due to the acquisition of recognized compensation certificates.

An important milestone in our climate-neutrality strategy will be **halving our CO₂ emissions by 2030, based on the reference year of 2018**. To this end, we will reduce our coal-based generation capacity of 4.6 GW (2018) by around 2.5 GW by 2030. In parallel, we are examining the possibility of a fuel switch⁸ from coal to more climate-friendly gas and then in a second stage to climate-neutral gases such as biogas or (green) hydrogen.

Coal-based energy generation will be fully phased out by the end of 2035 at the latest. We are planning to use green electricity to compensate for grid losses in the energy system. Unavoidable residual emissions will be offset by acquiring recognized compensation certificates. Our subsidiaries Energiedienst and Netze BW have already been climate neutral since 2020 and 2021, respectively.

Our approach to achieving climate neutrality by 2035, in relation to electricity generation and supply of heating, is **in harmony with the requirements and targets of the Paris Agreement**. It should also create a balance between the different expectations of our stakeholders, with whom we remain in constant dialog. Since 2013, even before the Coal Phaseout Act, we had already phased out around 40% of our particularly carbon-intensive generation capacity for ecological and economic reasons. In the social dimension, we are striving to implement a “just transition” [🔗](#) in which additional job losses caused by the transition to climate neutrality are avoided. EnBW currently has around 3,500 employees in the area of conventional generation. We have already implemented suitable human resources measures such as further training and forward-looking human resources planning. Some employees from the area of conventional generation are already bringing their technical expertise to other areas of the company, such as our offshore wind turbines.

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) [🔗](#) (p. 82f. [↗](#)). Since 2018, we have issued several **green bonds** [🔗](#) on the capital market with a total volume of €2.5 billion. In accordance with our Green Financing Framework, the proceeds from our green bonds are exclusively used in the areas of renewable energies (offshore and onshore wind, photovoltaics) and clean transport (charging infrastructure for electromobility). 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** [🔗](#) are linked to selected non-financial key performance indicators. The proceeds from the **green promissory note loan of our subsidiary VNG** that was also issued in 2020 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. In the quarterly performance reviews conducted at a Board of Management level, 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 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 2021 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.

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

Online [↗](#)

TOP Financial and non-financial key performance indicators and targets

Goal dimension	Goal	Key performance indicator	2021	Target for 2025
 Finance	Securing profitability	Adjusted EBITDA in € billion	3.0	3.2
	Managing the financial profile	Debt repayment potential in %	20.3	≥ 12 ¹
	Increasing Group value	ROCE in %	7.0	– ²
		Value spread in %	–	0.5 – 1.5 ²
The EnBW Group, p. 78 ff.[↗] Forecast, p. 123 f.[↗] Report on opportunities and risks, p. 128 ff.[↗] Multi-year overview, p. 288[↗]				
 Strategy ³	Share of result accounted for by “Smart Infrastructure for Customers”	Share of overall adjusted EBITDA in € billion / in %	0.3/10.9	0.6/20.0
	Share of result accounted for by “System Critical Infrastructure”	Share of overall adjusted EBITDA in € billion / in %	1.3/43.5	1.3/40.0
	Share of result accounted for by “Sustainable Generation Infrastructure”	Share of overall adjusted EBITDA in € billion / in %	1.5/51.9	1.3/40.0
	The EnBW Group, p. 78[↗] Forecast, p. 123[↗] Report on opportunities and risks, p. 128 ff.[↗] Multi-year overview, p. 288[↗]			
 Customers and society	Reputation	Reputation Index	55	58–62
	Customer proximity	EnBW/Yello Customer Satisfaction Index	127/159	125 – 136/148 – 159
	Supply reliability	SAIDI Electricity in min./year	16	< 20
	The EnBW Group, p. 92 ff.[↗] Forecast, p. 125[↗] Report on opportunities and risks, p. 132[↗] Multi-year overview, p. 289[↗]			
 Environment	Expand renewable energies (RE)	Installed output of RE in GW and the share of the generation capacity accounted for by RE in %	5.1/40.1	6.5 – 7.5/> 50
	Climate protection	CO ₂ intensity in g/kWh ⁴	478	–15% – 30% ⁵ (reference year 2018)
	The EnBW Group, p. 97 ff.[↗] Forecast, p. 126[↗] Report on opportunities and risks, p. 132 f.[↗] Multi-year overview, p. 289[↗]			
 Employees	Employee engagement	People Engagement Index (PEI) ⁶	82	77 – 83 ⁷
	Occupational safety	LTIF for companies controlled by the Group ^{8,9}	2.3	2.1
		LTIF overall ⁸	3.3	3.5
	The EnBW Group, p. 104 ff.[↗] Forecast, p. 127[↗] Report on opportunities and risks, p. 133 f.[↗] Multi-year overview, p. 290[↗]			

- Following the transition to the growth strategy, the internal financing capability was replaced by the new key performance indicator debt repayment potential from 2021 onwards. To achieve the unchanged goal of maintaining solid investment-grade ratings, EnBW regularly checks the 2025 target value for the debt repayment potential for managing its financial profile.
- We will use value spread to measure the increase in the value of the company from 2022 onwards. This performance indicator is more meaningful and is independent of external market influences making it easier to control. It will also improve the comparability of the data. ROCE will thus be replaced by the new key performance indicator value spread. Value spread stood at 2.1% in the 2021 reporting year (p. 90[↗]).
- The sum of the three segments does not correspond to the adjusted EBITDA for the EnBW Group. €-187.4 million (+5.2%) is attributable to Other/Consolidation in the 2021 financial year (p. 78 f.[↗]).
- The calculation method for the key performance indicator CO₂ intensity will be restricted in future to include only factors that can be controlled by the company. In contrast to previous years, the share related to redispatch that cannot be controlled by EnBW is no longer included. Using the previous calculation method, the CO₂ intensity for the 2021 financial year would have been 492 g/kWh. This performance indicator still excludes nuclear generation. The CO₂ intensity including nuclear generation for the reporting year was 386 g/kWh (previous year: 268 g/kWh).
- 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).
- 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 2021 were not included in the employee surveys for the PEI.
- 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.
- 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 2021 financial year were not included in the calculations for the LTIF performance indicators.
- Excluding companies in the area of waste management.

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, whose 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 2021 financial year were unchanged in comparison with the previous year with one exception: The internal financing capability [?] was replaced by the debt repayment potential [?] as planned.

The **financial and strategic 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 ROCE:

- The **adjusted EBITDA** 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. 78f. and 124f.], are derived from it.
- The key performance indicator **debt repayment potential** describes the retained cash flow in relation to net debt. 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 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. As it will not be possible to exclusively finance the growth envisioned in our EnBW 2025 strategy using funds from our internal financing capability, the debt repayment potential will replace the internal financing capability from 2021 onwards [p. 88f. and 125f.].
- **ROCE (return on capital employed)** is the ratio of adjusted EBIT including the adjusted investment result to the average capital employed. It is used for determining the value added, reflecting the development of the company's value from a financial point of view. We will use value spread to measure the increase in the value of the company from the 2022 financial year onwards. This performance indicator is more meaningful and is independent of external market influences, making it easier to control. It will also improve the comparability of the data. ROCE will thus be replaced by the new key performance indicator value spread. The value spread 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), from the return on capital employed before taxes that was actually achieved [p. 89f. and 125f.].

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. 92f. and 125f.].
- The key performance indicator **Customer Satisfaction Index** assesses the average satisfaction of private end consumers of 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. 93f. and 126f.].
- **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. 96f. and 126f.]. 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 [\(p. 97⁷ and 126⁷\)](#).
- 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 [\(p. 99⁷ and 127 f.⁷\)](#).

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] ⁸) 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 [\(p. 104⁷ and 127⁷\)](#).
- **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. External agency workers and contractors are not taken into account in either performance indicator [\(p. 108⁷ and 127⁷\)](#).

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.

In the past few years, we have presented specific examples in this section to illustrate the interdependencies between the different goal dimensions. In the 2021 financial year, we will illustrate the progress we have made in anchoring integrated thinking in our company using the **investment approval process** as an example, and thus also highlight the increasingly important role played by non-financial aspects.

In the 2020 financial year, we evaluated 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 has become a fixed component of the approval process followed by the EnBW investment committee and the EnBW Board of Management since 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 (InA). Alongside the Chief Financial Officer, the members of the InA include representatives from all remits of the EnBW Board

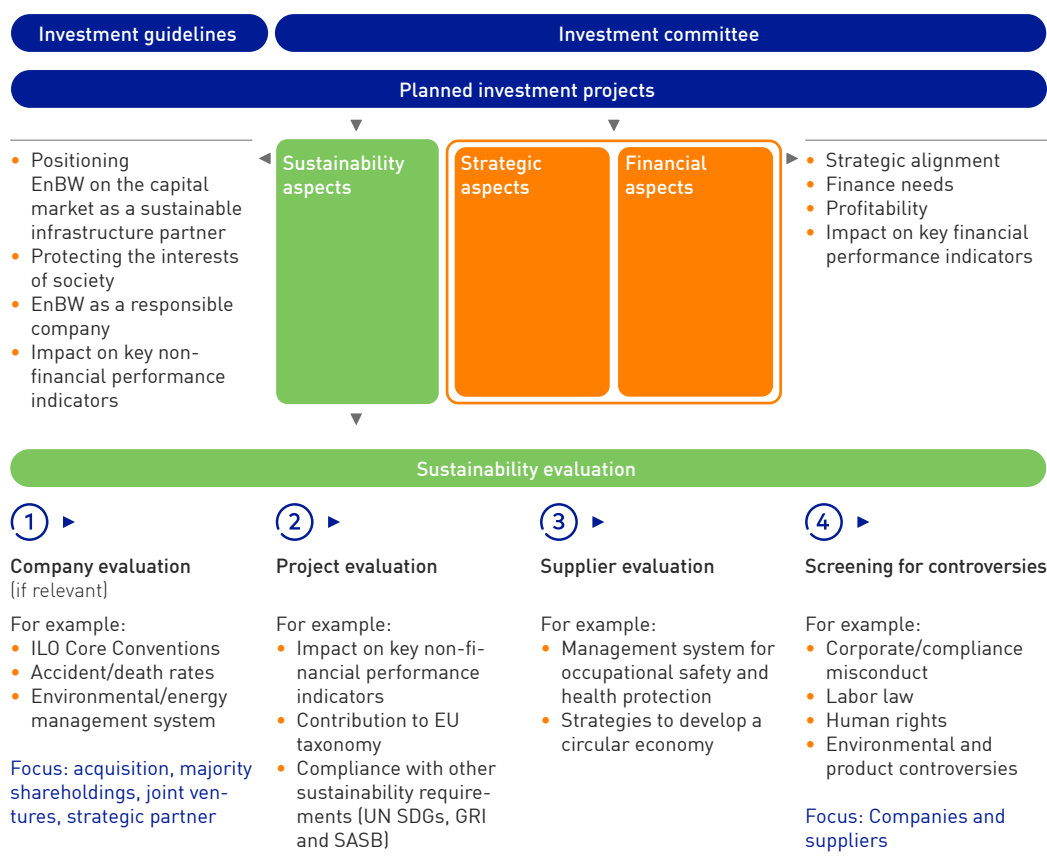
of Management and various specialist departments. The InA develops recommendations that are presented to the entire Board of Management together with the project documentation submitted by the specialist departments.

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 (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 16 December 2019.

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 2021. The current declaration of compliance is part of the Integrated Annual Report ([p. 151 ff.](#)) 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

As of 31 December 2021, 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," "Human Resources," "Sustainable Generation Infrastructure" and "System Critical Infrastructure." As of 1 June 2021, the prior remit of "Technology" was split into the two new remits headed by Dr. Georg Stamatelopoulos and Dirk Güsewell, who are replacing the outgoing member of the Board of Management Dr. Hans-Josef Zimmer.

The Chief Executive Officer, Dr. Frank Mastiaux, already announced at the end of June 2021 that he will not be seeking a further term of office after the end of his second term in September 2022.

Allocation of responsibilities at Board of Management level (as of 31/12/2021)

Dr. Frank Mastiaux Chairman	Thomas Kusterer Finance	Colette Rückert-Hennen Human Resources	Dr. Georg Stamatelopoulos Sustainable Generation Infrastructure	Dirk Güsewell System Critical Infrastructure
<ul style="list-style-type: none"> Corporate development, strategy and energy economy Transformation (Next Level), IT, Digital Office and information security Sales, marketing and operations Corporate security Sustainability Communications / policy Decentralized energy services 	<ul style="list-style-type: none"> Accounting and tax Controlling and risk management / ICS Risk management for trading Digital finance and transformation Finance, M&A and Investor Relations Purchasing Equity investment management Performance in growth 	<ul style="list-style-type: none"> HR strategy and transformation Law, auditing, compliance and regulatory management HR business development and solutions Boards and shareholder relationships Occupational medicine and health management Facility and mobility management 	<ul style="list-style-type: none"> Generation operations Generation portfolio development Coordination generation infrastructure Trading Research and development Occupational safety, crisis management and environmental protection 	<ul style="list-style-type: none"> DSO¹ electricity / gas TSO² electricity / gas Gas value chain Business field development and coordination Innovation management Critical infrastructure Telecommunications

¹ Distribution system operator.
² Transmission system operator.

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 and an ad hoc committee.

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

[Online ↗](#)

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. 280 ff. ↗](#)) and the declaration of corporate management ([p. 151 ff. ↗](#)), which is also published separately at www.enbw.com/corporate-governance, as well as on our website in the Report of the Supervisory Board.

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.

Further information on the **Annual General Meeting** can be found on our website.

[Online ↗](#)

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 2021 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.

Due to the coronavirus pandemic, the ordinary Annual General Meeting on 5 May 2021 was once again held as a virtual event. At the meeting, the shareholders of EnBW AG resolved to distribute a dividend of €1.00 per entitled share. Based on the shares entitled to dividends, this corresponds to a dividend payout of €270.9 million and thus a dividend payout ratio of 40% of the adjusted Group net profit ² of €682.8 million that is attributable to shareholders. The adjusted Group net profit/loss is the Group net profit/loss adjusted for non-operating effects. The dividends were paid on 10 May 2021.

As a result of the fact that the coronavirus pandemic was still ongoing at the end of 2021, the Board of Management and Supervisory Board decided, using section 1 (1), (2) and (6) of the German law on COVID-19 measures as a basis, to also hold the ordinary Annual General Meeting 2022 in virtual form on 5 May 2022.

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-specific 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. In the reporting year, there were 23 (previous year: 30) companies directly integrated into the CMS from a compliance perspective. The CMS is regularly examined and updated both internally and externally.

The companies that are only indirectly integrated into the CMS – VNG, Stadtwerke Düsseldorf (SWD), ZEAG, Energiedienst (ED) and Pražská energetika (PRE) as well as the ITOs (Independent Transmission Operator) ¹ TransnetBW and terranets bw – operate their own independent compliance systems. They integrate the companies in which they hold a participating interest into their preventative measures.

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 set up at EnBW, the compliance-relevant companies and the ITOs.

Compliance activities in the reporting year

The reporting year was still characterized by the coronavirus pandemic, which meant that most employees were working from home. The preventative activities related to compliance were largely held in online formats. In 2021, we held training in sensitive areas in accordance with our plans for the year. Training courses for employees in purchasing were the main focus across the Group. New employees at EnBW are obligated to complete an e-learning course on corruption prevention. 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**. The number of participants fell in comparison to the previous year by 13.9%.

Number of participants in compliance training events ¹

	2021 ²	2020 ²	2019	2018	2017
Sensitive areas	716	839	904	746	363
New management personnel/employees	355	369	229	182	158
Management personnel	34	75	52	13	441
Total	1,105	1,283	1,185	941	962

¹ At EnBW AG and directly integrated companies.

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

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 2021, they were carried out using a risk-based selection process at those companies directly integrated into the CMS.

The **advisory services** offered by the EnBW compliance department are available to all subsidiaries and represent another key element of prevention. They were also utilized in 2021. These services include a compliance hotline, which can be reached in person, either by e-mail or telephone. In 2021, the hotline received around 930 inquiries. Key issues included sponsoring, donations and gifts. Advice was also provided on topics such as conflicts of interest and the auditing of business partners.

Regular and recurring audits of business partners are carried out. The advisory services dealing with compliance themes at the indirectly integrated companies have also been used to good effect.

Meetings continue to be held and information exchanged across all specialist areas even while employees are working from home. This network plays an important role in compliance work and it has been possible to keep the network intact even during times with limited in-person meetings.

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, ZEAG, VNG, terranets bw and TransnetBW have also established a whistleblower system.

In the reporting year, there were four breaches at directly integrated companies. There was one compliance breach at SWD in the reporting year. No cases of corruption were reported.

We faced neither antitrust law penalty procedures nor third-party antitrust lawsuits in the 2021 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 2021. 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 also develop new business models are closely accompanied by the data protection department. It supports the specialist areas with advice at an early stage and regular training to raise awareness, thus working to guarantee that the rights of the data subject are respected. Regular reports are submitted to the Board of Management and supervisory bodies to ensure transparency and control. We set a standard 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 supports compliance with the 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 the awareness of employees in relation to 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

Continuous dialog with our internal and external stakeholders is an important element in the design and orientation of our business activities. The most important **stakeholder groups** include (in alphabetical order) customers, employees and job applicants, environmental associations and civil society organisations, local authorities and municipal utilities, the political community and the media, shareholders and the capital market, society, and suppliers and business partners.

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

Online ⁷

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 further intensify this dialog – with a special focus on the themes of the Energiewende, mobility transition, climate protection and sustainability.

Materiality analysis

We have continuously expanded our processes over the last few years for identifying material topics 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 issues, such as the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) ⁸ on climate-related risk reporting.

We consider topics 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. In addition, the findings from the materiality analysis flow into, for example, the strategy process and stakeholder management.





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 entails a prioritization of the themes, which ultimately leads to a final list of the top themes. The **material themes** and events at EnBW in the 2021 financial year are allocated to the three segments in the overview of the segments (p. 37⁷) and listed in the section "Anchoring sustainability as a strategic compass" (p. 42ff.⁷).

Sustainable Development Goals

The Sustainable Development Goals (SDGs) ⁹ 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.

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>Performance indicators: Installed output of RE, Customer Satisfaction Index</p>	 <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>Performance indicators: SAIDI (Electricity), SAIDI (Gas)</p>	 <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>Performance indicators: Number of quick-charging sites (EnBW HyperNetwork)</p>	 <p>SDG 13: Climate action</p> <ul style="list-style-type: none"> Climate neutrality by 2035 Biodiversity at EnBW sites <p>Performance indicators: CO₂ emissions, CO₂ intensity (generation)</p>
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Other important SDGs at EnBW



We have taken international standards and frameworks, such as the SDGs, into account in the development of the EnBW sustainability agenda (p. 43 f. 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**, which was clearly demonstrated by the results of our materiality analysis and our material themes in the 2021 financial year.

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 7

Latest sustainability ratings

	CDP	ISS ESG	MSCI	Sustainalytics
Result	B/Management (2021)	B/Prime (2021)	A/Average (2021)	A/Average (2021)
Scale	A to D-	A+ to D-	AAA to CCC	AAA to CCC
Relative position	"Electric Utilities" sector worldwide: EnBW rated in the top 32%.	"Multi Utilities" sector worldwide: EnBW rated in the top 10%.	"Utilities" sector worldwide: EnBW has an average rating.	"Utilities" sector worldwide: EnBW rated in the top 32%.
Rating focus	Climate protection	Social, governance and environmental aspects	Social, governance and environmental aspects	Social, governance and environmental aspects

In 2021, we received good scores within the energy sector in important sustainability ratings. In the ISS ESG Rating in October 2021, for example, we received a score of B for the first time and thus improved from our previous score of B- (scale A+ to D-). B is currently (as of October 2021) the best score awarded in the “Multi Utilities” sector (comprising a total of 61 companies). We are thus rated in the top 10% in this sector and have once again been awarded Prime Status.

Further details on non-financial performance indicators are presented on [p. 93 ff.](#)[↗], while information on the financial ratings from the rating agencies Moody's and Standard & Poor's can be found on [p. 82 f.](#)[↗].

Social engagement

Our commitment to addressing the concerns and interests of society focuses on the target groups of end customers, business partners and local authorities. Support for superordinate 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. 131](#)[↗]).

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 2021, donations made by the EnBW Group came to €3.7 million, following €3.1 million in the previous year. Donations worth €950,000 (2020: €1 million) were attributable to EnBW AG. The increase in donations by Group companies is primarily due to one-off payments to foundations belonging to VNG within the Group and the scaling up of the “postal charge” donations by Netze BW.

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 2021 and supported eight charitable campaigns and campaigns initiated by readers of regional newspapers in Baden-Württemberg with total donations of €32,000. Following the **flood disaster in the Ahrtal** region, EnBW donated €100,000 in emergency aid to the Action Alliance for Disaster Relief. Our employees also launched initiatives to raise funds for the flood victims. The company doubled the amount donated by its employees and it was thus possible to make further donations of over €300,000, with half going to “Aktion Deutschland Hilft” (Germany's Relief Coalition) and the other half to the Federal Agency for Technical Relief (THW). A total of around 100 fitters from Netze BW and the grid company Ostwürttemberg DonauRies were deployed to the flooded areas to assist on a daily basis over a period of four weeks with the provisional reconstruction of the destroyed low-voltage electricity grid. The EnBW Food Truck also distributed more than 1,000 meals each day for ten days in the disaster zone. In order to **combat the coronavirus pandemic**, we supported the COVAX vaccination campaign from UNICEF through fundraising activities. We also supported social and charitable projects with the **“Making it happen bus.”** The projects this year included constructing a wheelchair swing and a “social fence.” We continue to support the **“Let's Volunteer” initiative** launched by our employees by giving two employees who volunteer in their local communities €1,000 to donate to a charitable association each month. In 2021, our subsidiary Netze BW once again donated the postage saved when customers submit their electricity meter readings electronically to numerous charitable organizations in the respective local authority areas.

Pražská energetika (PRE) supported the Charta 77 Foundation – Barriers Account, as well as other charitable organizations focusing on philanthropy, medicine, social and education activities, and environmental protection, in 2021. **Stadtwerke Düsseldorf (SWD)** participated in the “Pacemaker Düsseldorf” initiative, which is supporting the digitalization process in usually five high schools per year. In addition, the employees at SWD also launched the fundraising campaign “Together For Düsseldorf” to help those people impacted by the flooding of the Düssel river. The company supported the campaign and doubled the donations made by its employees. Through the VNG Foundation, **VNG** supports the “Network of Warmth” charitable network that promotes charitable work in Germany.

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

Online [↗](#)

Donations were made to a total of 47 projects in 2021, which marked the foundation's 20th anniversary. To aid citizens affected by the flood disaster in Germany, the VNG Foundation donated €10,000 to the "Saxony Helps" campaign. The employees of VNG also collected money for "Aktion Deutschland Hilft." The company doubled the amount collected by the employees so that €20,000 could be donated in total.

Party donations and lobbying

Transparency with regard to party donations and lobbying is part of our 25-point sustainability program [\[p. 41↗\]](#). 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. The 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.

In dialog with citizens

Due to the coronavirus pandemic, it was once again impossible to hold many visits, tours and events in person in 2021. Instead, we used digital **formats for events to inform and enable the participation of citizens** to a much greater extent. For example, a digital event on the planned conversion of the heat and power plant in Stuttgart-Münster was held in April to present the current status of the project. Similar formats were also used during the course of the year to give information on the planned construction measures at the EnBW generation sites in Heilbronn, Altbach/Deizisau and Walheim. The closing ceremony for the "E-Mobility-Carré" grid laboratory from Netze BW was also held in digital form, while citizens were invited to participate in a total of five events focusing on "The new Stöckach" in the east of Stuttgart in 2021, two of which were held in person in the summer and three as virtual events [\[p. 95↗\]](#).

Events relating to the **dismantling of the nuclear power plants** we operate were also mainly held in digital form in 2021. A key communication event was the digital press conference in March in which we informed citizens in detail via media representatives about the progress made with the dismantling work over the last ten years. In addition, we actively participated in two events held by BGZ – a state-run company responsible for the intermediate storage in Philippsburg – that provided a forum for discussions with public officials and citizens on the return transport of radioactive waste for reprocessing in Philippsburg. We were also guests at 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, and through the participation of, local authorities and citizens. Local citizens are able to use a **citizen participation platform** to participate financially in regional renewable energy projects. The subscription process has been fully digitalized on our platform since 2020. In 2021, we were able to successfully launch two citizen participation models in Maßbach and Welgesheim in accordance with the new Prospectus Regulation.

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

Online [↗](#)

Further information on the **district development project "The new Stöckach"** can be found here.

Online [↗](#)

The **citizen participation platform** can be found here.

Online [↗](#)

In dialog with our stakeholders

Selected activities in dialog with our stakeholders

Stakeholder	Opportunity for dialog	Main themes	Further information
 Shareholders / capital market	Telephone conference with investors and analysts	Quarterly presentation and Q&A session on the development of the company	www.enbw.com/conferencecall
	Annual General Meeting	Dialog with shareholders	http://hv.enbw.com
	Investor update and road show	Meetings on corporate strategy and development	www.enbw.com/investor-update
 Society	Aid campaigns	Emergency aid, fundraising and on-site assistance for flood victims and fundraising for a coronavirus vaccination campaign	page 55 f. [↗]
	Participation in "The new Stöckach"	Continued intensive dialog with citizens in formats such as themed talks, creative workshops and participation lounge	page 56 [↗] www.der-neue-stoeckach.de
	Dialog with citizens	Events to inform and enable the participation of citizens in fuel switch projects, expansion projects for wind/PV and the dismantling of nuclear power plants	page 56 [↗]
	Events held by Junge Stiftung	Networking meetings, Energy Campus idea competition, energy reporters, partner for the Congress Lab at KongressBW 2021	www.energie-klimaschutz.de/junge-stiftung
	EnBW start-up grants and Innovation Challenge	Supporting entrepreneurs and young start-ups in the further development of business models	www.enbw.com/gruenderstipendium www.enbw.com/innovationchallenge
	Engagement in art and culture	Exhibitions "Release and Art" and "The New Leipziger are Coming!", "Energy meets Art"	www.enbw.com/kunst www.enbw.com/evbz-waldbronn
	Tours and information events	Virtual power plant tours offered to universities, schools and interested members of the public	www.enbw.com/besichtigungen
 Local authorities / public utilities	Local authority events	Local authority energy days, advice forums, regional and general advisory board meetings, trade fairs and events	www.enbw.com/kommunen
	Energy Team Baden-Württemberg	Open communication and cooperation platforms for supply companies in a competitive environment	www.energie-team.org
 Customers	Dialog and discussion with customers, networking events	Test customer panel, Netze-BW Knowledge Week, GDA Net[t]work Talk, Greentech Festival, IAA mobility, strategy dialog with automotive sector, Energy Efficiency Network, Yello Tiny House	www.enbw.com/wissenscampus www.greentechfestival.com   www.enbw.com/netzwerke
	School competition "Climate heroes wanted"	School competition in cooperation with a local authority on the theme of supplying heating via contracting	www.enbw.com/klimahelden
	Customer blog, social media channels, newsletters, campaigns, podcasts and explanatory videos	Latest information on products, offers, services and the corporate culture	www.enbw.com/blog   www.enbw.com/hypernetz www.yello.de    
 Suppliers / business partners	Dialog on managing coal and gas procurement responsibly	In-depth discussions with coal producers through virtual dialog, dialog within the Bettercoal initiative	page 64 ff. [↗] www.enbw.com/coal-procurement www.bettercoal.org
	Discussions and cooperation with suppliers	Central access to selected information and self-service access via the supplier portal	www.enbw.com/supplier-portal
 Employees and applicants	Employee communication	EnBW now, "EnBW News" app, social intranet, Yammer, BestWork, EnBW InnoWeeks, Barcamp #sustainable EnBW	page 105 [↗]
	Diversity campaigns	Diversity Day, Girls' Day, themed week to mark International Women's Day, Christopher Street Day Stuttgart, Pride Network	www.csd-stuttgart.de
	Social engagement of employees	Support for "Let's Volunteer" initiative and the EnBW "Making it happen" bus	page 55 [↗] www.enbw.com/macherbus
	Opportunity for dialog with potential employees	Company trips, company contact fairs such as TalKIT, konaktiv, target group-specific recruitment campaigns, etc.	www.enbw.com/career Instagram channel "EnBW Careers" 
 Politics / media	Discussion events held by the Energy & Climate Protection Foundation	Urban Digital Talks and Urban Home Talks, five debate evenings on climate protection and sustainability	www.energie-klimaschutz.de
	Events and opportunities for dialog	Events held by the EnBW Energy and Business Club (EWC), discussion format and exchange of ideas with politicians from the German Bundestag, state parliament and EU, local authority forum	
	Assessment of reform options for the EU ETS	Study commissioned by EnBW on the reform of the European emissions trading system and charges for CO ₂ emissions	PDF download study 
	Active and transparent communication via the media	EnBW Newsroom, major articles in daily newspapers and magazines such as Handelsblatt or Süddeutsche Zeitung and via social channels, press conference for the annual results	www.enbw.com/newsroom  
 Environmental associations, civil society organizations	Biodiversity: Funding program "Stimuli for Diversity"	Support for six new funded projects to protect amphibians and reptiles	www.enbw.com/biodiversity
	Sustainability and Energiewende Days	Continued participation in numerous campaigns related to sustainability and the Energiewende	www.energiewendetage.baden-wuerttemberg.de
	Climate dialog	Event held twice a year both at a federal and state level to discuss climate protection and the Energiewende with environmental associations, unions, etc.	

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 one patent (previous year: -20) in 2021; the EnBW Group thus held 225 patents (previous year: 224) at the end of the year. The patents held by EnBW focus mainly on the areas of renewable generation, gas and electromobility.

Research and development: 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 farm projects 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 tested a 1:10 scale model of a new design for floating wind turbines called **Nezzy²**, which proved to be storm-proof even under real conditions in the Baltic Sea in 2020. In 2021, the design was optimized and tailored for the next phase of the project: a 1:1 scale model for the test site in the South China Sea and another possible site in the North Sea. It was possible to reduce the weight of the entire turbine by 500 t, while at the same time, improving its nominal output by up to 25%, depending on the location. The aim is to test the 1:1 model in 2022. We had planned to test a different floating foundation together with another European company in the Irish Sea in 2023 but the test was delayed once again and it is now highly likely that it will be impossible to complete it on time even at an alternative site. We will thus be discussing how to proceed with the project in the next few months. Floating foundations remain an important element for the implementation of our offshore strategy and will thus also be the subject of further research activities in the future.

Photovoltaics: Our subsidiary EnPV, which was founded in December 2017, is working on the commercialization of the research results from a joint project with the University of Stuttgart. In 2021, it enhanced the design for **powerful non-toxic silicon solar cells** and developed a construction plan for the very efficient and inexpensive production of the cells. In October 2021, EnPV signed a letter of intent with an international cell producer 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**. In August 2020, our joint bid with MVV for an exploration project to the south of Mannheim was accepted by the State Agency for Geology, Raw Materials and Mining (LGRB). The two companies founded the company **GeoHardt for this purpose at the beginning of 2021**. This company examined the geophysical conditions in the area in 2021 and processed the results in a simulation model that can be used to identify suitable sites in discussion with stakeholders such as local authorities, associations and citizens. A geothermal plant in Bruchsal – operated jointly with the company Stadtwerke Bruchsal – has now been reliably supplying geothermal heat to a nearby police station for the third heating season in a row. Following a long modernization phase, it was also possible to place the electricity generation plant back into operation in 2021.

Hydrogen from renewable energies: We also want to provide our customers with carbon-neutral gaseous energy sources in the long term. We are carrying out research in this field in the two projects “alkaline hydrogen electrolysis plant” and “H₂Mare.” The **alkaline hydrogen electrolysis plant in Wyhlen** has been operated by our subsidiary Energiedienst (ED) with funding from the State of Baden-Württemberg using electricity generated from hydropower since 2018. In the reporting year, ED started work on expanding the capacity of the plant by 5 MW to 6 MW as part of the “Reallabore” tender process from the German Federal Ministry for Economic Affairs and Energy (BMWi) with the

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 ↗](#)

Find out more about the **hydrogen projects in Wyhlen** here.

[Online ↗](#)

aim of supplying a district, as well as industry and customers in the mobility sector, with hydrogen produced from green electricity. The plant in Wyhlen is thus now the largest power-to-gas plant in southern Germany. In the **H₂Mare** project, a consortium of industry and research partners, in which EnBW is also participating, is carrying out research into the production of green hydrogen directly in offshore wind power plants. We want to develop the skills we will need to also construct and operate hydrogen plants at wind power plant sites in the future, although regulatory and economic aspects are also important. In four different subprojects with a total of 35 partners, H₂Mare will lay the groundwork to become a technological leader in this field in just four years. The aim is to support the climate targets by speeding up the decarbonization of the industry, heating and transport sectors. Our main priority is to gain experience in hydrogen logistics and the electrolysis of saltwater out at sea. We are thus taking a big step forward on the path to generating affordable green hydrogen.

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

[Online ↗](#)

The **“Energy Park Bad Lauchstädt”** is a demonstration of the entire value added chain for hydrogen.

[Online ↗](#)

Hydrogen in the gas grid: 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 should be completed at the beginning of 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 with the aid of an electrolyzer on the premises of Netze BW. In a first stage, the company building has already been supplied with a hydrogen/natural gas mix since December 2021. This project will run for several years and aims to demonstrate that the natural gas grid can be decarbonized using zero-emission energy sources – just like the electricity grid. At the field laboratory **“Energy Park Bad Lauchstädt”** in the middle of 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. A main focus will be testing the storage of the hydrogen in an underground salt cavern. The project was awarded funding from the German Federal Ministry for Economic Affairs and Energy in 2021. The field laboratory in Bad Lauchstädt was also selected by the European Clean Hydrogen Alliance as one of the projects to establish a European hydrogen industry. The European Clean Hydrogen Alliance was founded in July 2020 by the EU Commission to support the EU’s hydrogen strategy with the aim of stimulating the rollout of clean hydrogen production and use in Europe.

Internal carbon pricing: Internal CO₂ pricing is an emerging method for reducing a company’s own emissions. A corresponding model for EnBW was developed as part of a dissertation at the Sustainability Center Freiburg. Using case studies on internal CO₂ pricing in real estate, catering/canteens and mobility, the project is demonstrating how, even outside of the area of energy generation, internal processes can make an important contribution to reducing CO₂ emissions and how pricing can provide useful incentives.

E-mobility in rural areas: Our subsidiary Netze BW has analyzed what impact the charging of e-cars can have on rural electricity grids in the “E-Mobility-Chaussee” grid laboratory. The operational tests were concluded in July 2021. During an 18-month practical test, we gained important insights into the user behavior of our customers in these regions and how electromobility can be integrated into rural distribution grids. Static and above all dynamic variants of the load management system offer the greatest potential for improving the capacity of our distribution grids for the integration of e-vehicles. The grid-friendly management of charging infrastructure using measurements of, for example, the current and voltage values, taken in real time make it possible to supply electricity to almost twice as many vehicles at peak times than in grids without optimization measures.

Smart charging at home: Successfully integrating electromobility into the grid will require a smart and powerful electricity grid. In view of the current dynamic scaling up of electromobility, it will be necessary to optimize the existing electricity grid to quickly increase its capacity to handle the required charging infrastructure. The fact that electric vehicles are left unused for long periods of time in the private sector will be utilized to relieve the burden on the grid and enable the flexible and scalable management of charging stations using a smart measurement system. In Netze BW’s “Smart Home Charging” grid laboratory, scalable solutions are being developed and tested at various sites in different stages that build upon one another. Field tests are currently being carried out at the sites in Wangen im Allgäu and Künzelsau.

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

[Online ↗](#)

Quick charging for trucks: In cooperation with partners, EnBW is planning to construct a quick-charging station for heavy-duty trucks. The pilot project is part of the initiative “Pilot Charging and Filling Station Infrastructure for Long-Haul Trucks” initiated by the Federal State of Baden-Württemberg, for which EnBW signed a corresponding letter of intent in October 2021. The concept for the chosen site will be developed in 2022 and aims to set a new standard in the sector with a charging output of up to 1,000 kW per truck. The charging station will be constructed and placed into operation in 2023. The most powerful charging points for passenger cars are currently able to deliver a charging output of up to 300 kW. Our subsidiary Netze BW is using the project to investigate how the quick-charging of trucks can be integrated into planning for the electricity grid. This project expands EnBW’s commitment to the task of preparing the infrastructure for the electrification of heavy goods vehicles. Megawatt charging will be tested at four sites between Berlin and the Ruhr region of Germany as part of the BMVI project HoLa (high-performance charging of trucks) between 2023 and 2025 in cooperation with a large consortium of partners from the worlds of business and science.

Inductive charging: Our site at the Port of Karlsruhe was connected to the public transport system with its own electric bus in 2021. The special feature of this electric bus is that the batteries are charged inductively during the journey. This charging technology involves inductive coils being embedded in the road surface. As soon as the vehicle drives over them, the receiver coils fitted on the underbody are activated. Electrical energy is generated in the coils via a magnetic field and is stored in the vehicle’s battery. This enables the vehicle to cover long distances without the need to stop to recharge. We are thus testing contactless charging of the electric bus during everyday use. The contactless charging technology originates from the Israeli start-up ElectReon. The e-bus has been in regular operation since August 2021 while we continuously optimize the infrastructure in the bus and road.

Further information on the **extraction of lithium** at the Bruchsal geothermal plant can be found [here](#).

[Online ↗](#)

Sustainable extraction of lithium: In cooperation with the Karlsruhe Institute of Technology (KIT) and other firms and institutes from the world of science, we are investigating a process to sustainably extract lithium from thermal water as part of a research project. In December 2020, we received funding approval for the four-year project. At existing geothermal plants – such as in Bruchsal – special carrier material will be used to selectively separate lithium from the rest of the thermal water. After successfully testing the process in the laboratory, the challenge is to transfer the process to an operating geothermal plant. The concept for the implementation in the plant at the site was developed in 2021 and several suitable carrier materials were identified. The pilot plant will be constructed during the course of 2022. Tests will then be completed to find out which carrier materials and parameters are the best for extracting the most lithium.

Research and development: Expenditure and personnel

In the 2021 financial year, we spent €38.6 million (previous year: €70.6 million) on research and development. EnBW innovation management was no longer included in the figures in 2021 because the gradual growth in revenues and the funds deployed for this purpose are distorting the presentation of expenditure on research and development. Adjusted for this change, expenditure on research and development increased in 2021 by 15.2% (previous year restated: €33.5 million). As in the previous year, we received government research grants of €1.0 million. There were a total of 66 employees in areas dedicated to research and development at the Group (previous year: 93 employees). In addition, 253 employees (previous year: 185 employees) were involved in research and development projects as part of their operational work.

Expenditure on research and development

in € million	2021	2020
Grids	18.8	16.0
Generation from renewables	5.2	7.0
Smart energy world, storage and electromobility	7.1	5.9
Hydrogen	6.5	1.8
Dismantling	0.0	1.4
Customer-related research projects	0.7	0.9
Other	0.3	0.6
Total ¹	38.6	33.5

¹ The figures may not add up due to rounding differences. The figures for the previous year have been restated.

+15.2%

increase in expenditure on **research and development** compared to the previous year.

EnBW has been awarded the **Digital Lab Award 2021**, again making it one of the best digital innovation laboratories in Germany.

[Online ↗](#)

Jürgen Stein, Head of EnBW Innovation, explains **how an idea can be turned into a company**.

[Online ↗](#)

ENV was the first German venture capital company to be awarded the **Diversity VC Standard**.

[Online ↗](#)

The founder of Switchboard tells us **how her start-up can contribute to the Energiewende**.

[Online ↗](#)

The **solar power plants** on the roofs of the EnBW charging parks are part of the **virtual power plant**.

[Online ↗](#)

Innovation management

EnBW Innovation has been an integral part of the Group since 2014. In partnership with committed company founders, investors and employees, we develop new business models related to the key themes of Smart Grid [🔌](#), Digital Energy Management & Trading, Connected Home, Mobility, Urban Infrastructure and Telecommunications & Data Solutions. The **innovation strategy** focuses on two main approaches: the generation and scaling up of new business models and investments in external start-ups by EnBW New Ventures.

Networking and transformation were the **main areas of focus** for EnBW Innovation in the last few months. For this purpose, we defined six relevant search fields for new business and streamlined the innovation portfolio. The acquisition of the majority shareholding in DZ-4 in June 2021 was one of the resulting measures. DZ-4 is the market leader for the leasing of solar power plants and battery storage systems and has been part of the ENV portfolio since 2015. We also intensified our networking activities both inside and outside of EnBW. The result: a great willingness to cooperate, interdepartmental collaboration in the Group and a regular exchange of ideas and information – above all with research and development and the Digital Office. To improve our networking outside of the company even further, we organized the first **Innovation Challenge** in April 2021. The winners received a start-up grant from EnBW.

EnBW New Ventures (ENV) invests in start-ups that develop sustainable and mostly digital solutions for infrastructures. The aim is to use the total initial investment volume of €100 million to secure minority shareholdings of between 10% and 30% in up to 20 start-ups, with an investment period of four to eight years in each case. It has a closed business model (evergreen structure) and any profits generated are invested in new start-ups. ENV plays the role of an active investor, supports the start-ups as a business coach or kind of “sparring partner” and is represented on their boards. The start-ups receive access to professional investor expertise via ENV. In addition, commercial cooperation with the operating units at EnBW is also possible. ENV was able to successfully conclude its first two exits in 2021 with Lumenaza and Replex.

Innovation: Selected activities

EnBW Innovation founded two start-ups in 2021: **Parconomy** works with cities and local authorities to transform parking management and thus reduce the environmental pollution caused by cars in cities. An open roaming platform is used to digitally manage access to parking spaces in Germany, and possibly across Europe in the future, and enables cashless payment for their use. The start-up **Switchboard** offers an online marketplace for programming interfaces or so-called APIs. Companies can use the marketplace to buy and sell solutions. Switchboard is initially offering an API for photovoltaic yield forecasts. It was developed by EnBW and makes it possible to reliably forecast the electrical output of PV power plants. Other interfaces and services are planned.

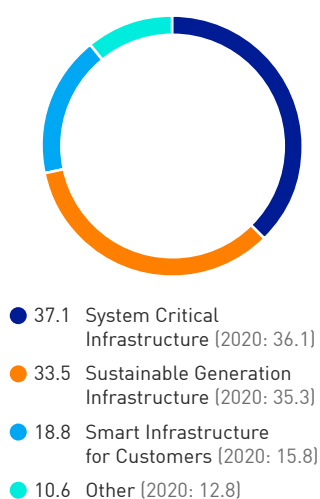
One of the major challenges of the Energiewende is the transition from just a few central conventional power plants to many millions of decentralized renewable energy power plants. We are exploiting the possibilities offered by digitalization to develop a future-oriented solution: Our **virtual power plant** unites many small power plants such as wind turbines, photovoltaic power plants, CHP power plants and hydrogen power plants via a digital platform and joins them together in a network. The “amassed” green electricity is then sold on the electricity markets for the benefit of customers. In 2021, the virtual power plant grew from 2,000 power plants to over 5,000 power plants with a total capacity of more than 2 GW. The solar power plants at the EnBW charging parks also belong to the virtual power plant.

Procurement

Efficient and sustainable procurement processes

Our purchasing department views itself as a **partner for generating added value within the Group**. Its goal is to ensure the supply of materials and services at the best possible quality/cost ratio and thus strengthen the competitiveness of the company. We place great emphasis on the efficient design of our procurement processes for achieving cost-effective purchasing results, as well as on sustainable procurement taking into account the requirements of national laws, EU law and the Group's internal guidelines. In order to manage the procurement processes, a system using various different performance indicators is used. It continually delivers a realistic picture of the current situation in purchasing and enables a comparison of the target and actual situation, as well as the prompt implementation of control measures.

Procurement volumes of the EnBW Group by segment in %

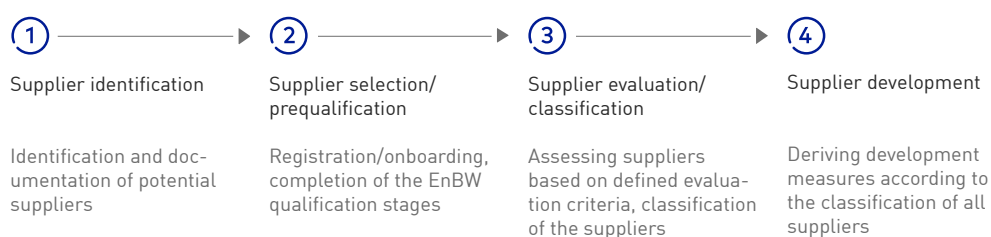


The **procurement volume** of the EnBW Group in 2021 (without ITOs ⁸) amounted to around €3.5 billion (previous year: around €3.2 billion).

A large number of suppliers and service providers play 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 the performance of the suppliers transparent and also makes continuous optimization in partnership possible. The careful selection of our business partners is a part of 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.

Sustainable procurement begins with the careful selection of business partners. Central purchasing at EnBW AG uses a standardized **prequalification process** for this purpose. Suppliers are required to provide a self-assessment via our 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 around 85% of our suppliers by the end of 2021 (measured by procurement volume).

Supplier management process



The **coronavirus pandemic** continues to have a significant impact worldwide on supply and demand along the supply chain. This results in some cases in legal and economic consequences that make having an effective supplier management system crucial. As an energy company and operator of critical infrastructure we are acutely aware of the responsibility we have – not only during this crisis. In order to assess the impact the coronavirus pandemic will have in the future, we work with various, in some cases extreme, scenarios. Purchasing uses these to identify critical operating resources and to largely exclude supply risks by employing our multiple supplier strategy and by strategic stockpiling of the majority of these critical operating resources. For EnBW, the various shortages have primarily manifested themselves in higher prices and longer delivery times for these goods, although there was only a minor impact on procurement processes in the financial year. Shortages of raw materials, finished parts and services will remain a central theme in 2022.

We aim to fulfill our responsibilities for our **supply chains** in accordance with the Guiding Principles on Business and Human Rights of the United Nations. Further information can be found on our website.

Online [↗](#)

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 across the entire supply chain**. We are thus planning to make our procurement process even more sustainable in the future – especially with consideration to social and ecological aspects. As part of a sustainable procurement project, which is one of the measures in the EnBW sustainability program ([p. 41](#)), a Supplier Code of Conduct (SCoC) was developed in 2020. It was introduced in 2021 as a shared set of values and an important criterion for the selection and development of our suppliers. As a consequence, all of our suppliers must fulfill binding minimum requirements with respect to sustainability as part of the prequalification process by 1 January 2023 at the latest. In addition, we analyze and evaluate sustainability risks and sustainability potential in the procurement markets and at our suppliers and, where necessary, agree measures to improve sustainability with our suppliers and evaluate their effectiveness together. We will be able to identify and reduce social and ecological risks in this way (German Supply Chain Due Diligence Act). Alongside the careful selection of suppliers and targeted supplier development activities, the deliberate procurement of sustainable products and services has also become an increasingly important aspect of sustainability in our supply chain. Our goal is to develop resilient and sustainable supply chains that supply products and services that fulfill all requirements with respect to human rights and environmental due diligence according to national and international standards. Furthermore, we will use the carbon footprint and other sustainability criteria as measurable decision-making criteria for the award of all relevant contracts. In purchasing, long-term relationships with our suppliers, communication and cooperation are particularly important to us.

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. This will allow us to concentrate on valuable and future-oriented strategic growth themes in the Group, such as the expansion of renewable energies and broadband [🌐](#). As part of a Group-wide transformation project, a new purchasing system was introduced in central purchasing. The new purchasing system 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 made much more intuitive. In addition, a catalog platform containing almost 25 million items has been introduced 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 a way to reinforce the fight against corruption and bribery and to ensure observance of labor and social laws. 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. 132](#)).

Responsible raw materials procurement in the coal sector

Origin of coal supplies

With a view to the phaseout of coal-fired generation in Germany and the aim of making EnBW climate neutral by the end of 2035 at the latest, hard coal will be gradually replaced by more climate-friendly energy sources. 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. As in the previous year, Russia was the main coal export country for Western Europe in 2021. The coal producers in Colombia, South Africa and the USA were able to secure higher prices for their coal in other markets. This development is also reflected in the volumes of coal delivered to the EnBW power plants. The significant increase in deliveries of 132.3% to 4.19 million t (previous year: 1.80 million t) was due to a higher demand for coal as a result of lower electricity production from wind energy, the recovery in demand compared to the previous year that had been impacted by the coronavirus pandemic and the improved competitiveness of coal in relative terms when compared to gas. Over a 10-year period, coal consumption fell by 35.8% compared to the figure in 2012 of 6.52 million t. As a result of the higher volumes in combination with higher prices for coal, the procurement volume increased significantly in 2021 to €433 million (previous year: €79 million).

It is important for us to know the origins of our coal. Some 77.9% of our coal requirements are thus covered by contracts for which the producers are already known when the contract is concluded. The remainder is sourced from contracts concluded with trade intermediaries, which usually define a quality standard but not the source of the coal. In addition, we maintain close contacts with other potential producers and traders to avoid any dependency on one single producer. The Russian coal was sourced from the mining region of the Kuznetsk Basin (Kuzbass) and was primarily mined by the producers SUEK and Kuzbassrazrezugol (KRU). The American coal was sourced from underground mines in the Illinois Basin, mainly by the producer Murray Energy. The Colombian coal was sourced from the producer Cerrejón.

The opportunities and risks in relation to coal procurement can be found in the “Report on opportunities and risks” [\[p. 132⁷\]](#).

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

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 examined and evaluated on the basis of the **EnBW rules of conduct** governing the responsible procurement of hard coal and other raw materials. We determine any future action based on the supplier evaluations, such as requesting further specific information from selected suppliers. In addition, we pay close attention to the latest studies from competitors and international initiatives, as well as specific information and contributions from civil society organizations.

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 producers with respect to the Bettercoal Continuous Improvement Plans also flow into our process for auditing business partners. Furthermore, we are active in the Russian and Colombian working groups because the large coal producers come from these countries. 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. Instead of an on-site visit, a virtual trip to Colombia was organized in early 2021 by Bettercoal. A webinar on the theme of biodiversity and renaturation was also held for the operators of the Russian coal mines.

Our rules of conduct in combination with internal implementation guidelines act as the foundation for our business activities. In the sustainability clause that is part of all of our contracts with coal producers, we obligate our business partners to observe these rules of conduct. In addition to

Origin of coal supplies to EnBW power plants

in million t	2021	2020
Russia	3.57	1.62
Colombia	0.21	–
USA	0.40	0.18
Total¹	4.19	1.80

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

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

[Online ↗](#)

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

[Online ↗](#)

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

[Online ↗](#)

regular auditing of the sustainability performance of coal suppliers, a multistage auditing process will come into force in the event of suspected breaches of the rules, which 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 in the sustainability index are regularly presented to an internal **committee for the responsible procurement of hard coal and other raw materials (AVB)** with participation from all relevant specialist areas. 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 2021, this committee held several meetings to discuss possible additions to our portfolio of producers that are necessary due to the current situation on the market. The discussions focused, in particular, on the sustainability performance of potential new coal producers in South Africa, as well as current issues related to the import of raw materials and the currently challenging situation on the market.

Current developments

Russia

In 2021, we carried out an intensive business partner audit of our coal producers SUEK and KRU based on a comprehensive assessment from Bettercoal. Due to the coronavirus pandemic and the difficult situation on the market, it was only possible to stay in contact with producers to a limited extent. As well as maintaining contact with the producers, we were also in dialog with other stakeholders in Russia, especially in view of the increasingly difficult situation faced by representatives from civil society when it comes to freedom of expression and critical reporting. At the end of last year, EnBW had already begun to further diversify its procurement portfolio in order to reduce its dependence on deliveries of Russian coal. It will be possible to fully switch to alternative sources in the medium term at higher cost while continuing to guarantee the security of supply.

Colombia

Due to the increased demand for coal, we once again procured small amounts of coal from Colombia in 2021. On the basis of the virtual dialog with Bettercoal, we had the opportunity to contact various different stakeholders in Colombia in early 2021. This included discussions with representatives from civil society, the unions and government, as well as with the coal producers. The discussions mainly focused on two topics: on the one hand, the current situation in the Cesar coal mining region in Colombia, where the coal producer Prodeco has announced that it will be handing back its coal mining licenses to the Colombian government, and the associated issue of what responsibilities Prodeco will still have with respect to due diligence after it ends its mining activities, and on the other hand, the question of how Bettercoal can further support the peace process via the coal producers.

South Africa

As a result of the current geopolitical tensions and the difficult situation on the coal market associated with them, we are considering whether to add South African coal producers to our portfolio. For this purpose, we carried out a country risk analysis with a focus on the coal mining region of Limpopo. The results have been included in our business partner audits and we are focusing on the issues of water management, emissions and resettlements in our evaluations of potential new business partners. We have entered into in-depth virtual discussions with one of the producers to find out more about their sustainability performance and have received a comprehensive range of documents to verify that the producer is complying with our sustainability requirements.

Other procurement alternatives

In order to further diversify our procurement portfolio in the medium term, we are currently examining additional procurement options in Australia, Africa and Asia in addition to those in Colombia, South Africa and the USA. The coal market is generally characterized by an elastic supply. The coal is mainly transported by ship, whereby no special pipeline infrastructure is required for this purpose. A comprehensive audit of all potential new business partners is also part of this examination process, to determine, for example, whether the quality of the coal 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 switching over our power plants initially from coal to more climate-friendly gas (fuel switch [?]) and then to climate-neutral gas such as biogas or hydrogen in the long term. Natural gas plays an important role as a transition technology – either in the form of liquefied natural gas (Liquefied Natural Gas, LNG [?]) or grid-based natural gas. Therefore, we are now gradually expanding our measures for the responsible procurement of raw materials to also include the procurement of natural gas. Due to the current situation in the Ukraine, alternative sources of supply are being strongly considered with a view to reducing the dependency on Russia in the gas sector.

Origin and own consumption

EnBW sources most of its natural gas via supply contracts with Equinor from Norway and Gazprom from Russia, and the European wholesale market. As is the case with coal procurement, EnBW is striving to make its gas procurement more diverse with respect to countries, suppliers and the terms of the contracts. This will also help us to reduce our dependency on Russian suppliers. Activities in the LNG sector are something that will become increasingly important in the future. They will generally open up access to additional sources of supply from global exporters of gas and LNG.

In 2021, we acquired 8,249 GWh of natural gas for our own consumption at EnBW (previous year: 9,660 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. 132⁷).

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 are gradually transferring our business partner auditing processes from the area of coal procurement to gas procurement. In 2021, we thus audited the sustainability performance of all new business partners using a clearly defined process. This includes an audit with respect to both compliance and sustainability. The main focus is placed on the observance of international sustainability standards, compliance with guidelines on environmental protection and human rights, dialog with stakeholders and disclosure of the 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.

Methane emissions

The monitoring of methane emissions from natural gas is becoming increasingly important due to the 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 CO₂/kWh natural gas for the upstream supply chain for our gas procurement (source: DBI (2016): “Critical Evaluation of Default Values for the GHG Emissions of the Natural Gas Supply Chain”; German Environment Agency (2018): “Evaluation of Emissions in the Natural Gas Supply Chain in Germany”). This figure includes the 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.

Business report

General conditions

Macroeconomic trends

Economies

Following a severe global recession caused by the impact of the coronavirus pandemic in 2020, there was a strong recovery in 2021. Due to falling rates of infection, especially in the spring and summer of 2021, many countries were able to ease restrictions on economic and social life, which led to a growth in demand. However, the economic recovery differed greatly from country to country and from sector to sector. The economic recovery was also accompanied by interruptions to international supply chains, a sharp increase in the prices of crude oil, energy and raw materials, and a general increase in inflationary pressure.

The Omicron variant of the COVID-19 virus spread across the world at the end of 2021. The pandemic will continue to have an impact on economic growth in 2022 and economic projections are subject to considerable uncertainty. Global economic growth is likely to weaken again in 2022, however individual countries such as Germany or the Czech Republic could deviate from this economic trend. The macroeconomic trends are not expected to have either a particularly positive or negative influence on our business performance in 2022.

Development of gross domestic product (GDP)

in %	2022	2021 ¹	2020 ¹
World	4.4	5.9	-3.1
Eurozone	3.9	5.2	-6.4
Germany	3.8	2.7	-4.6
France	3.5	6.7	-8.0
United Kingdom	4.7	7.2	-9.4
Sweden	3.4	4.0	-2.8
Switzerland	3.0	3.7	-2.5
Czech Republic	4.5	3.8	-5.8
Turkey	3.3	9.0	1.8

¹ The figures for the previous year have been restated.

Development of interest rates

In 2021, the central banks and countries used monetary and fiscal policy measures to an extent that was unprecedented historically. The global economy continued to recover despite high infection rates, new COVID-19 mutations, lockdowns and the resulting problems with supply chains. During the course of the year, rising inflation rates especially in the fourth quarter became a dominant theme on the capital markets, as consumer price inflation in Europe and the USA hit multi-year highs. In this environment, yields on German government bonds rose, for example, 30-year maturities touched 0.5%.

Against this background, the actuarial interest rate, which is used to discount the pension provisions, also increased from 0.75% to 1.15% during the course of 2021. Following years of falling interest rates, this development led to a reduction in the present value of the provisions for the first time. The discount rate for nuclear provisions stood at 0.01% (previous year: 0.00%)

The consensus forecast for the ECB interest rate on the main refinancing operations remains unchanged for 2022 at 0.00%.

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 Energiewende. However, digitalization, sector coupling [?] 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 align 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, tele-communications and broadband	Financial investors
ALPIQ, EDF, EDPR, Enel, Engie, E.ON, Equinor, EVN, Fortum, Iberdrola, Ørsted, RWE, Uniper, Vattenfall, Verbund	Badenova, Entega, EWE, Mainova, MVV, NERGIE, SWM, Thüga	Lichtblick, NEXT Kraftwerke, Octopus Energy, ostrom, Sonnen, Thermondo	BayWa r.e., bp, Encavis, ENERTRAG, PNE Wind, Shell, theolia, Total Energies, wpd	1&1, Allego, Aral, Deutsche Glasfaser, Deutsche Telekom, Ecotel, Fastned, Google, Ionity, Shell, Tesla, VW	KGAL, Talanx

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

As in the previous year, the coronavirus pandemic also dominated the political agenda in 2021. Following renewed lockdowns due to high incidence rates at the beginning of the year, it was possible to reduce the seven-day incidence rate to under ten cases per 100,000 inhabitants in June and reopen again thanks to the observance of safety measures, the increasing vaccination rate and seasonal effects. Due to the subsequent stagnation in the vaccination rate and seasonal effects, there was a sharp increase in the seven-day incidence rate to over 450 by the end of the year. This led to the imposition of new restrictions on public, private and economic life. In contrast to other sectors, such as the retail trade, hospitality and the hotel industry, the energy sector was less affected by the new restrictions. Following relatively low electricity consumption levels at the beginning of the year, electricity consumption once again returned to a normal level. At the same time, government aid programs and stimulus measures to combat the threat of an economic crisis were linked at a European and national level with the goal of supporting investment in the green transformation of the economy and of accelerating structural change. One example is the “environmental bonus” offered by the German government for the purchase of electric cars and plug-in hybrids.

Climate protection

The decision issued by the German Federal Constitutional Court (BVG) on climate change on 24 March 2021 meant that climate protection was once again pushed to the top of the political agenda, with politicians now under even greater pressure to take action. The court found that the annual emission levels allowed until 2030 are incompatible with fundamental rights insofar as they lack sufficient specifications for further emission reductions from 2031 onwards. To prevent any unfair burden being placed on future generations in violation of the German constitution, additional reductions will be required by 2030 on top of the existing climate budget. We announced at an early stage that we actively support the Paris Agreement and defined a residual emissions budget together with a reduction path that conforms to the Paris Agreement according to the definition published by the German Advisory Council on the Environment. In response to public pressure following the decision issued by the BVG, the German government has quickly announced a revision of the Federal Climate Change Act, which was agreed in parliament before the summer break. The revised act tightens the national reduction target for 2030 to –65%, sets a new reduction target of –88% for 2040 and pulls forward the target for net greenhouse gas neutrality to 2045. The aim is to achieve negative emissions

by 2050. The stricter target for 2030 will require a corresponding tightening of the annual allowable residual sector emissions up to 2030. The targets for the energy industry sector have been tightened by the greatest amount: the energy industry must now reduce its CO₂eq emissions based on the reference year of 1990 by 77% (previously: 62%). The fact that the energy industry would have to deliver by far the highest reductions up to 2030 was to be expected as it has lower CO₂ avoidance costs. This will generate huge challenges, but also opportunities, for the energy sector and EnBW. In particular, there is the phaseout of coal power, which will need to be accelerated due to these resolutions and will make a significantly faster expansion of renewable energies necessary. Although the targets have been tightened considerably in some cases, the German government has still not defined emissions budgets as the key metrics in the amendment to the law.

EU Green Deal

Measures were introduced at an EU level to push forward the new ambitions associated with the EU Green Deal [?](#) and the Climate Law 2050. The goal of climate neutrality by 2050 and above all tightening the climate emissions target for 2030 to -55% will make it necessary to amend and in some cases completely revise numerous pieces of legislation. In its initial comprehensive "Fit for 55" [?](#) legislative package, the EU Commission presented extremely ambitious, interlinked proposals in the middle of July 2021, which will now pass through the legislative process that is likely to last beyond the end of 2022.

In particular, the revision of the Emissions Trading Directive and Effort Sharing Regulation, the proposals to introduce comparable trading schemes for transport and heating at an EU level and the revision of the directive to promote renewable energies are of central importance for our company. The revision of the Energy Efficiency Directive, the directive on the deployment of alternative fuel infrastructure, the Energy Taxation Directive and the introduction of a carbon border adjustment mechanism [?](#) are also important to highlight. In our view, the proposed reforms to the Emissions Trading Directive are largely positive. We also broadly support the amendments to the targets and the general principles behind the Renewable Energy Directive. However, we believe that some further adjustments are required, above all, to the criteria for determining whether the production of green hydrogen can be deemed renewable, as well as to the guarantees of origin system and the sustainability requirements for the use of biomass. In our view, it is important overall to set the right targets and ensure the coherency of the proposals.

The gas package presented in the middle of December 2021 that includes the creation of a new regulatory framework for the establishment of a hydrogen market was a crucial step towards a quick and efficient Energiewende. The plan to integrate hydrogen into the existing regulations for the gas market is positive. At the same time, the restrictive approach – such as stricter unbundling rules with respect to the future hydrogen infrastructure – could hinder the successful ramp-up of the hydrogen market. Changes to the funding instruments and capital market rules are also still being discussed, with generally positive signals for the switch to a sustainable economy. We believe that transitional activities also need to be taken into account in this area. The revision of the state aid regulations is a further important building block in developing the future investment framework.

On 22 December 2021, the first delegated act for the climate objectives of the EU taxonomy [?](#) came into force. The EU Taxonomy Regulation creates a framework for the classification of "green" or "sustainable" economic activities in the EU. At the turn of the year, the EU Commission presented its Complementary Climate Delegated Act that includes criteria for electricity and heat generation from natural gas and nuclear energy. According to the proposals, investment in gas power plants and nuclear power plants will be classified as sustainable for a transitional period. We believe that the requirements placed on gas power plants (according to the version of the delegated act of 2 February 2022) are very ambitious, and in some cases too ambitious from a technological and economic perspective to enable a swift transition to a hydrogen economy. Gas and nuclear activities will not be taken into account in this year's report.

Further information on the implementation of the EU Taxonomy Regulation in the EnBW Group can be found on [p. 110 ff.](#)⁷. Full information on the taxonomy-eligible and taxonomy-aligned figures according to Annex II of the delegated act for the EU taxonomy can be found on [p. 146](#)⁷.

Further information on our experiences with applying the EU sustainable finance taxonomy can be found [here](#).

Online [↗](#)

Germany's parliamentary election

The election for the 20th German parliament was held on 26 September 2021. The subsequent coalition negotiations between the so-called traffic light parties (SPD, Greens and FDP) ended on 24 November 2021. The resulting coalition agreement includes a number of reforms with one of its focal points being climate protection. In this context, the phaseout of coal-fired generation will be accelerated and will "ideally" be completed by 2030. The previous target for the phaseout of coal was 2038. The coalition government also remains committed to the phaseout of nuclear power as expected. The government plans to introduce an emergency climate protection program from 2022 and every legislative proposal will be subject to a "climate check" to examine whether it conforms to the climate goals. The installation of rooftop solar power will become mandatory on new commercial buildings and photovoltaics should also be installed "as a general rule" on new private buildings. At the same time, the German states should allocate 2% of their land area to the generation of wind energy. Finally, funding of the EEG cost allocations via electricity prices will cease from 2023 to ease the burden on private households and businesses, and EEG funding will be ended once the coal phaseout is complete. In addition, the government has acknowledged the need to construct hydrogen-ready gas power plants. This means that the momentum generated by the new German government could thus have a positive boost on the future activities of EnBW.

Smart Infrastructure for Customers segment

Electricity and gas prices for retail and industrial customers

According to an analysis of electricity prices by the German Association of Energy and Water Industries (BDEW) published in January 2022, the average monthly electricity bill for a household with an annual consumption of 3,500 kWh in 2021 came to €93.80 compared to €92.78 in the previous year. Taxes and levies account for more than half of this amount. EnBW lowered the price for the basic supply of electricity by around €18 per year on 1 April 2021. This was due to a decrease in costs, both for the procurement of electricity and also for cost allocations, which was offset to some extent by the increase in network user charges. For industrial customers receiving a medium-voltage supply, the average electricity price including electricity taxes increased according to calculations made by BDEW by more than 20%, from 17.76 ct/kWh in the previous year to 21.38 ct/kWh in 2021.

According to calculations by the German Federal Statistical Office, natural gas prices for private households in 2021 were 12% higher than the prices in the previous year. As of December 2021, gas prices for industry had increased by 235% in comparison to the previous year; the average price for the year also more than doubled in 2021.

Average electricity price for a 3-person household¹

in ct/kWh	2021	2020
Grid fees ²	7.80	7.75
EEG cost allocations	6.50	6.76
Procurement, sales	7.93	7.51
VAT	5.13	5.03
Electricity tax	2.05	2.05
Concession fees	1.66	1.66
Other allocations	1.09	1.05
Total	32.16	31.81

¹ Annual consumption of 3,500 kWh.

² Including metering and metering station operation.

Source: BDEW | As of January 2022.

+1.1%

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

Structural changes

Following relatively low **electricity consumption levels** at the beginning of the year – due to renewed restrictions caused by the coronavirus pandemic – electricity consumption rose to higher than the level in the previous year between March and September (increase of up to 12.3%). Despite the broader restrictions that were reimposed at the end of the year, electricity consumption in the fourth quarter was once again slightly above the level in 2020.

The high wholesale market prices for electricity and gas 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 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.

Despite the coronavirus pandemic, the **home electricity storage market** already grew by 63% in 2020 compared to the previous year. Further growth was also seen in 2021. In the first half of 2021, around 73,000 battery systems were installed in privately owned homes, which was an increase of 59% in comparison to the same period of the previous year. Due to the supply difficulties caused by the coronavirus pandemic, EUPD Research estimates that a total of 135,000 new home storage systems were installed in 2021. Around 15% of the storage systems installed were retrofitted to existing PV systems. Via our subsidiary SENEK, we are one of the leading providers of home photovoltaics storage systems and are thus participating in this growth.

There was even stronger dynamism in the **new registration of electric vehicles**. According to the Federal Motor Transport Authority, around 267,000 electric cars were registered between January and October 2021, which was approximately 120% more battery electric vehicles than in the same period of the previous year. The share of the total number of new registrations accounted for by purely electric vehicles increased to 12%. A similarly high proportion of the overall market was accounted for by plug-in hybrid vehicles. There were around 265,000 newly registered hybrid vehicles, which was an increase of 103%. These growth rates were mainly due to the higher environmental bonus for car purchases that has been available over the last year and the wider selection of electric vehicle models. 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. To ensure there is sufficient charging infrastructure to handle this growth, EnBW mobility+ already operates the largest quick-charging network in Germany, is investing in further expansion, and also makes it possible for drivers to charge their vehicles across large areas of Europe using the mobility+ app.

The coronavirus pandemic has increased awareness for the huge importance the Internet has for the economy and for social life. However, a comprehensive expansion of the **broadband infrastructure** ⁸ is currently not economically viable in many regions. For this reason, the subsidies that had so far only been available to fund “white areas” (bandwidth ≤ 30 Mbit/s) have been expanded: Funding will now also focus on “gray areas” in the future. This means that funding will be provided between 2021 and 2023 for areas with a bandwidth of ≤ 100 Mbit/s (download) and from 1 January 2023 for areas with a bandwidth ≤ 200 Mbit/s (symmetrical), and thus effectively for all private customer connections that are not gigabit-ready. Alongside the existing funding programs from the federal and state governments, additional funds totaling €12 billion will be made available in future for the expansion of the fiber-optic infrastructure. In order to benefit from this transformation to a gigabit-ready infrastructure, Plusnet is now participating in the expansion of broadband across Germany. NetCom BW will continue to focus on Baden-Württemberg.

System Critical Infrastructure segment

The consultation process for the second draft of the **Network Development Plan (NDP) Electricity 2021–2035** ⁹ was concluded by the four transmission grid operators in October and NDP 2035 was confirmed and finalized by the Federal Network Agency in January 2022. The expected increase in net electricity consumption in Germany of between 15% and 25% in the scenarios will be driven by the progressive electrification of the industrial, heating and transport sectors. The phaseout of nuclear power and the planned phaseout of coal-fired generation will require the doubling of the installed output of renewable energies, mainly through the expansion of wind energy and PV, to between 233 and 261 GW. To also guarantee the stability of a system in 2035 in which between 70% and 74% of the gross electricity consumption will be accounted for by renewable energies, it will be necessary to expand the output of gas power plants by up to 17 GW. These power plants must then be operated with climate-neutral gases in the future.

Our transmission grid operator TransnetBW is participating in two major projects to push forward the development of high-voltage DC transmission lines ¹⁰ to transport wind energy in the future from the north of Germany to the centers of consumption in the south. The plans and documentation for planning permission for the most southern section of the **ULTRANET** project between North Rhine-Westphalia and Philippsburg were submitted in October 2021. 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. In September 2021, the Federal Network Agency defined the scope of the planning approval procedures for all sections of the power line. Following on from this, the transmission system operators are developing the specific plans for the routes of the transmission lines. Besides the major north-south transmission lines, in which EnBW is already involved via TransnetBW, new gas power plants will also be required, particularly in the south of Germany.

The German gas transmission system operators (FNB) started the consultation process for the framework scenario for the **Network Development Plan (NDP) Gas 2022–2032** ¹¹ at the end of June 2021. Alongside examining how the demand for natural gas will develop, the plan will also consider the integration of climate-neutral gases into the gas infrastructure. In the last version of the NDP Gas 2020–2030, the FNB already demonstrated how a hydrogen infrastructure could be developed using the existing natural gas grid in Germany. The newly proposed scenarios cover a development in total growth by 2032 of between +9% and –14% in comparison to the reference year 2019 with 913 TWh.

Demand for hydrogen of up to 92 TWh is expected by 2032 and could thus account for almost 10% of the total demand. Against the background of the already high utilization of the high-pressure gas grid in Baden-Württemberg, a design variant for Baden-Württemberg has also been included in the framework scenario. The growth in the connected distribution grids will lead to an expected increase in gas capacities for our transmission system operator terranets bw of around 10% over a period of ten years.

In October 2021, the Federal Network Agency made a decision on the future **rate of return on equity for grid investments**. The interest rate for new plants in the gas grid from 2023 and in the electricity grid from 2024 will be reduced from the current rate of 6.91% to 5.07% before taxes, subject to the legal challenges initiated by numerous network operators. In order to continue to operate profitably under these conditions, our grid companies will rely on improvements in efficiency through the implementation of digitalization measures. One example is the field test being carried out in the flexQgrid research project, which started in August under the leadership of Netze BW. This project is investigating how electric vehicles and heat pumps – that are gaining more and more relevance as connected devices – can be aligned with the decentralized, renewable generation that will make up the energy world of tomorrow to ensure the optimal use of existing grid capacities.

Sustainable Generation Infrastructure segment

Installed net output for electricity generation from renewable energies in Germany¹

in GW	2021	2020	2019	2018	2017
Solar	58.98	54.07	49.10	45.31	42.29
Onshore wind	56.27	54.84	53.19	52.45	50.17
Biomass	9.41	8.25	8.46	8.11	7.69
Offshore wind	7.77	7.74	7.53	6.40	5.41
Hydropower ²	5.50	5.50	5.50	5.50	5.50
Gas	31.68	30.50	30.07	30.13	29.76
Hard coal	19.91	23.71	22.67	23.82	24.04
Brown coal	19.96	20.25	20.90	20.90	21.11
Nuclear power	8.11	8.11	9.52	9.52	10.80
Oil	4.68	4.38	4.38	4.38	4.42
Total	222.27	217.35	211.32	206.52	201.19

¹ The figures for the previous year have been restated.

² Correction to the value for hydropower from 4.86 GW to 5.50 GW by EnBW. Source: Fraunhofer ISE (www.energy-charts.de). | As of 31/01/2022.

Renewable Energies

Germany

The proportion of total electricity generation accounted for by renewable energies fell slightly in 2021 to around 43% in comparison to the level in the previous year (45.4%), which was primarily due to poorer wind conditions compared to the previous year.

Onshore wind

In 2021, new onshore wind farms with a total capacity of around 1.7 GW were placed into operation in Germany. In the auctions, the available capacities were only covered by bids for the first time from September, after the first two rounds of auctions were significantly undersubscribed. The German government agreed in 2022 to increase the capacities available in the auctions by 1.1 GW to 4 GW per year.

Offshore wind

There were no new offshore wind farms placed into operation in Germany in 2021. In the first auction for capacities in the so-called “transition model” in September, 958 MW of capacity was awarded and all of the successful bids did not require state funding. In the coalition agreement, the new German government agreed a significant increase in the offshore expansion targets to 30 GW by 2030, 40 GW by 2035 and 70 GW by 2045. This strengthens our belief that offshore wind energy with its huge generation potential will play an important role in the achievement of the climate targets.

Photovoltaics

Photovoltaic power plants with a total output of around 4.9 GW were placed into operation in Germany in 2021. In the five rounds of auctions held during the year, bids for projects with a total capacity of 1.9 GW were accepted, whereby all of the rounds were significantly oversubscribed.

The German government increased its expansion target for 2030 to 200 GW in the coalition agreement. It intends to make significant improvements to the conditions for approvals and the terms of the auctions. The coalition agreement also explicitly includes an obligation for the installation of rooftop solar systems on commercial buildings for the first time.

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, in both the wind power and photovoltaic sectors, despite the fact that the development time for new wind projects is also increasing in France. The framework conditions in France guarantee continued and reliable funding for renewable energies.

Great Britain

An auction for offshore wind rights was held by the Crown Estate at the turn of the year 2020/2021 in Great Britain. We had our bid for two sites with a total potential capacity of 3 GW – which was submitted together with our project partner bp – accepted in this auction and this project is currently in the development and approval process. In July 2021, EnBW and bp submitted a joint bid for a site in the Scottish North Sea. In January 2022, the equal partners had a bid accepted by the Crown Estate Scotland to develop a 2.9 GW offshore wind farm off the east coast of Scotland.

Sweden

The Swedish market offers favorable conditions and an increasingly competitive environment for renewable energies. In particular, the further expansion of onshore wind plays an important role on the Swedish generation market. Photovoltaics are also becoming a more attractive proposition, especially in Southern Sweden. We have been continuously expanding our wind power portfolio in Sweden over the last year by entering into partnerships in the project development phase.

Turkey

The new funding mechanism for renewable energies came into force on 1 July 2021 and will be valid until the end of 2025. Feed-in remuneration for new projects will no longer be calculated in US dollars, as previously, but rather directly in Turkish Lira. 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 still believe that the Turkish market is 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

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

in €/MWh	Average 2021	Average 2020
Spot	96.84	30.47
Rolling front year price	89.14	40.20

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

in €/MWh	Average 2021	Average 2020
Spot	46.87	9.41
Rolling front year price	33.60	13.49

Electricity wholesale market

In 2021, the average spot market price ² of around €97/MWh was more than €66/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. This increase in prices was 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, among other things, lower levels of renewable generation. 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, the way the war between Russia and Ukraine develops and the sanctions imposed on Russia will have a significant effect on the electricity market.

Gas market

Prices in 2021 were considerably higher than the prices in the previous year, increasing sharply especially from March 2021. The reasons for this were the colder winter 2020/2021 in parts of North Asia and the resulting increase in demand for LNG ², as well as the significantly colder months of April and May in Europe, which led to further withdrawals from the gas storage facilities. Furthermore, there was more maintenance work in Norway and Great Britain, unexpected demand for gas from the power plant sector from the middle of the year onwards to compensate for below-average energy production from wind power plants and increased demand for gas in China due to the economic recovery in the country. Gazprom – the Russian natural gas supplier – largely suspended any additional supplies to Europe in the summer. Russian exports via Poland also fell significantly from the end of July. Damage to a pipeline and a fire at a Siberian gas plant were the reasons given for this development. The long-term bookings for the transport of gas via Poland by Gazprom expired at the end of September. This meant that significantly lower volumes were booked and transported between October and December in comparison to the previous year.

The fill levels at the gas storage facilities in Europe were below the average level in the previous years. When storage levels are low, every cold spell or another shortage in supply could result in significant price increases. It is uncertain how the natural gas market will develop in the future. If further sanctions are imposed on Russia in response to their hostilities in the Ukraine, there is some uncertainty as to the volumes of natural gas that Russian suppliers will be able to deliver or that can be sourced from them. As a result of the suspension of the approval process for Nord Stream 2, there is no expectation that the supply difficulties will ease in the foreseeable future.

Development of prices on the oil markets

in US\$/bbl	Average 2021	Average 2020
Crude oil (Brent) front month (daily quotes)	70.95	43.21
Crude oil (Brent), rolling front year price (daily quotes)	66.58	45.88

Development of prices on the coal markets

in US\$/t	Average 2021	Average 2020
Coal – API #2 rolling front year price	95.07	57.98
Coal – API #2 spot market price	122.24	50.40

Oil market

In 2021, oil prices were significantly higher than in the previous year, rising continuously during the course of the year. From June onwards, prices exceeded pre-coronavirus levels at the beginning of 2020. The main driver of this rise in prices was restrictive production management by the OPEC+ group combined with a growing recovery in the global demand for oil. Following the presidential elections in Iran, any hopes of a quick increase in Iranian oil exports after a revival of the Iran nuclear deal proved to be premature. As a result of the factors mentioned above, the global oil market was persistently undersupplied in 2021. This led to a sharp fall in the global stocks of oil. Despite demands from large oil importers including the USA and India, OPEC+ did not increase their oil production sufficiently from month to month even in the fourth quarter of 2021. The oil market is also subject to a degree of uncertainty due to the geopolitical crisis triggered by Russia.

Coal market

Coal prices generally experienced sideways movement up to the end of March 2021. Prices then started to increase and this upward trend accelerated sharply through August and September before coal prices hit a high at the beginning of October. New all-time highs were seen on the spot and forward markets. Higher gas and LNG ² prices led to higher demand for coal in the electricity generation sector because coal-fired generation became more attractive economically than gas generation. This was accompanied by a sharp increase in the demand for coal imports in China. Due to various different factors, domestic coal production in China was not able to keep pace with the dynamic growth in demand. This increase in international demand was met on the supply side by production issues in almost all important coal export countries. The result was a bidding war for the available quantities of coal. It was only after a significant decrease in gas prices, followed by a huge political intervention by the Chinese government in its domestic coal market, that coal prices

began to noticeably fall again from October onwards. In the near future, the coal market will be influenced – in the same way as the other raw materials markets – by the uncertainty caused by the war between Russia and Ukraine.

Development of prices for emission allowances/daily quotes

in €/t CO ₂	Average 2021	Average 2020
EUA – rolling front year price	52.76	24.46
CER – rolling front year price	n/a	0.26

CO₂ allowances [?]

In 2021, prices rose continuously to more than €70/t CO₂ and were significantly higher than those in the previous year. This market trend was caused by higher emissions from the increased use of fossil fuels for the generation of electricity, higher fuel switch [?] costs and the recovery of industrial production. Demand for EUA certificates [?] was also strengthened by speculation that EUA prices will increase further in the medium to long term due to shortfalls from 2022 to 2024 and tighter climate targets for 2030. As a result of the further reductions in supply imposed by the market stability reserve (MSR) [?] and the tightening of the climate targets for 2030, further price increases are expected. The fourth trading phase of the EU Emissions Trading System (EU ETS) started on 1 January 2021 and the use of CERs (Certified Emission Reductions) [?] is no longer permitted. It was still possible to exchange CERs for EUA certificates up to 30 April 2021.

Nuclear power

Germany has decided to phase out nuclear power by 2022. The current coalition agreement also reaffirms this decision. 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. We are still permitted to generate electricity at the fifth power plant – Block II in Neckarwestheim – until the end of 2022 at the latest. EnKK has also already applied for approval to dismantle this power plant so that the work can be started as soon as possible after it is finally shut down.

The government is responsible for the construction of the final storage site for radioactive waste and this lies outside of the control of the operators of the nuclear power plants. However, the power plant operators – including EnBW – have made a significant financial contribution towards these final storage facilities and paid around €24 billion into the state “fund for the financing of nuclear waste management” from their nuclear provisions.

The EnBW Group

Finance and strategy goal dimensions

Results of operations

Electricity sales as in previous year, gas sales increase significantly

Electricity sales volume (without System Critical Infrastructure)

in billion kWh	Smart Infrastructure for Customers		Sustainable Generation Infrastructure		Total (without System Critical Infrastructure)		Change in %
	2021	2020	2021	2020	2021	2020	
Retail and commercial customers (B2C)	14.4	14.3	0.0	0.0	14.4	14.3	0.7
Business and industrial customers (B2B)	23.5	20.0	0.0	0.0	23.5	20.0	17.5
Trade	0.2	1.0	69.4	72.0	69.6	73.0	-4.7
Total	38.1	35.3	69.4	72.0	107.5	107.3	0.2

Electricity sales in the 2021 financial year were at the same level as in the previous year. In a persistently challenging competitive environment, electricity sales to retail and commercial customers (B2C) remained at the same level as in the previous year. In contrast, sales to business and industrial customers (B2B) increased significantly. Sales in the trading sector were slightly lower than 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 %
	2021	2020	2021	2020	2021	2020	
Retail and commercial customers (B2C)	18.3	17.1	0.0	0.0	18.3	17.1	7.0
Business and industrial customers (B2B)	246.6	199.7	0.0	0.0	246.6	199.7	23.5
Trade	1.2	0.3	228.9	224.4	230.1	224.7	2.4
Total	266.1	217.1	228.9	224.4	495.0	441.5	12.1

In the 2021 financial year, there was a substantial increase in gas sales in comparison to the previous year. Adjusted for the effects of changes in the consolidated companies, gas sales were 1.3% higher than in the previous year. Gas sales grew in business with retail and commercial customers (B2C) due to the weather and despite the persistently challenging competitive environment. The increase in sales to business and industrial customers (B2B) in comparison to the previous year was the result of the purchase of Gas-Union by VNG and an increase in sales by our sales teams. There was also slight growth from trading activities.

Significant increase in revenue, especially from trading activities

External revenue by segment

in € million ¹	2021	2020	Change in %
Smart Infrastructure for Customers	13,998.2	9,964.9	40.5
System Critical Infrastructure	4,407.2	3,657.5	20.5
Sustainable Generation Infrastructure	13,734.8	6,063.8	126.5
Other/Consolidation	7.7	8.1	-4.9
Total	32,147.9	19,694.3	63.2

¹ After deduction of electricity and energy taxes.

Adjusted for the effects of the changes in the consolidated companies, external revenue was 58.5% higher than the level in the previous year.

Smart Infrastructure for Customers: Revenue in the Smart Infrastructure for Customers segment increased considerably in the 2021 financial year in comparison to the previous year. Adjusted for the effects of the changes in the consolidated companies, revenue was 33.3% higher than the level in the previous year. This was primarily due to higher volumes of electricity and gas sold.

System Critical Infrastructure: Revenue in the System Critical Infrastructure segment increased significantly in the 2021 financial year in comparison to the previous year. Adjusted for the effects of the changes in the consolidated companies, especially the acquisition of Gas-Union Transport, revenue was 18.6% higher than the level in the previous year. This increase in revenue was primarily due to higher revenue from the use of the grids.

Sustainable Generation Infrastructure: Revenue in the Sustainable Generation Infrastructure segment increased in comparison to the previous year, mainly due to higher trading activities as a result of growing volatility on the electricity and gas markets that led in part to higher earnings contributions. This was offset to some extent by lower revenues from our offshore and onshore winds farms, which generated less electricity due to the weather conditions.

Material developments in the income statement

On the one hand, the increase in the cost of materials caused by higher procurement prices corresponded to the increase in revenue, while on the other hand, additions to the provisions for onerous contracts also contributed to the increase in the cost of materials. The rise in personnel expenses was mostly due to the growth in the number of employees in all segments and wage increases as part of the collective bargaining agreement. The balance of other operating income and other operating expenses in the reporting period fell from €-747.3 million in the previous year to €-1,159.4 million in the reporting year. This decrease was largely the result of valuation effects from derivatives ². The increase in impairment losses was mainly attributable to impairment losses on conventional power plants and to a smaller extent on offshore wind farms. Despite the higher investment income in comparison to the previous year, the investment result fell due to the positive effect of a write-up on the joint venture in Turkey and the revaluation of the shares in EnBW Albatros in the previous year. EnBW Albatros is no longer accounted for using the equity method but has instead been fully consolidated since the beginning of 2020. The financial result improved to €174.5 million (previous year: €-307.0 million), which was mainly attributable to the significantly higher result from the market valuation of securities in comparison to the previous year. The result in the previous year reflected the uncertainties on the global securities markets caused by the coronavirus pandemic. Overall, earnings before tax (EBT) ² stood at €513.3 million in the 2021 financial year, compared to €1,002.6 million in the previous year.

Earnings

The Group net profit/loss attributable to the shareholders of EnBW AG decreased from €596.1 million in 2020 by €232.9 million to €363.2 million in the reporting period. Earnings per share amounted to €1.34 in the 2021 financial year, compared to €2.20 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	2021	2020	Change in %	Forecast 2021
Smart Infrastructure for Customers	323.1	335.0	-3.6	300 to 375
System Critical Infrastructure	1,288.5	1,346.6	-4.3	1,300 to 1,400
Sustainable Generation Infrastructure	1,535.1	1,277.8	20.1	1,375 to 1,475
Other/Consolidation	-187.4	-178.2	5.2	–
Total	2,959.3	2,781.2	6.4	2,825 to 2,975

TOP**Share of adjusted EBITDA accounted for by the segments**

in %	2021	2020	Forecast 2021
Smart Infrastructure for Customers	10.9	12.0	10 to 15
System Critical Infrastructure	43.5	48.4	40 to 50
Sustainable Generation Infrastructure	51.9	45.9	45 to 45
Other/Consolidation	-6.3	-6.3	–
Total	100.0	100.0	

The adjusted EBITDA for the EnBW Group increased by 6.4% in the 2021 financial year in comparison to the previous year. This positive earnings performance was at the top end of our forecasted range for the 2021 financial year. The shares of the adjusted EBITDA accounted for by the segments were all within the forecasted ranges. Adjusted for the effects of changes in the consolidated companies, the adjusted EBITDA of the EnBW Group would have increased by 5.4%.

Smart Infrastructure for Customers: The adjusted EBITDA of the Smart Infrastructure for Customers segment fell by 3.6% in 2021 in comparison to the previous year and was within our forecasted range. Adjusted for the effects of changes in the consolidated companies, earnings fell by 8.0%. The main reasons for this fall in earnings were the negative impacts of increasing numbers of customers being provided with a basic supply of energy at high additional procurement costs, as well as impairments to receivables. Excluding these effects, the adjusted EBITDA would have increased to above the level in the previous year due to a better result in the commodity business and the positive earnings performance of our subsidiary SENEK.

System Critical Infrastructure: The adjusted EBITDA of the System Critical Infrastructure segment in 2021 was slightly below the level in the previous year (–4.3%) and was also slightly below the forecasted range. Adjusted for the effects of the changes in the consolidated companies, the decrease was 5.0%. The main reason for this fall in earnings and failure to achieve the target range was the considerably higher expenses for the grid reserve and balancing energy to maintain the security of supply. In addition, it was not possible to fully compensate for the increase in personnel expenses in comparison to the previous year, mainly as a result of the necessary expansion of the grids, with higher revenue from the use of the grids.

Sustainable Generation Infrastructure: The adjusted EBITDA of the Sustainable Generation Infrastructure segment increased substantially by 20.1% in comparison to the figure in the previous year and was thus above the forecasted range.

Adjusted EBITDA Sustainable Generation Infrastructure

in € million	2021	2020	Change in %
Renewable Energies	794.0	835.6	-5.0
Thermal Generation and Trading	741.1	442.2	67.6
Sustainable Generation Infrastructure	1,535.1	1,277.8	20.1

In the Renewable Energies area, the adjusted EBITDA fell by 5.0% to €794.0 million. Poorer wind conditions across Germany, both in comparison to the previous year and the long-term average, primarily contributed to this decrease. In the Thermal Generation and Trading area, the adjusted EBITDA increased in 2021 by 67.6% in comparison to the previous year. This was due to growing volatility on

the wholesale markets, which led to positive earnings contributions from trading activities for electricity and gas that were higher than both the level in the previous year and the forecasted value.

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

Non-operating EBITDA

in € million	2021	2020	Change in %
Income/expenses relating to nuclear power	70.5	43.7	61.3
Income from the reversal of other provisions	8.6	38.3	-77.5
Result from disposals	-6.6	2.4	-
Reversals of/additions to the provisions for onerous contracts relating to electricity procurement agreements	-343.1	-56.8	-
Income from reversals of impairment losses	69.5	16.9	-
Restructuring	-42.3	-53.9	-21.5
Other non-operating result	87.6	-108.5	-
Non-operating EBITDA	-155.8	-117.9	32.1

The fall in non-operating EBITDA [?] was primarily due to expenses related to additions to the provisions for onerous contracts for electricity procurement agreements. The main reasons for these additions were lowered expectations in relation to future cash flows against the background of increasingly tighter requirements with respect to climate protection. As a result, EnBW was compelled to revise its expectations of energy industry conditions, as well as of medium and long-term price trends in the relevant procurement and sales markets.

In the 2021 financial year, the other non-operating result increased in comparison to the previous year. This was mainly attributable to valuation effects from derivatives [?]. In the 2020 financial year, this item contained extraordinary negative effects related to VAT.

Considerable decrease in Group net profit

Group net profit

in € million	2021			2020		
	Total	Non-operating	Adjusted	Total	Non-operating	Adjusted
EBITDA	2,803.5	-155.8	2,959.3	2,663.3	-117.9	2,781.2
Amortization and depreciation	-2,644.7	-1,088.3	-1,556.4	-1,560.6	-170.9	-1,389.7
EBIT	158.8	-1,244.1	1,402.9	1,102.7	-288.8	1,391.5
Investment result	180.0	-42.1	222.1	206.9	95.7	111.2
Financial result	174.5	0.0	174.5	-307.0	-13.4	-293.6
EBT	513.3	-1,286.2	1,799.5	1,002.6	-206.5	1,209.1
Income tax	-72.1	330.7	-402.8	-195.0	72.7	-267.7
Group net profit/loss	441.2	-955.5	1,396.7	807.6	-133.8	941.4
of which profit/loss shares attributable to non-controlling interests	(78.0)	(-115.5)	(193.5)	(211.5)	(-47.1)	(258.6)
of which profit/loss shares attributable to the shareholders of EnBW AG	(363.2)	(-840.0)	(1,203.2)	(596.1)	(-86.7)	(682.8)

The fall in Group net profit in comparison to the previous year is mainly due to impairment losses in the area of conventional generation totaling €0.7 billion. To a lesser extent, impairment losses of €0.3 billion were also recognized on the offshore wind farms. Please refer to the section “Non-operating EBITDA” for more information on the reasons for these impairment losses (p. 80⁷). In contrast, there was a significant improvement in the financial result. The reason for this development was income from the market valuation of securities, compared to costs from market valuations in the previous year. Please refer to the section “Material developments in the income statement” (p. 78⁷) for further information on this subject.

We use the amended adjusted investment result to calculate the value added. This is calculated on the basis of the adjusted investment result less the adjusted result from investments held as financial assets of €133.7 million (previous year: €69.6 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 inhouse bank [↗](#) approach in which liquidity is combined in an EnBW cash pool. Using a newly developed forecasting tool, liquidity needs are transparently measured against liquidity sources in order to determine the financing needs. Almost 100 relevant liquidity drivers were identified 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, derivatives [↗](#) 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 risk capital for trading is approved by the entire Board of Management of EnBW on an annual basis. The risk capital used for own trading stood at €130 million (previous year: €60 million).

Interest rate risk management involves the management and monitoring of interest-sensitive assets and liabilities. The consolidated companies regularly report on the existing risk position as part of the rolling liquidity planning process. An interest rate risk strategy is developed in an analysis conducted every quarter on an aggregated basis. The purpose is to limit the impact of fluctuations in interest rates and interest rate risks on the results of operations and net assets. The interest rates on financial liabilities are predominantly fixed. We use interest rate derivatives to keep the relationship between fixed and variable interest rates within predefined limits in order to optimize the interest result. The potential risk is determined on the basis of current interest rates and possible changes in these interest rates.

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 [↗](#) including the payment transaction system is being replaced. The aim is to achieve greater automation and more stable processes. In addition, new and amended governance rules will be implemented.

We will continue to strive to maintain a balanced financing structure, solid financial profile and thus solid investment-grade ratings [↗](#). 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.

We have been in a growth phase since 2021 as part of the EnBW 2025 strategy. It is not possible to finance all of the investment exclusively via the company's internal financing capability [↗](#). Therefore, EnBW will manage its financial profile from 2021 onwards using the key performance indicator debt repayment potential [↗](#) as the most important indicator of the company's creditworthiness. The debt repayment potential describes the retained cash flow [↗](#) in relation to the net debt [↗](#) and measures the ability of EnBW to repay its debts from its current earnings potential.

Details on the **risk management system** can be found in the notes to the consolidated financial statements in note (25) "Accounting for financial instruments."

A target level of 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. 47[↗].

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

	2021	2020	2019	2018	2017
Moody's	Baa1/stable	A3/negative	A3/negative	A3/stable	Baa1/stable
Standard & Poor's (S&P)	A-/stable	A-/stable	A-/stable	A-/stable	A-/stable

We have decided to concentrate in future on the two large rating agencies Moody's and S&P. We ended our rating by the agency Fitch on 22 March 2021.

The rating agency Moody's downgraded its credit rating for EnBW AG from A3 to Baa1 on 18 May 2021. The outlook for the rating is stable. Despite the fact that EnBW exceeded its earnings target set out in the EnBW 2020 strategy in the 2020 financial year, Moody's analysts believe that the company's financial profile will not meet the requirements for an A3 rating over the next few years.

The rating agency S&P confirmed its A- rating for EnBW AG with a stable outlook on 2 June 2021. S&P believes that EnBW is well positioned within the European energy transition and has a business portfolio that is proving resilient to economic downturns. From a risk perspective, the rating agency has a positive view of the partnership approach followed by EnBW for major projects. In order to take account of the increase in minority interests reported on the balance sheet in this context, S&P have introduced a so-called pro-rata guidance, i.e., separate performance indicator requirements for the ownership interests held by EnBW.

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 (18/05/2021)

- Leadership position as vertically integrated utility within Baden-Württemberg
- Significant proportion of EBITDA, around 50%, from low-risk regulated distribution and transmission activities
- Growing share of renewables under contracts as EnBW continues to invest in line with its strategy
- Historically balanced financial policy and demonstrated commitment to robust credit quality
- Difficult operating environment in Germany for conventional generation and challenging retail markets
- Execution risks relating to a large investment program, including off-shore wind development
- Supportive stance of shareholders

Standard & Poor's (02/06/2021)

- Well positioned amid the European energy transition, with a business mix that is proving resilient to economic downturns
- Prudent risk-sharing strategy; increasing share of minority shareholdings factored in in S&P's rating triggers
- EnBW to enter an intensive investment circle focusing mostly on low-risk grid projects and increasing renewable capacity
- Capex intensification will increase leverage, but consistent with current rating
- Regulated business and low-risk renewable portfolio will translate into stable and sustainable cash flow streams
- Moderate likelihood of government support

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 for the operating business:

- Debt Issuance Program (DIP) [?], via which bonds are issued: €~4.7 billion of €7.0 billion drawn
- Subordinated bonds: €~3.5 billion
- Commercial paper (CP) program [?]: €~0.2 billion of €2.0 billion drawn
- Sustainability-linked syndicated credit facility [?]: €1.5 billion undrawn, with a term until the end of June 2026 after successfully utilizing the first annual extension option after the first year. There is another extension option after the second full year until the end of June 2027 at the latest.
- Contractually committed bilateral credit lines: €~0.1 billion of €~1.3 billion drawn
- Project financing and loans from the European Investment Bank (EIB)
- In addition, subsidiaries have other financing activities in the form of bank loans and promissory notes.

Details on **financial liabilities** can be found in the notes to the consolidated financial statements in note (22) "Liabilities and subsidies" and note (26) "Contingent liabilities and other financial commitments."

Documentation of short-term and long-term borrowings on the capital markets under the established DIP [?] and CP programs [?], as well as other credit documentation with banks (e.g., syndicated lines of credit [?]) include internationally standardized clauses. The issuing of a negative pledge and a pari passu clause [?] to all creditors form essential key elements of our financing policy. The use of undrawn credit lines is not subject to restrictions.

In June 2021, a consortium of 18 banks agreed to the one-year extension of our sustainability-linked syndicated credit line with a volume of €1.5 billion. The new term for the syndicated credit line ends on 24 June 2026. The financing costs are tied to the sustainability performance of EnBW. The borrowing costs reduce or increase according to the degree to which the targets for selected non-financial key performance indicators are achieved:

- CO₂ intensity
- Share of the generation capacity accounted for by renewable energies
- SAIDI (Electricity)

Capital market activities in 2021

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 €2.5 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 [?]. To gauge the requirements of the capital market with respect to ESG, we held dedicated ESG discussions with prominent investors from England, France and Germany in 2021. We want to hold these discussions on a regular basis so that we can provide our investors with detailed information on the transformation of EnBW and respond to any changes more quickly.

In the middle of February, we issued a call notification for our subordinated bond with a volume of €1.0 billion that was issued in March 2014. It was redeemed at the earliest possible date on 2 April 2021 at the principal amount plus interest accrued.

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 also issued two corporate bonds in February, each with a volume of €500 million. The bond with a term of seven years has a coupon of 0.125%. The bond with a term of twelve years has a coupon of 0.500%. Due to high demand, we were able to issue the bonds at attractive conditions.

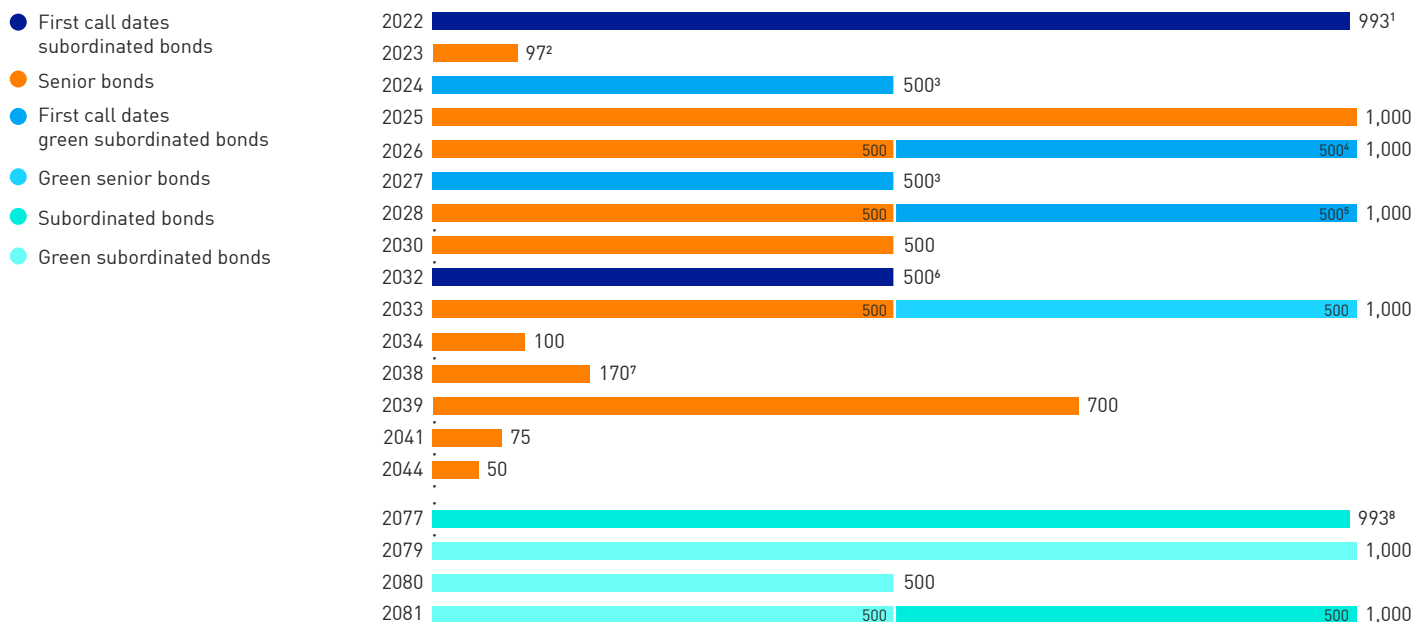
EnBW issued two subordinated bonds at the end of August, one of which was a green bond. The bonds each have a volume of €500 million and a term of 60 years. The proceeds from the green subordinated bond will be exclusively used to finance climate-friendly projects in the area of offshore wind, onshore wind, photovoltaics and electromobility. EnBW has the right to redeem the green subordinated bond with a starting coupon of 1.375% at the first call date on 31 May 2028 and then at every coupon date.

The proceeds from the other bond will also be used for implementing aspects of the company's strategy that focus on sustainability, although they are not earmarked for specific projects. This subordinated bond with a starting coupon of 2.125% can be redeemed for the first time on 31 May 2032. The rating agencies Moody's and Standard & Poor's classify half of both subordinated bonds as equity, which has a positive effect on the financial performance indicators relevant to EnBW's ratings. Subordinated bonds are thus an important financing instrument for EnBW for both supporting our ratings and strengthening our capital structure.

On 5 December 2021, we issued a call notification for the subordinated bonds that were issued in September 2016. The euro subordinated bond with a volume of €725 million and the US dollar subordinate 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.

EnBW thus has a well-balanced maturity profile.

Maturity profile of EnBW bonds in € million



¹ First call date: subordinated bond maturing in 2077; includes US\$300 million (swap in €), coupon before swap 5.125%.

² CHF 100 million, converted into € as of 31/12/2021.

³ First call date: green subordinated bond maturing in 2079.

⁴ First call date: green subordinated bond maturing in 2080.

⁵ First call date: green subordinated bond maturing in 2081.

⁶ First call date: subordinated bond maturing in 2081.

⁷ JPY 20 billion (swap in €), coupon before swap 5.460%.

⁸ Includes US\$300 million, converted into € at rate on 05/10/2016.

Asset liability management model

We ensure the timely coverage of the pension and nuclear obligations using our asset liability management model [?].

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 aim of this model is to limit the impact the utilization of the pension and nuclear obligations may have on the operating business to €300 million (plus an inflation supplement) a year by taking funds from the financial assets. In the 2021 financial year, the impact on the cash flow from operating activities was €360 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 2021, the dedicated financial assets [?] for pension and nuclear provisions totaled €6,477.2 million (previous year: €6,220.3 million). Alongside the dedicated financial assets, there are plan assets to cover certain pension obligations with a market value of €869.9 million as of 31 December 2021 (previous year: €949.9 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 2021. 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

Financial asset management [?] at EnBW exploits the strategic opportunities offered by digitalization. The main focus is being placed on improving the reliability of processes and improving efficiency. More specifically, a newly created data structure now forms the basis for several new digital solutions that can be scaled up across the Group. At the forefront is, among other things, a novel AI-based cash flow forecasting tool. New digital technologies for intelligent data mining are also being implemented. All of the digital solutions are combined within a user-centered dashboard that is geared towards optimizing performance.

Net debt

As of 31 December 2021, net debt [?] fell by €5,620.4 million in comparison to the previous year. The reason for this development was primarily a higher level of cash and cash equivalents. This was mainly attributable to higher collateral received on the reporting date against the backdrop of current fluctuations on the market. In addition, cash and cash equivalents include EEG funds of €1,215.2 million and current financial assets include EEG funds of €350.0 million. The Federal Republic of Germany paid a federal subsidy of €1,620.0 million to settle the balance on the EEG [?] bank account. The decrease in net debt was also due to the increase in the interest rate for pension provisions.

Net debt

in € million	31/12/2021	31/12/2020	Change in %
Cash and cash equivalents available to the operating business	-6,466.5	-959.0	–
Adjusted cash and cash equivalents available to the operating business ¹	(-5,251.3)	(-1,588.3)	–
Current financial assets available to the operating business	-934.5	-463.8	101.5
Adjusted current financial assets available to the operating business ¹	(-584.5)	(-463.8)	(26.0)
Long-term securities available to the operating business	-2.1	-2.1	0.0
Bonds	8,401.0	7,161.9	17.3
Liabilities to banks	2,067.4	1,771.9	16.7
Other financial liabilities	782.0	679.5	15.1
Lease liabilities	884.5	886.4	-0.2
Valuation effects from interest-induced hedging transactions	-53.0	-51.6	2.7
Restatement of 50% of the nominal amount of the subordinated bonds ²	-1,746.3	-1,746.3	0.0
Other	-31.4	-45.0	-30.2
Net financial debt [?]	2,901.1	7,231.9	-59.9
Adjusted net financial debt [?] ¹	(4,466.3)	(6,602.6)	(-32.4)
Provisions for pensions and similar obligations ³	7,772.4	8,338.5	-6.8
Provisions relating to nuclear power	4,955.6	5,415.3	-8.5
Receivables relating to nuclear obligations	-365.8	-358.9	1.9
Net pension and nuclear obligations	12,362.2	13,394.9	-7.7
Long-term securities and loans to cover the pension and nuclear obligations ⁴	-6,053.4	-5,318.2	13.8
Cash and cash equivalents to cover the pension and nuclear obligations	-186.5	-293.7	-36.5
Current financial assets to cover the pension and nuclear obligations	-97.3	-276.9	-64.9
Surplus cover from benefit entitlements	-121.5	-307.6	-60.5
Other	-18.5	-23.9	-22.6
Dedicated financial assets	-6,477.2	-6,220.3	4.1
Net debt relating to pension and nuclear obligations	5,885.0	7,174.6	-18.0
Net debt	8,786.1	14,406.5	-39.0
Adjusted net debt ¹	(10,351.3)	(13,777.2)	(-24.9)

1 Adjusted for EEG funds totaling €1,565.2 million (previous year: €-629.3 million).

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 €869.9 million (31/12/2020: €949.9 million).

4 Includes equity investments held as financial assets.

Investment analysis

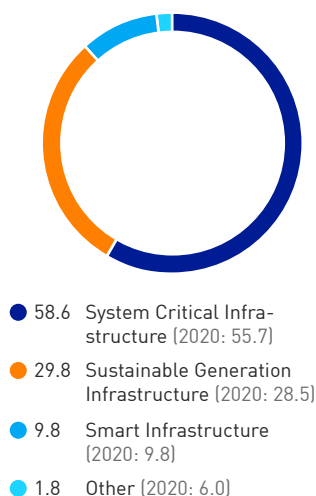
Net cash investment

in € million ¹	2021	2020	Change in %
Investments in growth projects ²	2,022.1	1,704.8	18.6
Investments in existing projects	786.4	820.9	-4.2
Total investments	2,808.5	2,525.7	11.2
Divestitures ³	-20.4	-33.1	-38.4
Participation models	-147.9	-283.7	-47.9
Disposals of long-term loans	-1.1	-20.0	-94.5
Other disposals and subsidies	-167.9	-362.0	-53.6
Total divestitures	-337.3	-698.8	-51.7
Net (cash) investment	2,471.2	1,826.9	35.3

1 Excluding investments held as financial assets.

2 Does not include cash and cash equivalents acquired with the acquisition of fully consolidated companies. These amounted to €0.0 million in the reporting period (previous year: €16.8 million).

3 Does not include cash and cash equivalents relinquished with the sale of fully consolidated companies. These amounted to €0.0 million in the reporting period (previous year: €39.9 million).

Investment by segment
in %

Investment by the EnBW Group in 2021 was around 11% higher than the level in the previous year. This was due primarily to our successful bid for offshore wind rights for the construction of offshore wind farms in Great Britain and to the expansion of the electricity transmission grids. Around 72.0% of overall gross investment was attributable to growth projects; the proportion of investment in existing facilities stood at 28.0%.

Investment in the **Smart Infrastructure for Customers** segment of €274.1 million was higher than the level in the previous year (€246.4 million), which was mainly a result of a higher investment in electromobility and for storage solutions at SENEK.

Investment in the **System Critical Infrastructure** segment of €1,647.0 million was higher than the level in the previous year of €1,407.3 million. In both years, it was primarily attributable to the expansion of the transmission grids by our Group subsidiaries TransnetBW, terranets bw and ONTRAS Gastransport. In addition, our grid companies invested in the expansion and renewal of the distribution grid.

There was investment of €837.0 million in the **Sustainable Generation Infrastructure** segment, which was higher than the level in the previous year (€719.9 million).

Investments in Sustainable Generation Infrastructure

in %	2021	2020
Renewable Energies	23.3	23.6
Thermal Generation and Trading	6.5	4.9
Sustainable Generation Infrastructure	29.8	28.5

A total of €655.6 million of this investment was in the Renewable Energies area, compared to €597.3 million in the previous year. This increase was mostly attributable to the offshore wind sector due to our successful participation in the auction in Great Britain. In contrast, there was lower capital expenditure on our wind farms EnBW Hohe See and EnBW Albatros, which have been in operation for around a year. Investment in the Thermal Generation and Trading area stood at €181.4 million and was thus higher than in the previous year (€122.6 million). This was mainly due to the construction of the gas turbine power plant in Marbach am Neckar, which we are building on behalf of TransnetBW.

Other investments of €50.4 million were significantly lower than the level in the previous year (€152.1 million). This was due primarily to the acquisition of Gas-Union in the previous year.

Divestitures in the reporting year comprised the sale of shares in a portfolio of onshore wind farms and other transactions as part of our local authority participation model "EnBW connects." There was an overall decrease of about 50% compared to the value from the previous year. The divestitures in the previous year were mainly influenced by transactions as part of "EnBW connects" and the transfer of the high-voltage grid to the City of Stuttgart.

Investment obligations for the acquisition of intangible assets and property, plant and equipment amounted to €2,703.8 million as of 31 December 2021 (previous year: €2,176.6 million). Commitments for corporate acquisitions totaled €737.8 million (previous year: €657.2 million).

We also take climate goals into account in our investment decisions. For this purpose, we have adapted our investment guidelines: 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. 47f.⁷).

Liquidity analysis

Condensed cash flow statement

in € million	2021	2020	Change in %
Cash flow from operating activities	7,597.8	1,158.1	–
Cash flow from investing activities	-2,859.1	-1,978.5	44.5
Cash flow from financing activities	600.1	681.9	-12.0
Net change in cash and cash equivalents	5,338.8	-138.5	–
Change in cash and cash equivalents due to changes in the consolidated companies	29.0	38.7	-25.1
Net foreign exchange difference	32.4	-11.4	–
Change in cash and cash equivalents due to risk provisions	0.1	0.1	–
Change in cash and cash equivalents	5,400.4	-111.1	–

The significant increase in cash flow from operating activities in comparison to the previous year was caused primarily by an inflow of cash in the net current assets for reasons related to the reporting date. This was mainly attributable to higher collateral received against the backdrop of current fluctuations on the market. As well as the reduction in inventories, there was a sharp fall in the net balance of trade receivables and payables in comparison to the previous year mainly as a result of the payments to settle the EEG bank account.

Cash flow from investing activities returned a higher outflow of cash in the reporting period compared to the previous year. The main reasons for this development were higher net capital expenditure [?] on intangible assets and property, plant and equipment and the foundation of two companies in Great Britain together with our associated bids for offshore wind rights for the construction of offshore wind farms. Cash flow from investing activities was also impacted by higher net investment as part of the portfolio management of securities and financial investments.

Cash flow from financing activities returned a slightly lower cash inflow than the figure in the previous year. In the reporting year, this was primarily due to the issuing of senior and subordinated bonds in the first and third quarters. This was offset to some extent by the repayment of a subordinated bond in the second quarter, a cash outflow for alterations of capital in non-controlling interests and higher interest and dividends paid.

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	2021	2020	Change in %
EBITDA	2,803.5	2,663.3	5.3
Changes in provisions	-103.9	-553.3	-81.2
Non-cash-relevant expenses/income	-396.3	-26.1	–
Income tax paid	-200.6	-207.8	-3.5
Interest and dividends received	358.0	264.5	35.3
Interest paid for financing activities	-314.5	-236.1	33.2
Dedicated financial assets contribution	184.8	123.1	50.1
Funds from operations (FFO)	2,331.0	2,027.6	15.0
Dividends paid	-547.2	-389.1	40.6
Retained cash flow	1,783.8	1,638.5	8.9

Funds from operations (FFO) [?] were higher than the level in the previous year, which was mainly due to the higher EBITDA [?] and higher interest and dividends received. The additions to the provisions for onerous contracts for electricity procurement agreements also had a positive effect on FFO. This was offset to some extent by higher non-cash-relevant income. Despite the higher dividends paid, the increased FFO led to an increase in retained cash flow [?]. The retained cash flow 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	2021	2020	Change in %
Retained cash flow	1,783.8	1,638.5	8.9
Net debt	8,786.1	14,406.5	-39.0
Adjusted net debt ¹	(10,351.3)	(13,777.2)	-24.9
Debt repayment potential in %	20.3	11.4	-
Adjusted debt repayment potential in % ¹	(17.2)	(11.9)	-

¹ Adjusted for EEG funds of €1,565.2 million (previous year: €-629.3 million).

Following the transition to the 2025 growth strategy, the key performance indicator internal financing capability was replaced by the new key performance indicator debt repayment potential [?] in 2021. In the reporting year, the retained cash flow was slightly above the forecasted range of €1.6 billion to €1.7 billion. Due to factors that are outside of the company's influence, such as higher collateral and a rise in the interest rate for pension provisions, the debt repayment potential in the 2021 financial year was significantly higher than the target value of between 11.5% and 12.5%.

Net assets

Condensed balance sheet

in € million	31/12/2021	31/12/2020	Change in %
Non-current assets	35,232.5	33,284.7	5.9
of which intangible assets	(3,417.0)	(3,498.5)	(-2.3)
of which property, plant and equipment	(20,364.4)	(19,990.9)	(1.9)
of which entities accounted for using the equity method	(1,017.9)	(968.9)	(5.1)
of which other financial assets	(6,744.3)	(6,185.2)	(9.0)
of which deferred taxes	(1,115.2)	(1,344.7)	(-17.1)
Current assets	35,986.7	12,645.3	-
Assets held for sale	54.0	35.0	54.3
Assets	71,273.2	45,965.0	55.1
Equity	8,499.3	7,768.8	9.4
Non-current liabilities	28,531.0	26,447.2	7.9
of which provisions	(14,089.5)	(14,803.4)	(-4.8)
of which deferred taxes	(1,018.3)	(916.0)	(11.2)
of which financial liabilities	(9,182.5)	(8,120.1)	(13.1)
Current liabilities	34,242.9	11,744.7	-
of which provisions	(2,676.5)	(1,479.6)	(80.9)
of which financial liabilities	(2,067.9)	(1,493.1)	(38.5)
Liabilities directly associated with assets classified as held for sale	0.0	4.3	-
Equity and liabilities	71,273.2	45,965.0	55.1

As of 31 December 2021, total assets exceeded the level at the end of the previous year by €25,308.2 million. Non-current assets increased by €1,947.8 million between the two reporting dates, which was mainly due to the increase in derivatives [?]. Current assets increased by €23,341.4 million. This was also attributable to the increase in derivatives caused by current fluctuations on the market and to higher bank balances.

As of 31 December 2021, equity increased by €730.5 million as a result of the decrease in losses in other comprehensive income, which was mainly caused by an increase in the discount rate for the pension provisions from 0.75% at the end of 2020 to 1.15% as of the reporting date in 2021. The equity ratio fell from 16.9% to 11.9% between the two reporting dates. Non-current liabilities increased by €2,083.8 million. The main reasons for this development were the increase in derivatives and the rise in financial liabilities as a result of the issuing of two senior bonds and two euro subordinated

bonds, each with a volume of €500.0 million. This was offset to some extent by the early repayment of a subordinated bond with a volume of €1.0 billion and the fall in pension provisions as a result of the increase in the discount rate. Current liabilities increased by €22,498.2 million. This was mainly attributable to the increase in derivatives caused by current fluctuations on the market.

TOP

ROCE and value added

The cost of capital before tax represents the minimum return on average capital employed [?] (calculated on the basis of the respective quarterly figures for the reporting year and the year-end figure for the previous year). Positive value is added when the return on capital employed (ROCE [?]) 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 added by segment 2021

	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Generation Infrastructure	Other/ Consolidation	Total
Adjusted EBIT including the adjusted investment result ¹ in € million	174.2	719.9	867.6	-233.6	1,528.1
Average capital employed in € million	1,653.7	10,625.5	8,917.6	514.7	21,711.5
ROCE in %	10.5	6.8	9.7	–	7.0
Weighted average cost of capital before tax in %	7.6	4.0	5.4	–	4.9
Value added in € million	48.0	297.5	383.5	–	455.9

¹ 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%).

Value added for 2020 by segment ¹

	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Generation Infrastructure	Other/ Consolidation	Total
Adjusted EBIT including the adjusted investment result ² in € million	186.5	824.9	665.7	-226.7	1,450.4
Average capital employed in € million	1,543.8	10,435.1	10,537.5	509.2	23,025.6
ROCE in %	12.1	7.9	6.3	–	6.3
Weighted average cost of capital before tax in %	7.4	4.1	5.4	–	5.2
Value added in € million	72.6	396.5	94.8	–	253.3

¹ The figures for the previous year have been restated.

² Amended adjusted investment result of €41.6 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 added. The level of ROCE and value added 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 added 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.

In the 2021 financial year, value added increased in comparison to the previous year to €455.9 million. The adjusted EBIT[?] including the adjusted investment result increased, while the average capital employed[?] fell at the same time. The risk-adjusted weighted average cost of capital fell in comparison to the previous year to 4.9%. The ROCE reached 7.0% and thus exceeded the expectation for the 2021 financial year (forecast for 2021: 5.3% to 6.3%). ROCE will be replaced by the key performance indicator value spread[?] from the 2022 financial year onwards. In 2021, the value spread at a Group level was 2.1%.

Smart Infrastructure for Customers: Value added in the Smart Infrastructure for Customers segment fell by €24.6 million in 2021. This was mainly due to the increase in the average capital employed, especially in the area of electromobility. In addition, the lower adjusted EBIT including the adjusted investment result and the slightly higher capital costs had a negative effect on value added.

System Critical Infrastructure: Value added in the System Critical Infrastructure segment decreased by €99.0 million in comparison to 2020. The adjusted EBIT including the adjusted investment result was €105.0 million lower than the figure in the previous year. The increase in capital employed, which was mainly due to investment in the transmission and distribution grids, also had a negative impact on value added.

Sustainable Generation Infrastructure: Value added in the Sustainable Generation Infrastructure segment of €383.5 million was €288.7 million higher than the value in the previous year. The adjusted EBIT including the adjusted investment result increased to €867.6 million. At the same time, capital employed decreased due to impairment losses already made on conventional generation plants and, to a smaller extent, on offshore wind farms at the six-monthly reporting date. Furthermore, higher market prices for gas and electricity led to an increase in liabilities and thus to a further decrease in capital employed.

Performance indicators relevant to remuneration

The performance indicators relevant to remuneration are derived as follows:

EBT relevant to remuneration

in € million	2021	2020
EBT	513.3	1,002.6
Less outstanding items for derivatives allocated under trading within EBITDA	-220.2	4.1
Less the measurement of financial assets and outstanding items for derivatives allocated under trading within the financial result	-380.3	54.8
Less changes to the inflation rate and discount rate for nuclear provisions	-2.0	5.2
EBT relevant to remuneration	-89.2	1,066.7

Funds from operations (FFO) relevant to remuneration

in € million	2021	2020
Funds from operations (FFO)	2,331.0	2,027.6
Less income tax paid	200.6	207.8
Funds from operations (FFO) relevant to remuneration	2,531.6	2,235.4

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

in € million	2021	2020
Intangible assets	3,417.0	3,498.5
Property, plant and equipment	20,364.4	19,990.9
Investment properties	45.6	27.9
Investment cost subsidies	-3.8	-6.2
Construction cost subsidies	-967.0	-941.9
Intangible assets and property, plant and equipment (net)	22,856.3	22,569.2
Average intangible assets and property, plant and equipment (net)¹	22,381.0	21,696.2

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

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

Online [↗](#)

ROA (return on assets) relevant to remuneration

in € million	2021	2020
EBIT	158.8	1,102.7
Less outstanding items for derivatives allocated under trading within EBITDA	-220.2	4.1
Less changes to the inflation rate and discount rate for nuclear provisions	0.0	0.1
EBIT relevant to remuneration	-61.4	1,106.9
Average intangible assets and property, plant and equipment (net)	22,381.0	21,696.2
ROA (return on assets) relevant to remuneration in %	-0.3	5.1

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.

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 a company.

We assume our responsibilities for the economy and society and aspire to be a driver of the Energiewende. 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.

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. 46⁷).

TOP

Key performance indicator

	2021	2020	Change in %	Forecast 2021
Reputation Index	55	56	-1.8	55 – 58

The Reputation Index fell in 2021 by one index point in comparison to the previous year. Nevertheless, we were still within our target range of 55 to 58 points. This decrease was mainly due to the fact that the figures for opinion leaders and investors fell again in 2021, after they had risen most sharply in 2020. We assume that we benefited in 2020 from a positive assessment of how we handled the impact of the coronavirus pandemic and our very reliable supply of energy, and these effects faded in 2021. However, the index values for almost all stakeholder groups and the overall Reputation Index in 2021 were still higher than the values in 2019.

More details on reputational risks can be found in the “Report on opportunities and risks” on p. 132⁷.

Customer proximity

On the path to becoming a sustainable and innovative infrastructure partner, we have great opportunities for generating additional revenue and for acquiring new customers using **digital services and solutions**. Our company website is the central sales and information channel for the EnBW brand for existing and potential customers for our range of products – particularly electricity, gas, telecommunications, e-mobility, solar and storage solutions, and digital solutions for medium-sized companies. The website was the main focus of our corporate campaign in 2021. An interactive e-mobility assistant was integrated into the website that allows customers and companies to access our e-mobility solutions on the go, at home or at work. The continuous optimization of our range of digital services and improvements to user friendliness in 2021 led to a further increase in user numbers of 25% in comparison to 2020. Our end-customer portal “My EnBW” enables customers to manage their contracts and also provides them with services such as a cost overview, relocation service and checking the amount of their advance payments. In 2021, the number of “My EnBW” registrations increased by 11% and the ratio of monthly active users by 12% in comparison to 2020. We had also added a customer app for iOS and Android smartphones to our services by the end of 2021. The IT and process landscape EnPower that was introduced in 2019 was also continuously enhanced in 2021. In particular, we improved the digital support offered to customer advisors for the EnBW and Yello brands.

You can find our **company website** here.

Online ↗

One of the goals for our sustainability activities is to achieve “sustainable sales” (p. 41⁷). Sustainable sales will create economic, ecological and social value added for us and will set us apart from the competition. The latest studies show that our customers have a great interest in sustainable products. In order to achieve “sustainable sales,” the initial focus will be placed on the themes of climate protection and thus climate-neutral sales. We were already able to implement the first initiatives in 2021 and we present the most important ones in the section “Selected activities.”

Customer Satisfaction Index

Our customers are the central focus 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. 46⁷).

TOP

Key performance indicator

	2021	2020	Change in %	Forecast 2021
Customer Satisfaction Index for EnBW/Yello	127/159	132/159	-3.8/-	127 – 139/ 150 – 161

In 2021, the Customer Satisfaction Index fell slightly to 127 points. The satisfaction of EnBW retail customers was, however, still at a good level and within the forecasted range. A good level is reached when half of those surveyed indicate that overall they are particularly satisfied with EnBW. This is the case from 114 points upwards. A very good level of satisfaction is achieved from 136 points upwards. Various spill-over effects were probably the reason for the decrease in 2021: The data for the Customer Satisfaction Index was collected within a comparatively difficult media environment for energy companies. Extensive reporting in the media on the expected sharp rise in prices on the energy market and discussions about the regulatory measures necessary to combat the climate crisis led in our opinion to negative spill-over effects. We were not able to fully compensate for these effects through our measures to strengthen customer satisfaction, such as the development of a further range of sustainable products and the expansion of our digital services for retail customers.

Yello was able to reaffirm the very good level of satisfaction among its customers with an index value of 159 in 2021. This good value was due to the very high level of customer satisfaction with the service offered by Yello.

Further details are available in the “Report on opportunities and risks” on p. 132⁷.

Selected activities

Green electricity has now 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 83% in 2020 to 96% in 2021. 39% of the total customer base for both brands is now supplied with green electricity (excluding the provision of basic and reserve supplies). In comparison to the sale of conventional electricity and taking compensation measures into account, Yello and EnBW were thus able to save around 370,000 t of CO₂ emissions in 2021.

In order to **expand the charging infrastructure for electromobility** we are not only investing in our own sites but also working together with partners at their sites. In the 2021 financial year, we concluded new, long-term, nationwide cooperation agreements with renowned companies. In the process, we are installing quick-charging infrastructure with the highest capacities of up to 300 kW. In coordination with the State of Baden-Württemberg, EnBW has also been realizing the projects “Urban Quick-Charging Parks in Baden-Württemberg” (USP-BW) and “Fast Lane-BW” since 2020. As part of these projects, we placed, for example, urban charging parks into operation in Heilbronn and Ludwigsburg in 2021. We are also pushing forward the **expansion of quick-charging infrastructure** internationally with our joint venture SMATRICS EnBW in Austria. Following the installation of numerous new quick-charging stations across the whole of Germany, EnBW is demonstrating how electromobility can work in everyday life. The new flagship charging parks particularly stand out – especially one of the largest quick-charging parks in Germany for ultrafast charging at the Kamener Kreuz interchange in North-Rhine Westphalia and the charging park in Unterhaching near Munich.

You can find further information and videos about our **advertising campaign** [here](#).

[Online ↗](#)

The charging park in Kamen was placed into operation in December 2021 and has 52 quick-charging points, each with an output of up to 300 kW. Depending on the e-car, drivers can charge their cars in just five minutes with enough electricity to travel 100 km. Customers are supplied with 100% green electricity at all charging points operated by EnBW.

At the same time, we are also a provider of electromobility services and provide our customers with access to the **EnBW HyperNetwork**. It is the largest charging network in Germany, Austria and Switzerland and also offers extensive charging options across France, Italy and the Netherlands. Belgium, Luxembourg and Liechtenstein were also added to the network in 2021. Using the **EnBW mobility+ app** and a charging card, drivers of e-cars have access to more than 200,000 charging points where they can always charge at the same price. Since fall 2021, we have also been operating the largest charging network in Germany that supports AutoCharge: Drivers of e-cars can start the charging process at the EnBW quick-charging points automatically as a result. In summer 2021, we launched the **EnBW HyperNetwork advertising campaign** with the former racing driver Nico Rosberg as an ambassador. Under the motto "We charge Germany," we are positioning ourselves as the driver of electromobility in Germany to a wider public in this growing market. The commercials highlight, among other things, the joys of driving an e-car and the comprehensive charging network, as well as how simple customer solutions can improve convenience and make driving an e-car compatible with everyday life.

We also offer complete charging solutions for a variety of different customer groups. In cooperation with our partner **SMATRICS**, we not only introduced products onto the market in 2021 that make it easier for local authorities to use electromobility but, since the late summer of 2021, we have offered the operators of fleets a comprehensive solution for managing corporate fleets of electric vehicles.

In both capacities – as an operator of charging infrastructure and also as a provider of electromobility services – we received various awards and came first in tests in 2021, including the extensive charging network test carried out by the renowned technology magazine "connect," the award for the largest charging network in the DACH region from "Autobild" and the reader's award "BEST OF mobility 2021" from the sector magazine "Vision Mobility."

Our subsidiary **SENEC** is one of the top-three providers of home storage systems for solar power plants in Germany and a specialist in equipping customers so that they are able to meet their own energy needs with solar electricity. In comparison to the previous year, SENEK was able to almost double its revenue and the number of electricity storage systems it sold. It was also able to increase the capacity of the PV modules sold. The main driver of this development was the growing network of SENEK specialist partners, which now includes more than 1,100 companies. According to the results of independent market research, SENEK increased its share of the installed home storage system market in Germany to around 20% in 2021. As part of its full-service package, SENEK also calculates the carbon footprint of all of its product components. In addition, the product development department at SENEK systematically examines and optimizes both the carbon footprint as well as the associated effects that the materials used in the system have on sustainability. For example, a solar module mainly consists of materials that have to be recycled according to regulatory requirements. Manufacturers are obligated to ensure that 80% of the material in a PV module can be recycled. In 2021, SENEK and its customers helped to save around 324,000 t CO₂ in Germany. This corresponds to the CO₂ binding capacity of 54,000 hectares of forest in Germany.

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 either with no CO₂ emissions or with only low emissions. For example, we started work on restructuring the entire cooling, heating, steam and electricity supplies for a large German food company in 2021. After implementing our concept, we expect that the CO₂ emissions generated in the provision of energy and media will be sustainably reduced by 35%. An important component of our long-term contracting agreements is the ongoing monitoring and optimization of plant operation. We develop 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. We currently support numerous local authorities and public utilities using the customer-specific products and services we have developed for them. The basis for our local authority business are five product clusters, which were developed in 2020: smart mobility, networked infrastructure, innovative communities, sustainable energy and reliable security systems. In this context, we are continuously working on strategic approaches and potential new business fields. In 2021, we focused intensively on the area of **sustainable energy** and defined corresponding strategic initiatives. The main themes were heating system planning, climate protection consulting and local authority energy management. In addition, we have also been providing roadmaps for the renovation of local authority properties since 2021. Using our **digital school services**, we help local authorities to upgrade their schools to the latest technological standards and provide them with the necessary infrastructure to make digital learning possible for all of their students. Based on the experience we gained from our long-standing involvement with 116 schools in Stuttgart, we are currently trialing our services in the towns of Munderkingen and Sindelfingen.

The “**EnBW connects**” participation model started in July 2019. By 1 July 2020, a total of 116 local authorities had already signed up in the first subscription phase to indirectly invest in Netze BW by acquiring shares in the local authority holding company Netze BW GmbH & Co. KG. Another 98 local authorities subscribed by 1 July 2021 in the second round, so that the number of local authorities participating in “EnBW connects” has now reached a total of 214. Almost 14% of the shares in Netze BW are now indirectly held by local authorities. “EnBW connects” not only enables local authorities to participate financially but also gives them the opportunity to actively get involved with current issues in the energy industry.

The main **telecommunications activities** at EnBW AG are bundled together in EnBW Telekommunikation with its subsidiaries NetCom BW and Plusnet. As part of their strategic alignment, the two companies expanded their activities related to the self-financed expansion of the fiber-optic network in 2021, with clear regional competencies: NetCom BW is mainly involved with the publicly funded expansion of the fiber-optic network, especially in rural regions. For example, it had its bid accepted to become the telecommunications network operator for the funded fiber-optic infrastructure in the Schwäbisch Hall district in 2021. In addition, NetCom BW is now increasingly investing in its own infrastructure in its home market of Baden-Württemberg and the neighboring regions of Bavaria. In cooperation with Netze BW, it has upgraded an industrial estate in Bahlingen am Kaiserstuhl, laying fiber-optic cables directly into the buildings. In the other regions of Germany, Plusnet is pushing forward the expansion of the fiber-optic network in attractive, undersupplied industrial areas and is financing this expansion itself. The company is thus expanding its existing business model to exploit the potential for new added value in the fiber-optic ecosystem.

The German government passed the IT Security Act 2.0 last year. This was in response to a sharp increase in the number of attacks by hackers – nine out of ten companies were affected by these attacks in the past two years. Customer demand for effective solutions has thus increased both in the critical infrastructure and non-critical infrastructure sectors. The **Full Kritis Service (Full Critical Infrastructure Service)** expanded its cybersecurity services for cities and local authorities, industry and health-care customers even further in 2021. The cooperation between the Baden-Württemberg Ministry of the Interior, the Baden-Württemberg State Bureau of Investigation and EnBW has already paid off. For example, a joint degree course in business information science with a focus on cybersecurity has been developed in cooperation with the Baden-Württemberg Cooperative State University, which is taken by students from all three institutions during the practical parts of their courses.

In the area of **sustainable districts**, we develop sustainable, future-proof and, at the same time, cost-effective concepts for district infrastructure for cities, municipalities and project developers and outline how a district as a whole should function in the future. In 2021, we were able to conclude other contracts for projects covering a total of around 3,000 residential units and the associated supply infrastructure for the district. Four projects in Laupheim, Achern, Flehingen and Schlier with a total of about 450 residential units are currently being realized. At EnBW's “Stöckach” site in the east of Stuttgart, we are planning to build up to 800 apartments with total living space of around 60,000 m² (p. 57⁷). As the supplier, our sustainable districts department will be responsible for the general planning of the technical infrastructure with the aim of also operating this infrastructure in the future. In addition, we are also integrating other innovative themes such as mobility concepts and digital parking space management solutions into these districts.

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 [?] so that we can better monitor and manage the generation, distribution and storage of energy.

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 the respective region. As part of the investment and maintenance programs, our grid companies maintain the grids and expand them according to demand. 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 increasing use of smart grid technology helps us to avoid or delay expensive investment in conventional grids. 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. 46⁷).

TOP

Key performance indicator

	2021	2020	Change in %	Forecast 2021
SAIDI (electricity) in min./year ¹	16	15	6.7	15 – 20

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

In comparison to the previous year, the supply reliability of the electricity distribution grid was maintained at a good level in 2021 and was within our forecasted range. Several districts supplied with electricity by our subsidiary Netzgesellschaft Düsseldorf were impacted by the flood disaster in July 2021. However, this only had a moderate effect on the Group SAIDI Electricity.

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 2021 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 program [\(p. 41 ff. ⁷\)](#). Alongside EnBW AG, the main subsidiaries dealing with environmental issues include ED, SWD 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. This creates the prerequisites for ensuring that environmental requirements are systematically and continuously taken into account. It is used to manage the required 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.

Expansion of renewable energies

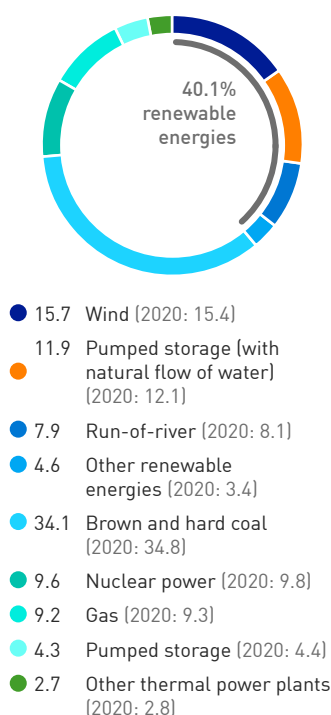
Installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE

TOP

Key performance indicator

	2021	2020	Change in %	Forecast 2021
Installed output of renewable energies (RE) in GW and the share of the generation capacity accounted for by RE in %	5.1/40.1	4.9/39.0	4.1/-	5.2 – 5.4/ 40.5 – 41.5

In 2021, the installed output of renewable energies increased to 5.1 GW. The share of the generation capacity accounted for by RE increased to 40.1%. Both performance indicators were thus slightly below the forecasted values, which was due to delays in the supply chains. The commissioning of our solar parks Gottesgabe and Alttrebbin will thus only begin in the first quarter of 2022. The increase in comparison to the previous year was the result of the full commissioning of our Weesow-Willmersdorf solar park with a total capacity of 187 MWp and the expansion of onshore wind farms and other photovoltaic power plants. We have thus continued to push forward the expansion of electricity generation from renewable energy sources in accordance with our strategy.

Installed output
in %Breakdown of the generation portfolio ¹ (as of 31/12)Electrical output ² in MW

	2021	2020
Renewable Energies	5,100	4,865
Run-of-river power plants	1,007	1,007
Storage/pumped storage power plants using the natural flow of water ²	1,517	1,507
Onshore wind	1,016	951
Offshore wind	976	976
Other renewable energies	584	424
Thermal power plants ³	7,622	7,621
Brown coal	875	875
Hard coal	3,467	3,467
Gas	1,166	1,165
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 output ⁴	12,722	12,486
of which renewable in %	40.1	39.0
of which low CO ₂ in % ⁵	13.4	13.7

¹ The generation portfolio includes long-term procurement agreements and generation from 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 ^{1,2,3} by primary energy source

in GWh

	2021	2020
Renewable Energies	11,692	11,792
Run-of-river power plants	5,150	5,137
Storage/pumped storage power plants using the natural flow of water	858	885
Onshore wind	1,746	1,809
Offshore wind	3,196	3,441
Other renewable energies	742	520
Thermal power plants ⁴	30,707	23,357
Brown coal	5,691	3,137
Hard coal	10,829	4,084
Gas	3,452	4,401
Other thermal power plants	152	168
Pumped storage power plants that do not use the natural flow of water	1,106	1,321
Nuclear power plants	9,477	10,246
Own generation	42,399	35,149
of which renewable in %	27.6	33.5
of which low CO ₂ in % ⁵	10.8	16.3

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

² The figures for the previous year have been restated.

³ The generation volumes are reported without the controllable volumes for redispatch deployment. Own generation including redispatch in 2021 was 44,170 GWh.

⁴ Including pumped storage power plants that do not use the natural flow of water.

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

Own generation increased in 2021 compared to the previous year to 42.4 TWh. This development was primarily attributable to the significantly higher deployment of our thermal generation plants as a consequence of prices on the market. Despite further expansion of renewable power plants, generation based on renewable energies fell in comparison to the level in the previous year. Poorer wind conditions were the main reason for this decrease, which resulted in lower volumes of electricity generated. Generation from hydropower plants stood at the same level as in the previous year. These trends in thermal and renewable generation were observed across Germany in 2021 (p. 74⁷). The proportion of own generation from renewable energy sources thus fell in comparison to the previous year to 27.6%.

CO₂ intensity/climate protection

CO₂ intensity

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Key performance indicator

	2021	2020	Change in %	Forecast 2021
CO ₂ intensity in g/kWh ¹	478	342	39.8	0 % – 15 %

¹ The calculation method for the key performance indicator CO₂ intensity will be restricted in future to include only factors that can be controlled by the company. In contrast to previous years, the share related to redispatch that cannot be controlled by EnBW is no longer included. Using the previous calculation method, the CO₂ intensity for the 2021 financial year would have been 492 g/kWh (previous year: 372 g/kWh). This performance indicator still excludes nuclear generation. The CO₂ intensity including nuclear generation for the reporting year was 386 g/kWh (previous year: 268 g/kWh). We publish a five-year comparison of the performance indicators in our "Multi-year overview" on [p. 289](#).

The CO₂ intensity of our own electricity generation increased in comparison to the previous year to 478 g/kWh. With respect to our target of reducing the CO₂ intensity of our own electricity generation, 2020 was an exceptional year that was subject to extraordinary effects. Electricity generation at our fossil fuel-fired power plants was thus significantly lower than expected due to market-driven developments. In the Integrated Annual Report 2020, we thus forecast a CO₂ intensity for 2021 at the same level as in 2020 in the best-case scenario, and an increase of 15% in the worst-case scenario. In the 2021 financial year, economic activities recovered as we had previously forecast and this resulted in a catch-up effect with high demand for energy and raw materials. Furthermore, the 2021 financial year was characterized by below-average wind conditions and, in particular, market-driven developments, especially in the gas sector. Significantly higher volumes of electricity were generated using fossil fuel-fired power plants as a result, which is why the forecasted range for CO₂ intensity in 2021 in comparison to the exceptional year 2020 was exceeded. Nevertheless, CO₂ intensity in 2021 was 12.7% lower than in 2018 and thus still at the lower end of our target corridor for reducing our CO₂ intensity by 2025 by between -15% and -30% in comparison to the reference year of 2018.

We also refer you to the details provided in the "Report on opportunities and risks" ([p. 132 f.](#)).

Carbon footprint of EnBW

Carbon footprint

in thousand t CO₂eq/in %

	2021	2020
Direct CO₂ emissions (Scope 1)	16,313/100.0	9,532/100.0
Electricity generation – not controllable ¹	1,695/10.4	1,447/15.2
Electricity generation – controllable ²	13,423/82.3	7,079/74.3
Heat generation	881/5.4	754/7.9
Operation of gas pipelines/plants ³	242/1.5	189/2.0
Operation of electricity grid	32/0.2	26/0.3
Buildings	10/<0.1	8/<0.1
Vehicles	27/0.2	26/0.3
Other ⁴	2/<0.1	2/< 0.1
Indirect CO₂ emissions (Scope 2)⁵	439/100.0	769/100.0
Grid losses	373/85.0	709/92.2
Operation of plants, electricity grid	11/2.4	10/1.3
Operation of plants, gas grid	37/8.4	28/3.6
Buildings	9/2.1	12/1.6
Operation of plants, data and telecommunications network	7/1.5	6/0.8
Other ⁶	3/0.7	4/0.5
Indirect CO₂ emissions (Scope 3)	60,898/100.0	49,764/100.0
Upstream indirect CO₂ emissions (Scope 3)	8,900/14.6	7,168/14.4
Upstream gas sales	7,669/12.6	6,287/12.6
Procurement of fuel for energy generation ³	1,222/2.0	874/1.8
Upstream gas consumption, gas plants	8/<0.1	5/<0.1
Business trips	1/<0.1	2/<0.1
Downstream indirect CO₂ emissions (Scope 3)	51,998/85.4	42,596/85.6
Gas consumption by customers	51,998/85.4	42,596/85.6
CO₂ emissions avoided	9,808	8,904
CO₂ intensity of business journeys and traveling in CO₂/km	190	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 Includes non-automotive fuel consumption (e.g., emergency generators).

5 Market-based method. According to the location-based method, the Scope 2 emissions were 803 thousand t CO₂eq in 2020 and 753 thousand t CO₂eq in 2021.

6 Contains Scope 2 emissions from electricity consumption at water plants and own/operational consumption at charging infrastructure for e-mobility.

Direct CO₂ emissions are determined mainly by the deployment of power plants. In 2021, lower wind yields and market-driven developments, especially in the gas sector, primarily led to higher electricity generation at our fossil fuel-fired power plants and thus to an increase in direct CO₂ emissions from 9.5 million t CO₂eq in 2020 to 16.3 million t CO₂eq in 2021. Netze BW acquired certificates of origin for sufficient quantities of green electricity in 2021 to cover its procurement of electricity to compensate for grid losses and thus permanently withdrew these certificates from the market. As a result, the Scope 2 emissions of Netze BW related to the procurement of electricity to compensate for grid losses fell to zero. This resulted in a fall in the Scope 2 CO₂ emissions⁵ at EnBW from 0.77 million t CO₂eq to 0.44 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. The Scope 3 emissions increased in the 2021 financial year in comparison to the previous year. This was primarily due to higher gas sales compared to 2020. Due to updated avoidance factors from the German Environment Agency and an increase in biogas activities, CO₂ emissions avoided rose from 8.9 million t CO₂eq to 9.8 million t CO₂eq.

Emissions (Scope 1, 2 and 3)

8.9 million t CO ₂ eq	16.3 million t CO ₂ eq	0.4 million t CO ₂ eq	52.0 million t CO ₂ eq
Greenhouse gas emissions (CO ₂ , CH ₄ , N ₂ O and SF ₆)			
 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
Upstream emissions by third parties	Direct and indirect emissions at EnBW		Downstream emissions by third parties

Energy consumption

Energy consumption

	2021	2020
Total final energy consumption in GWh ¹	2,741	2,799
Proportion of renewable energies in final energy consumption in % ²	60.5	54.6
Energy consumption of buildings per employee in kWh per employee ^{3,4}	4,854	5,859

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 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.

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

4 The figure for the previous year has been restated.

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. Total final energy consumption is mostly influenced by pump energy as well as the company's own consumption requirements and the operating consumption of the power plants. As a result of the lower use of pump energy and the reduction in the company's own consumption at the thermal power plants, total final energy consumption fell by around 2.1% in comparison to the previous year from 2,799 GWh to 2,741 GWh.

The proportion of renewable energies in final energy consumption increased from 54.6% in 2020 to 60.5% in 2021. This was primarily due to the increase in pump energy at the pumped storage power plants operated by the subsidiary Vorarlberger Illwerke, which uses electricity generated by renewable sources for this purpose.


The energy consumption of our buildings covers the energy required for heating rooms, providing hot water and electricity. The energy consumption of buildings per employee decreased from 5,859 kWh in 2020 to 4,854 kWh in 2021, which was mainly attributable to the fact that employees were continuing to work from home.

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

Online 7

Current selected activities

Climate-friendly internal mobility: In order to make a contribution to climate-friendly mobility, we are replacing 178 company vehicles that have conventional drives with fully electric vehicles in the **fleet** operated by EnBW AG by 2024. At the end of 2021, we already had 45 fully electric vehicles in the EnBW AG fleet. In addition, all dedicated **company vehicles** that are newly purchased by the central mobility management department at EnBW AG will be exclusively hybrid or electric vehicles. There was a total of 266 of this type of company vehicle at the end of 2021. Another element of climate-friendly internal mobility is the electric cars from the **New Mobility employee program**, which offers attractive models to employees at special leasing conditions. Some 825 employees were using an electric car by the end of 2021 and over 775 more cars were ordered in 2021. An internal analysis of the fleet management system at SWD showed that 16% of business journeys covered a total distance (round trip) of less than 10 km. As a sustainable alternative to motor vehicles, the company is now using high-power **pedelecs** (electric bikes). **Electric cargo bikes** are also available for the transport of heavy objects. To support the use of public transport, employees can use screens at the SWD sites or an app to access mobility information that includes up-to-date departure times for regional public transport.

Sustainable real estate management: We aim to reduce **CO₂ emissions** in our real estate portfolio. EnBW Real Estate GmbH, 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. By 2021, we achieved a reduction of 4.6% at the representative reference sites. The portfolio managed by EnBW Real Estate GmbH comprises around 100 properties with approximately 260 buildings and a net floor space of about 650,000 m². An important measure for achieving this target has been, for example, the switch to green electricity and biogas in the building portfolio since 2021. In the area of **building automation and digitalization**, we have upgraded our concepts to reduce CO₂ emissions to include aspects related to gray energy in the construction sector (following the cradle-to-cradle  principle), life cycle assessments and the use of sustainable raw materials. In addition, we are developing measures to preserve **biodiversity** at the properties. Our basic goal is to create **working worlds** for the people who work in the buildings that are **healthy, future proof and also boost their performance**. A large photovoltaic power plant with an output of almost 300 kWp has been installed on a roof at SWD. Most of the electricity generated will be used at the site, while the rest will be fed into the electricity grid.

Reduction in paper consumption: We have set ourselves the goal of significantly reducing paper consumption and want to reduce the volume of paper procured at EnBW AG headquarters by up to 90% by 2025, based on the reference year of 2019. We have been able to reduce internal paper consumption by around 63 t and customer-driven paper consumption by around 539 t since 2019, primarily due to our digitalization initiatives. This represents a total **reduction in paper consumption of 75%** since 2019. The coronavirus pandemic and the associated regulation allowing working from home also led to a noticeable reduction in paper consumption. The progress we have made in the digitalization of our internal processes can be seen by the number of printers operated by the company, which decreased in 2021 from around 1,400 to 1,000. In line with our sustainability goals, new homes have been found for the decommissioned printers, e.g., some of the printers were made available free of charge to interested educational institutions.

Hydropower: Electricity generated from hydropower protects the climate. At the same time, the use of hydropower also encroaches on nature. Therefore, we are committed to harmonizing hydropower with the environment. If power plants cause changes to the natural landscape, we compensate for these effects through **environmental enhancement measures**. For example, we ensure or improve the continuity of watercourses by newly constructing or optimizing existing fish migratory routes as well as technical installations to aid the migration of fish up and down rivers. In addition, we are developing innovative solutions to protect fish. At the power plant site in Forbach, the first of two new fish lifts was placed into operation at the low-head hydropower plant in November 2021. The second fish lift at the weir system in Kirschbaumwasen is still under construction and is due to be placed into operation in 2022. This is an extremely important development as the Murg can now be repopulated with the formerly indigenous Atlantic salmon. An already existing dam in Fridingen an der Donau has been remodeled and fish ladders for fish to ascend or descend the river have been added. Furthermore, the minimum water level in the Donau's main river channel has now been increased at this site in agreement with the responsible authorities. The reconstruction of the

Find out more about our measures to improve **energy efficiency**, **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 information relating to the **Global Reporting Initiative**, is available on the Internet.

[Online ↗](#)

turbines in Fridingen will also allow us to utilize the available water to efficiently generate CO₂-free electricity. We are thus making a valuable contribution to achieving the targets in the EU Water Framework.

Conservation of biological diversity: We are aware of our shared responsibility to the environment and want to help protect species. 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. As a result, we will be actively making a contribution to the proliferation of flower pollinating insects such as wild bees and butterflies. Furthermore, Netze BW is also examining its **bird protection** measures across the whole electricity grid. In sensitive areas where there is a risk to large birds, markings will be added to the electricity transmission lines in cooperation with nature conservation associations. If it is economically feasible, future planning processes for the routes covered by transmission lines will also examine whether it is possible to avoid sensitive areas, especially bird sanctuaries and migration corridors. SWD is promoting **biodiversity** at its hydropower plants using targeted management and care measures adapted to the local habitat. To protect and support the population of peregrine falcons, SWD has also been installing artificial nesting aids at a height of around 100 m for several years in those urban environments where pairs of peregrine falcons search for suitable nesting sites.

Energy efficiency projects: The German Energy Agency (dena) awarded the Energy Efficiency Award 2021 in the category "Think Big! Complex Energy Transition Projects" to a joint waste heat recovery project run by Energiedienst and Evonik in Rheinfelden (Baden). Both companies received the award for their innovative joint project to recover industrial waste heat and use it to heat residential apartments. The evaluation criteria included, for example, a particularly high level of energy savings, the relevance of the project to climate protection, innovation and profitability.

Alongside the key performance indicators in the environment goal dimension, other environmental targets are defined in the EnBW sustainability program (p. 41 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. Further **environmental performance indicators** can be found in our "Multi-year overview" (p. 289 [↗](#)) and on our website.

Employees goal dimension

The further development of our corporate strategy in the period up to 2025 [\[p. 40 ff. ↗\]](#) 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 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 a redesigned employee survey (EnMAB) to measure the People Engagement Index (PEI) as a new 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 [\[p. 47 ↗\]](#).

TOP

Key performance indicator

	2021	2020	Change in %	Forecast 2021
People Engagement Index (PEI) ¹	82	83	-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 2021 were not included in the employee surveys for the PEI.

The employee survey EnMAB was held from 18 October to 3 November 2021. The survey achieved its highest coverage to date, being answered by around 22,500 employees, including trainees and students. On the basis of this survey, the PEI reached 82 points in 2021 on a scale of 0 to 100. It stood at 83 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 74 points in 2021. The motivation and engagement of employees of EnBW thus continues to be at a very high level in comparison with other companies. We assume that this year's results were also impacted by extraordinary effects caused by the fact that employees of EnBW continue to rate the company's handling of the impact of the coronavirus pandemic very positively.

We also refer you to the details provided in the “Report on opportunities and risks” [\[p. 133 ↗\]](#).

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

In 2021, we introduced a total of 72 initiatives across all six key themes and were able to almost fully implement all of them despite the special conditions that are still currently ongoing.

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 as well as possible in the transformation process, we are further developing, for example, the employee survey and establishing the transformation circle – the first community for all colleagues who are pushing forward the themes of transformation.

Since the beginning of the coronavirus pandemic in February 2020, around 10,000 employees of EnBW have been mainly working from home [p. 108 f. ⁷]. As part of the “**Best Work**” initiative, we thus focused in 2021 on the question: “How do we design the working world of the future?” A special focus is being placed on rules for mobile working that take account of the best interests of employees and designing modern working worlds in the office that fulfill the needs of a more flexible and hybrid way of working. In addition, the initiative is dealing with, for example, the question of how working practices will change the culture of cooperation and leadership. At the start of the rollout of “**Best Work**” in November 2021, the works councils and participating companies agreed a new set of rules that replaced the previous company agreement Alternating Telework (ATH) from 2017. It will allow significantly more flexibility in the choice of workplace, above all with respect to working from home. By providing our employees with a comprehensive range of opportunities for mobile working even after the coronavirus pandemic, we will also reduce the number of journeys made between home and the workplace, thus making a contribution to reducing CO₂ emissions. This will support the measure “Human resources work focused on sustainability” in our sustainability program [p. 41 f. ⁷].

Employer brand recruiting: EnBW is on track for growth. This will require us to secure new talent. In November 2020, we started an employer campaign under the motto “We are the E” or “I am the E” to make EnBW more well known nationwide as an employer and to also increase the attractiveness of EnBW as an employer. In May 2021, we expanded our campaign to include advertisements in social and business networks and released an image film in October that can also be viewed on YouTube. The number of visits to our career website increased to around 35,000 views per month as a result (previous year: about 25,500). We continuously optimize our recruiting processes to improve efficiency and place a greater focus on applicants. For example, we have digitalized the hiring process to a large extent and improved our talent finder program. During the application process, we are now holding more interviews via videoconference.

Leadership skills: The growth of our company is closely linked to the personal development of every individual and the collective development of the management team. Under the name “EnBW Guides,” we have developed a new competency model in a cross-functional team comprising members of the works council, representatives from the business areas and HR personnel. This new competency model defines the eight overarching skills that will be required in the future. The eight key skills and what they stand for are presented in a series of videos.

Furthermore, we have developed the digital learning and development platform “**LernWerk**” (**Learning Factory**) that helps our employees to independently shape their own development. A prototype of the platform was tested at the end of the year, initially by around 80 internal specialists and subject matter experts. We will start to rollout “LernWerk” to the employees in the functional units at EnBW AG in the first quarter of 2022.

Qualification@EnBW: On 31 December 2021, there were a total of 1,235 trainees and students working in the EnBW Group. To develop the skills required in the future, four new job profiles and specialist extensions to the degree courses (geomatics, cybersecurity, data science and mobile information science) have been introduced with a focus on digitalization. In 2021, we moved into three new further training and education centers in Karlsruhe, Biberach and Tuttlingen. These offer employees the ideal environment for experiencing modern technologies through exploratory learning, such as augmented or virtual reality and by using drones.

We have been offering a multistage **career integration program** to refugees and migrants since 2016, in which 59 people are currently serving a technical apprenticeship. Ten apprentices completed their training as either an industrial mechanic, electronics technician or plant mechanic in early 2021 and were awarded with mostly permanent contracts. We will continue this program over the next few years – both as a social initiative and also increasingly 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 %	2021	2020
First level below the Board of Management	7.7	8.7
Second level below the Board of Management	21.3	14.5

The Board of Management has set the goal of further increasing the proportion of female managers 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 female managers should increase to at least 20%. These targets were not yet achieved in the reporting period at the top management level. Although there were the same number of women in top management, the proportion of female managers changed from 8.7% in the previous year to 7.7% in the reporting period. In upper management, the proportion of female managers increased from 14.5% in the previous year to 21.3%, which was due to the appointment of more women to these positions. We will continue to develop measures based on the HR strategy to achieve the set targets.

HR processes, services & digitalization: The main focus in 2021 was placed on the rigorous simplification and digitalization of processes with a customer interface, such as contract management. In addition, we examined whether it was possible to use software robots to automate processes and already implemented them in more than ten processes, greatly reducing the workload. In the area of strategic personnel planning, we developed a clear picture of the long-term personnel requirements and identified potential areas for action.

Selected activities at our key subsidiaries: The main focus at Energiedienst (ED) in 2021 was converting the area of human resources and organizational development into a modern and digital HR world. The six modules that form the “HR Core System” program (HR planning, talent acquisition, talent management, compensation & benefits, HR services and further training) entered the implementation phase. The company’s social media activities in the area of recruiting were also strengthened. Pražská energetika (PRE) primarily focused on enabling employees to work at home as a countermeasure to the coronavirus pandemic. This mainly required adapting the IT systems. In addition, PRE established an assessment center for newly nominated young talent and ran a development program for managers. Stadtwerke Düsseldorf (SWD) continued the “Leadership in transition,” “agile@230” and “Digitalization of the grids” programs as part of its company-wide transformation process. Improved candidate and employee journeys were also developed. VNG launched the project “Employer Branding” to reposition itself as an employer and introduced a new applicant management system. In addition, it launched the “Next Work” project that will focus on the theme of future cooperation in a working world that has already been changed by the coronavirus pandemic.

Other issues

The Employers' Association for Electricity Power Plants in Baden-Württemberg and the labor union ver.di reached a **collective bargaining agreement** on 16 March 2021 that has a term of 24 months from 1 March 2021 until 28 February 2023. In accordance with the agreement, remuneration increased by 2.1% on 1 March 2021 and will increase by a further 1.6% on 1 May 2022. A one-off tax-free payment has also been agreed based on the pay scale groupings. Higher pay grades received €350 and lower grades €700, while trainees received €200. Remuneration for trainees has also been increased again.

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 4.1% in 2021 and was thus 0.2 percentage points lower than the figure in the previous year.

Other performance indicators

Other **performance indicators for employees** are published on our website.

[Online ↗](#)

Employees ¹

	31/12/2021	31/12/2020	Change in %
Smart Infrastructure for Customers	5,407	4,826	12.0
System Critical Infrastructure	10,686	9,935	7.6
Sustainable Generation Infrastructure	7,051	7,072	-0.3
Other	2,920	2,822	3.5
Total	26,064	24,655	5.7
Number of full-time equivalents ²	24,519	23,078	6.2

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

² Converted into full-time equivalents.

As of 31 December 2021, the EnBW Group had 26,064 employees, which was 1,409 more than at the end of 2020. This increase was primarily due to taking on new employees in strategic growth fields. The increase in the number of employees in the Smart Infrastructure for Customers segment was primarily due to the first-time consolidation of investments, as well as the recruitment of additional personnel due to the expansion of broadband [📶](#) and increased demand for energy and storage solutions. In the System Critical Infrastructure segment, the increase in the number of employees was due to the importance of the regulated business and also the first-time consolidation of an investment. The digitalization and transformation processes as well as restructuring within the Group increased the number of employees in Other. The employee turnover ratio stood at 6.2% in 2021 and was thus 0.3 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 2021, 117 managers participated in the training course "Responsibilities and liability with respect to occupational safety" that was organized by the Group occupational safety department.

The **Quentic software** is now being used in 25 Group companies with around 15,000 employees. We have been using the audit module to a greater extent to document inspections, internal audits and short safety briefings since 2021. In addition, the software is increasingly used for documentation

purposes in hazardous substance management. Quentic will also be used in future as an information platform for the purposes of training and communicating safety instructions to external contractors working in the area of renewable energies.

Since February 2020, a **task force** comprising representatives from various different areas of the company such as crisis management, occupational medicine, HR and corporate communications has met on a regular basis to discuss events related to the **coronavirus pandemic**. It has been possible to prevent chains of transmission occurring within the company from the very beginning. A range of different measures were introduced to do this, such as the stringent implementation of AHA+L rules (social distancing, hygiene, community masks + ventilation), testing strategies and allowing a high proportion of employees to work from home. Around 8,500 COVID-19 vaccinations (first, second and booster vaccinations) were also administered between 8 June and 31 December 2021.

LTIF

The key performance indicator LTIF is used to measure the number of LTI according to the definition on p. 47⁷. Every Group company included in the LTIF 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

	2021	2020	Change in %	Forecast 2021
LTIF for companies controlled by the Group ^{1, 2, 3}	2.3	2.1	9.5	2.0 – 2.2
LTIF overall ^{1, 2}	3.3	3.6	-8.3	3.6 – 3.8

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. 47⁷.

2 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 2021 financial year were not included in the calculations for the LTIF performance indicators.

3 Except for companies in the area of waste management.

In 2021, the LTIF for companies controlled by the Group deteriorated, increasing to 2.3. The average days of absence per accident was 20.3 as of 31 December 2021 (previous year: 21.9). The LTIF overall fell and stood at 3.3 for 2021. The average days of absence per accident was 19.8 as of 31 December 2021 (previous year: 22.1). The LTIF overall includes subsidiaries in the area of waste management. The number of accidents in this area is at a very good level in comparison to other companies in the sector and also improved significantly in 2021.

There were unfortunately two fatal accidents in our grids business in 2021. One of the fatal accidents occurred during maintenance work at a 110 kV transformer station and the second at a test stand for high-pressure gas meters.

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

For example, **Netze BW** implemented the following measures in 2021:

- To improve awareness for factors that increase the possibility of accidents during everyday work, the company launched the “#Lifesaver” awareness campaign to promote an occupational safety culture. The first film in this campaign entitled “Lifesaver – PPE” won first prize at the kommitment Festival in the section “companies and organizations.” The festival is part of the prevention campaign “kommitment” organized by the workers compensation funds and accident insurance institutions.
- A project to improve occupational safety at Netze BW was started with support from DuPont Sustainable Solutions.
- In October 2021, the integrated management system (occupational safety, environment and energy) was certified in accordance with DIN EN ISO 14001, EMAS, DIN EN ISO 50001, and for the first time DIN ISO 45001.

Alongside the Group-wide measures to combat the coronavirus pandemic, the coordination unit CoVid at Netze BW introduced additional codes of conduct, where necessary, for operational tasks such as working in confined spaces, on construction sites and at the customer's premises.

In the area of conventional **generation**, the main focus was placed on activities related to the increased application of the Quentic software and tools for tracking measures from the events, audits and risk assessment modules. Due to the coronavirus pandemic, there were restrictions on the events, safety training courses and exercises at the power plant sites throughout the year. Despite the challenging situation, discussion on near accidents and unsafe situations was intensified across all bodies. The "100 days without accidents" campaign was continued in 2021 and this goal was achieved twelve times in the reporting year. Another focus throughout the year was the implementation of measures and codes of conduct at construction sites and for inspections of power plants in response to the coronavirus pandemic. In cooperation with our external contractors, we were able to meet the scheduled deadlines.

EnKK developed and implemented a concept for the tracking of measures derived from work accidents or near accidents in 2021. The manager of an employee who was nearly involved in an accident was made actively responsible for developing measures to ensure that this situation was not repeated in the future. This ensured a high degree of accountability in the implementation of measures after work accidents or near accidents. Furthermore, the occupational safety department was involved in 2021 to a much greater extent in the process for awarding contracts for invitations to tender in areas relevant to occupational safety. It has thus been possible to ask questions and request information on important aspects that need to be observed with respect to occupational safety when selecting a partner company. In addition, the issue of occupational safety has also been integrated to a greater extent in the development of work contracts. Since the start of the coronavirus pandemic, a standing working group at EnKK has – in cooperation with the coronavirus task force at EnBW – been analyzing the situation with regards to the pandemic, and has defined and implemented adequate protection measures at EnKK.

The main focus at **SWD** in 2021 was comprehensive measures to protect against the coronavirus pandemic. In contrast to the employees working in the industrial sector, who still mainly worked on-site, employees with commercial and administrative functions worked remotely for several months of the year. Throughout the year, the main resources for the management of occupational health and safety were incorporated into central management functions such as the crisis management task force and could also be generally accessed via the advisory services offered by the specialist departments. An internal vaccination center was set up during the year.

We also refer you to the details provided in the "Report on opportunities and risks" (p. 134⁷).

EU taxonomy

The European Commission presented the European Green Deal ⁹ 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 ⁹, a classification system used to define “environmentally sustainable” business 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:

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

Specific technical screening criteria for most of the activities that contribute to environmental objectives 1 and 2, as well as detailed reporting requirements, were made binding at the start of December 2021 by the EU Commission after the scrutiny period set by the European Parliament and the European Council had expired. The criteria for some disputed activities related to objectives 1 and 2, such as the generation of energy from natural gas, including the associated pipeline infrastructure, and electricity generation from nuclear energy, are still being discussed. The technical screening criteria for the other environmental objectives are still in development and will thus only be relevant for the subsequent financial year. The European Commission is expected to publish a draft delegated act for the other environmental criteria in the second quarter of 2022. A concrete definition of the minimum social safeguards is also only expected in the spring of 2022.

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

- Activities are **taxonomy-eligible** if they can be assigned to with the taxonomy criteria for the activity and they match the description of the activity, irrespective of whether they fulfill the criteria.
- Activities are **taxonomy-aligned** if they fulfill the taxonomy criteria for the activity. In this case, they make a significant contribution to the respective environmental objective (fulfill the technical screening criteria), cause no significant harm to any of the other environmental objectives (do no significant harm, DNSH) and observe and comply with the minimum safeguards for occupational safety and human rights.

It is only necessary in the 2021 financial year to determine the taxonomy-eligible business activities and disclose their proportion of total revenue, capital expenditure (capex) and operating expenses (opex). We have decided to also voluntarily disclose the taxonomy-aligned revenue, capital expenditure and operating expenses. We are also publishing supplementary information on adjusted EBITDA ⁹ and on capex including the proportion for entities accounted for using the equity method.

Business activities are taxonomy-aligned in the sense of the Taxonomy Regulation and thus “environmentally sustainable” when they:

- make a substantial contribution to climate change mitigation and climate change adaptation, verified through the fulfillment of certain technical screening criteria,
- do no significant harm (DNSH) to the achievement of any of the other EU environmental objectives, verified through the fulfillment of certain technical screening criteria and
- comply with minimum safeguards for occupational safety and human rights.

Further information on our **experiences with applying the EU sustainable finance taxonomy** can be found [here](#).

[Online ↗](#)




Implementation of the EU Taxonomy Regulation in the EnBW Group

To implement the taxonomy requirements across the Group, we already launched a project in the 2020 financial year. We established a steering committee to work together with the relevant specialist departments in determining the environmentally sustainable revenue, capex and opex, as well as the adjusted EBITDA, related to the Group's taxonomy-eligible activities. Our reporting was based on the Taxonomy Regulation in the version from 18 June 2020 and the technical screening criteria in the draft delegated act for the Taxonomy Regulation from 20 November 2020. It disclosed information on some of the activities in our former Grids and Renewable Energies segments, which became the new System Critical Infrastructure and Sustainable Generation Infrastructure segments in the 2021 financial year.

In the 2021 financial year, we expanded the application of the Taxonomy Regulation to all of EnBW's business activities described in the delegated acts. The delegated acts supplementing Article 8 of the Taxonomy Regulation from 6 July 2021 and the associated technical screening criteria for the objectives of climate change mitigation and climate change adaptation from 4 June 2021 were applied. The formulations and terms contained in these pieces of legislation are subject to uncertainty and need further clarification. Our own interpretation is presented below.

As well as those activities reported in the previous year, we also considered the following business activities in the 2021 financial year that can be classified as taxonomy-eligible according to the EU taxonomy: biomass, water grids/extraction, e-mobility and hydropower (pumped storage with and without a natural flow of water).

Activities examined for the EU Taxonomy Regulation

 Smart Infrastructure for Customers	 System Critical Infrastructure	 Sustainable Generation Infrastructure	<div> <div>2020</div> <div>2021</div> </div>
<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 	

The determination of whether activities in the areas of wind, solar and run-of-river were taxonomy-aligned was carried out at the level of each individual activity. The existing business transactions for each activity were analyzed and evaluated with respect to being taxonomy-aligned. In addition to the information required by law on the taxonomy-eligible activities in the 2021 financial year, we are also disclosing information on the taxonomy-aligned activities as in the previous year. All of the taxonomy-eligible activities were also classified as taxonomy-aligned.

Based on the available documentation for the six environmental objectives of the EU Taxonomy (delegated acts for environmental objectives 1 and 2 and drafts for environmental objectives 3 to 6), we carried out an in-depth examination of the contributions made by our business activities. We believe that our main contribution is in the area of climate change mitigation and the contribution made by EnBW's activities to the other five environmental objectives will thus not be examined further.

The following proportions were determined:

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

in € million/in %	2021	2020
Adjusted EBITDA	2,959.3/100.0	2,781.2/100.0
of which environmentally sustainable	1,853.1/62.6	1,891.7/68.0
Capex	2,676.9/100.0	2,870.8/100.0
of which environmentally sustainable	1,826.5/68.2	2,008.9/70.0
Capex incl. IFRS 11 I IAS 28	2,963.6/100.0	2,907.6/100.0
of which environmentally sustainable	2,108.9/71.2	2,036.7/70.0
Revenue	32,147.9/100.0	19,694.3/100.0
of which environmentally sustainable	4,698.4/14.6	3,993.7/20.3
Opex	1,142.8/100.0	947.9/100.0
of which environmentally sustainable	335.0/29.3	351.3/37.1

Proportion of taxonomy-aligned adjusted EBITDA in the segments

in € million/in %	2021	2020
Adjusted EBITDA Smart Infrastructure for Customers	323.1/100.0	335.0/100.0
of which environmentally sustainable	-34.4/-10.6	-28.1/-8.4
Adjusted EBITDA System Critical Infrastructure	1,288.5/100.0	1,346.6/100.0
of which environmentally sustainable	916.8/71.2	1,032.9/76.7
Adjusted EBITDA Sustainable Generation Infrastructure	1,535.1/100.0	1,277.8/100.0
of which environmentally sustainable	970.7/63.2	886.9/69.4

Proportion of taxonomy-aligned expanded capex in the segments

in € million/in %	2021	2020
Expanded capex Smart Infrastructure for Customers	296.9/100.0	284.4/100.0
of which environmentally sustainable	107.2/36.1	91.5/32.2
Expanded capex System Critical Infrastructure	1,711.5/100.0	1,696.8/100.0
of which environmentally sustainable	1,396.4/81.6	1,227.5/72.3
Expanded capex Sustainable Generation Infrastructure	897.8/100.0	862.3/100.0
of which environmentally sustainable	605.3/67.4	717.7/83.2

The adjusted EBITDA from environmentally sustainable activities was €1,853.1 million and thus slightly below the level in the previous year. The adjusted EBITDA from environmentally sustainable activities in the Smart Infrastructure for Customers segment is low and almost unchanged in comparison to the previous year because for many business activities there are not yet any criteria in the EU taxonomy, 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 and balancing energy to maintain the security of supply. As a result, the proportion of adjusted EBITDA accounted for by environmentally sustainable activities in the System Critical Infrastructure segment fell slightly. The adjusted EBITDA in the Sustainable Generation Infrastructure segment was higher than in the previous year as a result of the increased volatility of market prices that was offset to some extent by lower generation at our offshore and onshore wind farms due to the weather conditions. The proportion of adjusted EBITDA accounted for by environmentally sustainable activities in this segment fell as a result. The activities in the Renewable Energies area within the Sustainable Generation Infrastructure segment are fully taxonomy-aligned.

The capex for environmentally sustainable activities was €182.4 million lower than the value in the previous year, which corresponded to a decrease of 9%. This was primarily due to additions to non-cash-relevant right-of-use assets from leases, especially in the electricity transmission grid. This fall was also due to the acquisition of smaller onshore wind farms in the previous year. The decrease in non-cash-relevant right-of-use assets from leases and the fall in company acquisitions can also be seen in the capex at a Group level. However, this effect was compensated for to some extent at a Group level by higher additions to property, plant and equipment, so that the KPI for capex only fell from 70.0% to 68.2%.

The proportion of taxonomy-aligned activities in relation to expanded capex in the Smart Infrastructure for Customers segment stood at 36.1% and is thus relatively low because for many business activities there are not yet any criteria in the EU taxonomy, such as for the sale of commodities. The proportion for the System Critical Infrastructure segment is relatively high at 81.6% because our business activities relating to the electricity transmission grid, electricity distribution grid and water grid are fully taxonomy-aligned. The EU taxonomy criteria for our activities relating to the gas grids are due to be published in 2022 – once the technical screening criteria have been finalized. The proportion in the Sustainable Generation Infrastructure segment stood at 67.4% and is relatively high. The activities in the Renewable Energies area are fully taxonomy-aligned.

Revenue from environmentally sustainable activities of €4,698.4 million in 2021 was 17.6% higher than the value in the previous year. This development was mainly attributable to higher revenue from the use of the grids at the electricity grid operators in the System Critical Infrastructure segment. The proportion of total revenue accounted for by environmentally sustainable activities fell in comparison to 2020 because Group revenue from commodity sales and trading activities grew significantly by 60.3%, which was mainly due to the increased volatility on the electricity and gas markets.

The opex for environmentally sustainable activities was €335.0 million and the proportion of total opex accounted for by environmentally sustainable activities in 2021 was 29.3%, which was lower than the level in the previous year. This development was primarily due to lower expenditure on maintenance and repair services in comparison to 2020.

Due to the first-time application of the final delegated act for the Taxonomy Regulation of 6 July 2021 in the 2021 financial year, information on the EU taxonomy is only comparable with data from the 2020 financial year to a limited extent. The figures for the key performance indicators (KPIs) reported this year also differ from the figures reported in the previous year because we only reported on selected activities in the Integrated Annual Report 2020. The figures for the previous year have been restated in this Annual Report. Full information on the taxonomy-eligible and taxonomy-aligned figures according to Annex II of the delegated act for the EU taxonomy can be found on p. 146 ff⁷.

Accounting policies

The proportion of sustainable **investment (capex)** exclusively refers to the assets associated with taxonomy-aligned activities. To calculate the proportions, investments from the following IFRS standards were included:

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

The numerator for investments taken into account according to the taxonomy comprises the following:

Composition of the capex numerator

in € million	2021	2020
Additions to property, plant and equipment ¹	1,649.6	1,655.9
Additions to intangible assets	70.3	61.0
Additions to right-of-use assets from leases	106.6	224.8
Additions to property held as a financial investment	0.0	0.0
Additions resulting from business combinations	0.0	67.2
Total	1,826.5	2,008.9

¹ This includes additions to provisions recognized for the decommissioning and dismantling of property, plant and equipment in the reporting period of €14.6 million (31/12/2020: €204.4 million).

The additions to calculate the denominator can be found in notes 10 (without consideration of the column "Goodwill"), 11, 12 and 14 (column "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. 76](#)⁷ and in note 1 of the notes to the consolidated financial statements.

Composition of the revenue numerator

in € million	2021	2020
Revenue from contracts with customers	4,342.5	3,713.0
Other revenue	355.9	280.7
Total	4,698.4	3,993.7

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	2021	2020
Maintenance and repair costs ¹	328.8	342.4
Short-term leases (not recognized as right-of-use assets)	5.4	8.2
Research and development costs	0.8	0.7
Total	335.0	351.3

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 EBITDA that makes a contribution to the environmental objective of climate change mitigation ([p. 78](#)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. 78f.](#)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	2021	2020
Capex numerator according to EU taxonomy	1,826.5	2,008.9
Additions to entities accounted for using the equity method	282.4	27.8
Total	2,108.9	2,036.7

Substantial contribution to the environmental objective of climate change mitigation

In the case of business activities relating to wind and solar energy and with respect to the requirement for a substantial contribution to climate protection, it is not currently necessary to test

compliance with the criteria because energy generation of this type will remain significantly below the current threshold of 100 g CO₂eq/kWh, even when analyzed over their entire life cycle. The electricity grids make a substantial contribution to climate change mitigation due to the fact that the majority of the connections in the last five years have been for renewable energies. Hydropower plants make a substantial contribution to climate change mitigation over their entire life cycle as they have a very low greenhouse gas intensity of significantly less than 100 g CO₂eq/kWh. We used the emissions factors published by the German Environment Agency as a reference, which give figures for both run-of-river and pumped storage with natural flow of water well below the threshold of 100 g CO₂eq/kWh.

In the case of pump storage power plants and the charging infrastructure for electromobility, the taxonomy criteria generally assume that these activities make a significant contribution to climate change mitigation and it is thus not necessary to examine any other criteria. The average net energy consumption of the water grids operated by the EnBW Group fulfills the energy efficiency criteria.

No significant harm to the other EU environmental objectives

In the next stage, we examined 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). This predominantly relates to the legal and official regulations in the energy sector that have to be observed in order to receive approval for constructing and operating power plants. Compliance with these energy industry regulations and with any further requirements (such as those related to the circular economy) was analyzed at the superordinate level of the business activities with the aid of the respective specialist departments at EnBW. With respect to the five environmental objectives, the analysis yielded the following results:

Protecting our power plants against the physical impact of climate change (**climate change adaptation**) is economically relevant for EnBW and is thus taken into account in our investment decisions. Furthermore, climate-related risks and opportunities are increasingly being integrated into the EnBW risk management system, not least as part of our implementation of the TCFD ⁸ recommendations.

The environmental objective **sustainable use and protection of water and marine resources** is particularly relevant for our hydropower plants and offshore wind activities. In particular, the criteria reference the legal and official regulations in the energy sector that have to be observed in order to receive approval for constructing and operating power plants.

In terms of the environmental objective **transition to a circular economy**, there are general regulations relating to high durability, easy dismantling, repairability and a declaration of intent to maximize the recycling of the plant at the end of its service life. The vast majority of components are designed for a very long service life, are recyclable and have monetary value at the end of their period of use (steel, aluminum, copper). These plant components can either be recycled within the EnBW Group or also sold to third parties for further use.

In terms of the environmental objective **pollution prevention and control**, there are only criteria that relate to biomass and the charging infrastructure, namely guaranteeing observance of applicable law. Compliance with these energy industry regulations is a prerequisite for receiving approval to operate the power plant.

For the last relevant environmental objective **protection and restoration of biodiversity and ecosystems**, we examined environmental impact assessments and other comparable assessments that are a key requirement for receiving approval for constructing and operating power plants. These assessments are only carried out as needed.

Compliance with minimum safeguards

In the third and final stage, we analyzed the business activities at a Group level with respect to their compliance with the minimum social safeguards for human rights and occupational safety (prequalification process (p. 62 f.⁹), information on occupational safety (p. 107 ff.⁹) and the "Report on opportunities and risks" (p. 128 ff.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).

The full **financial statements of EnBW AG** are available to download on our website.

[Online ↗](#)

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 to economic and political conditions, please refer to the information provided for the EnBW Group (p. 40 ff.¹ and 67 ff.²).

The annual net profit, which indicates the company's ability to pay a dividend, is an important performance indicator for EnBW AG.

Results of operations of EnBW AG

Condensed income statement of EnBW AG

in € million ¹	2021	2020	Change in %
Revenue	67,052.9	37,943.8	76.7
Cost of materials	-66,217.0	-36,959.1	-79.2
Amortization and depreciation	-471.2	-300.9	-56.6
Other operating result	50.5	-804.3	-
Earnings before interest and taxes	415.2	-120.5	-
Financial result	-384.7	315.2	-
Tax	16.1	-36.8	-
Net profit	46.6	157.9	-70.5

¹ In accordance with German commercial law.

EnBW AG reported an annual net profit of €46.6 million. The decrease in comparison to the previous year was mainly influenced by the €535.7 million in higher earnings before interest and taxes, the decrease in the financial result of €699.9 million and the increase in the tax result of €52.9 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 in revenue of €29,109.1 million was offset by an increase in the cost of materials of €29,257.9 million.

Revenue (after the deduction of electricity and energy taxes) of €67,052.9 million primarily includes revenue from electricity sales of €13,052.7 million and gas sales of €49,422.9 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 in revenue in 2021 of €28,512.7 million to €64,194.1 million. This increase was mainly attributable to price effects as a result of the development of gas and electricity prices since the second half of 2021. There was also an increase in the volume traded in the gas sector related to the growth in business activities. The increase in total revenue in the trading business was also offset by the rise in the cost of materials of €28,483.4 million to €63,598.9 million.

Revenues from sales activities were split into €1,696.3 million for electricity and €205.6 million for gas, which represented an overall increase of €37.3 million.

In the retail and end customer sector (B2C), electricity sales of 6.6 billion kWh were 0.1 billion kWh higher than the level in the previous year due, in particular, to higher electricity heating consumption as a result of the temperature. The higher sales volume led to higher revenues in the electricity business segment. Gas sales increased to 3.9 billion kWh also due to the temperature 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 also attributable to the introduction of the CO₂ duty, which is passed on to customers.

The cost of materials includes costs for electricity procurement of €12,305.6 million and costs for gas procurement of €49,229.8 million.

Alongside scheduled amortization and depreciation, the amortization and depreciation item includes impairment losses of €242.0 million, which mainly relate to conventional generation plants.

The significant increase in the other operating result in comparison to the previous year was primarily due to a rise in income from the disposal of assets of €657.4 million, which was mainly attributable to intercompany restructuring, and higher income from reversals of provisions of €238.8 million, which was mainly related to provisions for onerous contracts for electricity procurement agreements.

The decrease in the financial result was mainly influenced by a fall in investment income of €401.7 million, higher impairment losses on financial assets of €291.1 million, which were mainly related to EnBW Kraftwerk Lippendorf Beteiligungsgesellschaft mbH, and higher interest expenses for personnel provisions of €124.5 million. This was offset to some extent by the lower interest expenses for nuclear provisions of €54.4 million, the decrease in interest expenses for tax provisions of €33.7 million and the drop in interest expenses for subordinated bonds of €15.7 million.

In the financial year, there was a positive tax result of €16.1 million, compared to a negative tax result of €36.8 million in the previous year. The taxes mainly comprise reversals of provisions for tax audit risks of €31.0 million. In the previous year, there were additions to the provisions for tax audit risks of €48.7 million. The tax result also includes out-of-period expenses for income taxes of €8.2 million, compared to out-of-period income from income taxes of €19.6 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	31/12/2021	31/12/2020	Change in %
Assets			
Non-current assets			
Intangible assets	381.3	448.5	-15.0
Property, plant and equipment	623.6	902.8	-30.9
Financial assets	23,802.6	22,687.3	4.9
	24,807.5	24,038.6	3.2
Current assets			
Inventories	674.0	471.9	42.8
Receivables and other assets	7,134.7	2,551.9	-
Securities	305.0	250.0	22.0
Cash and cash equivalents	4,275.5	413.7	-
	12,389.2	3,687.5	-
Prepaid expenses	8,925.3	668.7	-
Surplus from offsetting	128.7	363.6	-64.6
	46,250.7	28,758.4	60.8
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	1,572.5	1,872.5	-16.0
Retained earnings	427.6	351.9	21.5
	3,469.5	3,693.8	-6.1
Extraordinary items for investment cost subsidies and grants	25.5	27.2	-6.3
Provisions	13,654.5	12,005.0	13.7
Liabilities	21,191.9	12,483.0	69.8
Deferred income	7,909.3	549.4	-
	46,250.7	28,758.4	60.8

¹ In accordance with German commercial law.

The net assets of EnBW AG as of 31 December 2021 are significantly influenced by the non-current assets (particularly the financial assets) and the receivables and other assets. These are primarily 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 €16,310.7 million, securities held as non-current assets of €2,841.0 million and investments of €1,420.8 million. The increase in financial assets of €1,115.3 million 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 of €550.9 million and impairments of €298.8 million.

Trade receivables of €2,038.8 million mainly comprise receivables from trading activities and consumption accruals for electricity and gas deliveries not yet invoiced. This increase was primarily attributable to trading activities as a result of the development of gas and electricity prices.

The increase in other assets was mainly due to the rise in collateral of €2,538.7 million. Higher market prices and a very volatile market environment in the 2021 financial year led to an increase in the collateral to stock markets and trade partners.

Cash and cash equivalents of EnBW AG totaling €4,275.5 million largely consist of bank deposits, which are invested as time deposits to the amount of €1,200.0 million. More details on the development of this item can be found in the section "Financial position of EnBW AG."

The increase in prepaid expenses of €8,256.6 million was primarily due to deferred earnings components from electricity and gas futures as a result of the significant increase in market prices.

The provisions for pensions and similar obligations held by EnBW AG to the amount of €6,348.6 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 in the provisions for pensions and similar obligations of €548.2 million was mainly due to the effect of the further decrease in the discount rate as in the previous year. In addition, provisions relating to nuclear power of €3,630.7 million are disclosed, which are formed to fulfill public law obligations and requirements in the operating licenses.

Of the liabilities totaling €21,191.9 million, €7,705.0 million have a residual term of more than one year. Overall, there are liabilities of €9,381.8 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 €8,708.9 million was mainly attributable to higher cash collateral received of €2,734.4 million and the increase in variation margins of €3,553.8 million, which were due to higher market prices and the extremely volatile market environment. In addition, liabilities to affiliated entities and to investments increased by €1,880.8 million.

Non-current liabilities exist to the amount of €4,705.1 million to EnBW International Finance B.V. as part of the Debt Issuance Program (DIP) ², to the amount of €2,500.0 million from the issuing of five subordinated bonds and to the amount of €456.8 million from loan agreements with credit institutions. The main changes in comparison to the previous year were the issuing of one green subordinated bond with a total volume of €500.0 million and the issuing of a subordinated bond with a volume of €500.0 million, as well as the repayment of a subordinated bond with a volume of €1,000.0 million. Furthermore, two new bonds were issued via EnBW International Finance B.V., each with a volume of €500.0 million.

The increase in deferred income of €7,359.9 million was primarily due to deferred earnings components from futures as a result of the significant increase in market prices.

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 €23,802.6 million are offset by long-term debt of €17,174.5 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 increased from €413.7 million by €3,861.8 million to €4,275.5 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 ² 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:

Inflows from margin payments of €3,738 million had a material impact on liquidity.

In addition, a green subordinated bond with a volume of €494.8 million and a subordinated bond with a volume of €498.3 million were issued and €265.1 million was invested in time deposits. Two new bonds with a total volume of €994.6 million and commercial papers with a volume of €240.0 million were also issued via EnBW International Finance B.V. This was offset to some extent by the repayments of a subordinated bond with a volume of €1,000.0 million and bank loans of €70.5 million.

In the financial year, there was investment of €1,530.8 million, mainly in the area of the grids and renewable energies.

There was a cash outflow of €748.3 million in connection with the utilization of the nuclear power and pension provisions.

Another business transaction with a material impact on liquidity was the repayment to settle the EEG ⁸ credit line of €656.0 million from the previous year.

In the financial year, the loans to affiliated entities also decreased by €550.9 million.

A total of €270.9 million was distributed to the shareholders of EnBW AG in dividends. This was offset to some extent with an impact on liquidity by the receipt of dividends of €237.8 million.

Interest payments of €125.0 million were also made to banks.

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 2021 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 expected a break-even annual net result in 2021. The annual net profit in 2021 was influenced by negative effects not relevant to the ongoing management of the company of around €400 million and considerably higher expenses for the grid reserve and balancing energy to maintain the security of supply.

The annual net profit for 2021 stands at €46.6 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 interest expenses for pension provisions and provisions relating to nuclear power totaling €582.5 million (€553.9 million of which is reported as interest expenses of EnBW AG) resulting from the drop in discount rates, which were €46.5 million lower than expected. Furthermore, additions to the provisions relating to nuclear power of €239.1 million (of which €164.4 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 €349.1 million, which were mainly attributable to EnBW Kraftwerk Lippendorf GmbH, impairment losses on intangible assets and property, plant and equipment of €290.2 million, primarily relating to conventional generation plants, and additions to the provisions for onerous contracts of €279.5 million.

This was offset to some extent by income from the disposal of assets of €825.8 million, reversals of provisions of €428.6 million and tax effects of €62.9 million.

Based on the annual net profit of €46.6 million and taking into account the profit carried forward of €81.0 million and transfers from other revenue reserves of €300.0 million, there are retained earnings of €427.6 million.

We anticipate an annual net profit of between €150 million and €200 million in 2022. This result will be negatively influenced by high interest expenses for non-current provisions. We anticipate that the negative impact on earnings caused by the fall in the average interest rate will be reduced in 2022. Based on the assumption that the average interest rate will fall to a lesser extent, we expect a negative impact on earnings of around €350 million.

In the 2022 financial year, we expect that effects not relevant to the ongoing management of the company will, in total, negatively impact earnings by around €400 million. Adjusted for these effects, the annual net profit would be between €550 million and €600 million. The possible impact of the war between Russia and the Ukraine has not been taken into account in the forecast. Due to the dynamic situation, we expect the results to be subject to increased volatility. Based on our preliminary updates to the anticipated risks and opportunities, however, we currently do not expect any significant deviations from the forecast.

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 €550 million as of 31 December 2022.

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 [\(p. 127 ff.?\)](#).

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 €57.00 at the start of 2021 and stood at €76.00 by the end of the year.

The strategic development of the company as an infrastructure partner by the end of 2025 will create the foundations for the future viability of EnBW. The trust placed in EnBW by shareholders is based on this value generated by the company. EnBW manages the development of value using the key performance indicator ROCE [?](#), which will be replaced by the value spread [?](#) from the 2022 financial year, and has managed its credit standing since 2021 using the key performance indicator debt repayment potential [?](#).

EnBW strives to achieve a dividend payout ratio of between 40% and 60% of adjusted Group net profit. Based on the annual net profit of EnBW AG of €46.6 million and taking into account the profit carried forward of €81.0 million and transfers from other revenue reserves of €300.0 million, there are retained earnings of €427.6 million for the financial year and thus dividends will be paid for the 2021 financial year. If approved by the Annual General Meeting, the dividend to be distributed for the 2021 financial year will be €1.10 per share. Adjusted for the valuation effects of IFRS 9, this corresponds to a dividend payout ratio of 36%.

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

We have successfully concluded the EnBW 2020 strategy. 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. Organized in three strategic segments, we want to further strengthen our profitability and continuously improve our sustainability performance at the same time. The measures in our 25-point sustainability program were either implemented or pushed forward as a priority in 2021 and will in the next stage be transferred into our EnBW sustainability agenda. 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 2021 as expected and forecast at the start of the year: The adjusted EBITDA [?] increased by 6.4% in comparison to the previous year. The result in the Smart Infrastructure for Customers segment fell by 3.6% and was within the forecasted range. The adjusted EBITDA for the System Critical Infrastructure segment decreased by 4.3%, mainly due to higher expenses for the grid reserve and balancing energy to maintain the security of supply, and was thus slightly below our forecasted range. The result in the Sustainable Generation Infrastructure segment rose significantly by 20.1% and exceeded our forecasted range. While the adjusted EBITDA in the Renewable Energies area fell by 5.0%, mainly due to unfavorable wind conditions, the result in the Thermal Generation and Trading area rose by 67.6% due to growing volatility on the wholesale markets.

The fall in non-operating EBITDA [?] was primarily due to expenses related to additions to the provisions for onerous contracts for electricity procurement agreements. This was offset to some extent by valuation effects from derivatives.

In total, the Group net profit attributable to the shareholders of EnBW AG decreased from €596.1 million in 2020 to €363.2 million in the reporting year. The main reason for this development was impairment losses of €0.7 billion in the area of conventional generation and of €0.3 billion on offshore wind farms. In contrast, there was a significant improvement in the financial result due to the market valuation of securities. Earnings per share amounted to €1.34, compared to €2.20 in the previous year.

The financial position of the company remains sound. Solvency was ensured at all times up to the 2021 reporting date thanks to the company's available liquidity and its internal financing capability [?], as well as external sources available for financing. As of 31 December 2021, net debt [?] fell by €5,620.4 million in comparison to the reporting date in the previous year, which was mainly attributable to the receipt of collateral and the increase in the interest rate for the pension provisions. As a result of the significant fall in net debt, primarily due to factors outside of the company's influence, the debt repayment potential [?] of 20.3% significantly exceeded the target value of between 11.5% and 12.5% for the reporting year. ROCE reached 7.0% and thus exceeded expectations for the 2021 financial year.

In the customers and society goal dimension, the Reputation Index in 2021 almost reached the same level as in the previous year. The satisfaction of EnBW customers fell slightly against the background of the public debate on the increasing prices on the energy market, while Yello was able to reaffirm the high level of satisfaction among its customers. As in the previous year, supply reliability remained at a very good level in 2021. In the environment goal dimension, we continued with the expansion of renewable energies. The CO₂ intensity of our own electricity generation increased in comparison to the previous year as a result of below-average wind conditions and higher electricity generation from fossil fuel-fired power plants due to market-driven developments. In the employees goal dimension, the People Engagement Index (PEI) remained at a high level in comparison with other companies. In the area of occupational safety, the LTIF for companies controlled by the Group increased in comparison to the previous year, while LTIF overall fell in comparison to the previous year.

In the estimation of the Board of Management, the operating business of our company developed positively in 2021. The operating result increased as expected. Furthermore, EnBW once again proved itself to be a reliable and economically stable partner in the second year of the coronavirus pandemic when it came to maintaining a secure supply of energy and reliable infrastructure.

Forecast

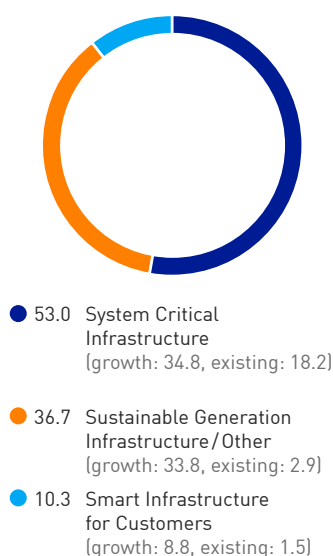
In our forecast we take a look at the expected growth and development of EnBW in the years 2022 to 2024. It should be noted that the present conditions – such as the high volatility on the markets [\(p. 74f. ↗\)](#) – increase the level of uncertainty with which predictions about the future development of the company can be made. The expected economic, political and regulatory conditions are presented in the chapter “General conditions” [\(p. 67ff. ↗\)](#). Potential factors influencing the forecast are described in detail in the “Report on opportunities and risks” [\(p. 127ff. ↗\)](#).

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 Energiewende, gross investment of €10.6 billion is planned for the 2022 to 2024 period. This represents on average €3.5 billion per year. €2.4 billion (23%) of this investment will be on existing projects and €8.2 billion (77%) on growth projects. The majority of the gross investment (76%) will be in the System Critical Infrastructure segment and the expansion of renewable energies.

Total investment 2022 – 2024
in %



Around 10% of the investment is planned for the **Smart Infrastructure for Customers** segment, of which approximately 9% will be for growth investment. This investment is mainly intended for the expansion of electromobility, as well as for the expansion of the telecommunications infrastructure.

Around 53% of the investment will flow into the **System Critical Infrastructure segment**. Growth investment will account for 35% of the overall gross investment and 18% 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 projects [🔗](#) ULTRANET and SuedLink that involve our subsidiary TransnetBW and are part of the Network Development Plan [🔗](#). In addition, extensive investment in the expansion and upgrading of the existing grids is planned by our grid subsidiaries.

Around €3.9 billion or 37% of the investment is planned for the **Sustainable Generation Infrastructure** segment and for other investment (other investment: 2%). 34% of the investment will be on growth themes. Investment of around €2.4 billion for the expansion of renewable energies is planned for the period 2022 to 2024, which corresponds to 23% 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 in 2021 and at the beginning of 2022, we are planning the construction of 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 (including the two solar parks Gottesgabe and Alttrebbin, each with an output of around 150 MWp, which we will start to commission in the first quarter of 2022) from our comprehensive project pipeline [\(p. 40f. ↗\)](#). Furthermore, planned investment for the Sustainable Generation Infrastructure segment also includes fuel switch projects [🔗](#) for converting three of our thermal power plants in Baden-Württemberg from coal to gas in order to secure, in particular, the supply of district heating at these sites 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.

The total investment volume of around €10.6 billion between 2022 and 2024 will be accompanied by **divestitures** of around €3.6 billion. These include divestitures in the Renewable Energies area, which will build on our already realized participation models. In order to finance our investments for the Energiewende, we plan to continue opening up specific areas of the company for investment by third parties as minority shareholders. In this context, EnBW is also examining the option of opening up the transmission system operator TransnetBW to long-term minority shareholders. Other divestitures will mainly comprise the receipt of building cost subsidies.

The balance of gross investment and divestitures gives the net investment [?], which is €7.0 billion or €2.3 billion on average per year.

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

TOP Development in 2022 (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	
	2022	2021	2022	2021
Smart Infrastructure for Customers	€350 to €425 million	€323.1 million	10% to 15%	10.9%
System Critical Infrastructure	€1,225 to €1,325 million	€1,288.5 million	35% to 45%	43.5%
Sustainable Generation Infrastructure	€1,650 to €1,750 million	€1,535.1 million	50% to 60%	51.9%
Other/Consolidation		€-187.4 million		-6.3%
Total	€3,025 to €3,175 million	€2,959.3 million		100.0%

The adjusted EBITDA [?] of the **Smart Infrastructure for Customers** segment in 2022 will be higher than the level in the previous year. We expect higher earnings due to growth in our new business fields and at our subsidiary SENEK. However, it is still uncertain whether the negative impacts of increasing numbers of customers being provided with a basic supply of energy at high additional procurement costs and of impairments on receivables will continue in the future. The share of the adjusted EBITDA for the Group accounted for by this segment should reach at least the level in the previous year.

The adjusted EBITDA of the **System Critical Infrastructure** segment will reach about the same level in 2022 as in the 2021 financial year. 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. In contrast, there is a risk that higher expenses for the grid reserve and balancing energy since the end of 2021 will continue in 2022 and negatively impact the operating result. We expect a stable or decreasing share of the adjusted EBITDA for the Group accounted for by this segment.

The adjusted EBITDA of the **Sustainable Generation Infrastructure** segment will increase further in 2022. Renewable energies will contribute around €900 million to earnings. The forecasts for wind yields and thus for the volume of electricity generated are based on the long-term average. As the wind yields in the 2021 financial year were below this level due to poorer weather conditions, we expect higher earnings in 2022 in comparison to the previous year. The further expansion in power plants for the utilization of renewable energies will have a slightly positive impact on the earnings performance. We also expect earnings from our thermal power plants to improve in 2022 due to higher wholesale market prices and spreads. The share of the adjusted EBITDA for the Group accounted for by this segment should reach at least the level in the previous year.

The **adjusted EBITDA** for the EnBW Group will increase further in the 2022 and be between €3.025 billion and €3.175 billion. We expect the adjusted EBITDA for the Group to be at the same level in 2023 as in 2022.

The **EBITDA** [?] in 2022 and 2023 will develop in line with the adjusted EBITDA. We do not make any forecasts relating to material non-operating effects.

The **EBT** [?] relevant to remuneration will be between €1.1 billion and €1.2 billion in 2022. This is an increase in comparison to the previous year, which will be due to the elimination of negative non-operating effects on earnings. A further slight increase in EBT is expected in 2023. The accuracy of the forecast for EBT is, however, dependent on other 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 €3.025 billion to €3.175 billion, we expect to achieve a **retained cash flow** in 2022 of between €1.75 billion and €1.85 billion. Adjusted for dividend payments (including payments from investments to third parties) and income tax payments, we expect an FFO relevant to remuneration of between €2.5 billion and €2.6 billion. We expect that the retained cash flow in 2023 will be at the same level as in 2022.

Debt repayment potential

TOP

Key performance indicator

	2022	2021
Debt repayment potential in %	13.5 – 14.5	20.3

We expect a debt repayment potential of around 13.5% to 14.5% in 2022. The development of the debt repayment potential is dependent on factors within net debt that are outside of the company's influence, such as political discussions about the abolition of the EEG cost allocations and thus the future development of the EEG account, the development of interest rates for non-current provisions or the performance of the dedicated financial assets.

Value spread

TOP

Key performance indicator

	2022	2021
Value spread in %	1.5 – 2.5	2.1

We will manage the increase in the value of the company using value spread from 2022. This will improve the comparability of the data as we will be able to present the increase in value of the company independent of the weighted average cost of capital (WACC), which fluctuates over time. ROCE will thus be replaced by the new key performance indicator value spread. In the 2022 financial year, it is anticipated that the value spread will be between 1.5% and 2.5%. In general, investments tend to lead at first to a fall in value spread as a result of low initial contributions to earnings. This will be the case due to the cost of capital for the planned investment in the grids and offshore wind farms in 2022, which will not yet have a positive effect on earnings. The value spread is expected to fall in 2023.

In 2022, the ROA relevant to remuneration will be between 5.0% and 5.6%. It is thus expected to be higher than the level in the previous year due to the elimination of the negative non-operating effects on earnings in 2021. As things currently stand, we expect that the ROA will stabilize in 2023 in comparison to 2022.

Expected trends in the customers and society goal dimension

TOP

Key performance indicators

	2022	2021
Reputation Index	56 – 59	55
Customer Satisfaction Index for EnBW/Yello	127–139/ 150–161	127/159
SAIDI (electricity) in min./year ¹	15–20	16

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 noticeably 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 that are 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

We continue to expect a high level of competitive pressure in 2022 both from direct competitors within the energy industry and, to an increasing extent, competitors from other sectors that have already entered or will enter the energy market. In addition, it is anticipated that other factors will increasingly influence the satisfaction of customers in 2022. There may be negative effects, for example, due to the ongoing coronavirus pandemic or a higher rate of inflation, especially if prices for electricity and gas rise in the long term and this is combined with higher demand for energy in Germany and Europe. Increasingly volatile developments on the market and, for example, further unexpected market exits or insolvencies of market participants could also have negative effects. It is likely that these effects would also impact the 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 and targeting our sales activities in this direction. We aim to become climate neutral with respect to our own emissions (Scope 1 and 2 ⁹) by 2035 and in this context are also making the product portfolio sustainable. 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 enabling the convenient charging of e-cars with the AutoCharge functionality at quick-charging stations in the EnBW HyperNetwork. This allows drivers to conveniently charge their vehicles as required, not only at shopping centers but also on major highways and in urban centers across Germany. Using our advanced digital skills, we will offer our customers customized products and services, and are striving to achieve a Customer Satisfaction Index of between 127 and 139 points in the 2022 financial year. Through continuous optimization of these digital skills, personalized 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 2022 financial year.

SAIDI

The grid subsidiaries of EnBW have always achieved a highly reliable supply 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 minutes in 2021. We are striving to achieve a value of between 15 and 20 minutes in the 2022 financial year and subsequent years.

Expected trends in the environment goal dimension

TOP

Key performance indicators

	2022	2021
Installed output of RE in GW and the share of the generation capacity accounted for by RE in %	5.4–5.6/ 41.5–42.5	5.1/40.1
CO ₂ intensity in g/kWh ¹	0%–15%	478

¹ The calculation method for the key performance indicator CO₂ intensity will be restricted in future to include only factors that can be controlled by the company. In contrast to previous years, the share related to redispatch that cannot be controlled by EnBW is no longer included. This performance indicator still excludes nuclear generation.

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 2022. This will be mainly attributable to photovoltaics and the commissioning of the Gottesgabe and Alttrebbin solar parks that are currently under construction. In addition, we are planning to further expand onshore wind power. 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

Despite the increase in CO₂ intensity due to the below-average generation from wind power and market-driven developments especially in the fourth quarter, we were still within our target corridor for the 2021 reporting year of between –15% and –30% in comparison to the reference year of 2018. In 2022, we anticipate higher generation from our thermal power plants in the first quarter of 2022 due to rising wholesale market prices and spreads – driven especially by the high price of gas. In combination with wind yields, which are measured according to the long-term average, we anticipate that CO₂ intensity in 2022 will remain around the same level as in 2021, based on the assumption that gas prices will normalize from the second quarter onwards, or it will be 15% higher if gas prices remain high.

Expected trends in the employees goal dimension

TOP

Key performance indicators

	2022	2021
People Engagement Index (PEI) ¹	≥ 77	82
LTIF for companies controlled by the Group ^{2, 3, 4}	2.0 – 2.2	2.3
LTIF overall ^{2, 3}	3.2 – 3.5	3.3

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 2021 were not included in the employee surveys for the PEI.

² 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. 47 ⁷.

³ 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 2021 financial year were not included in the calculations for the LTIF performance indicators.

⁴ Except for companies in the area of waste management.

People Engagement Index

The People Engagement Index (PEI) stood at 82 points in the reporting year. However, it is probable that this very good result reflects the fact that employees have attached too much importance to the company's handling of the impact of the coronavirus pandemic in their positive assessment. An international benchmark index compiled using similar questions at numerous companies from various different sectors stood at 74 points in 2021. Taking into account this global benchmark score and the ongoing extraordinary effect of the coronavirus pandemic on this index in 2021, we are striving to achieve a target value for the PEI of at least 77 points in 2022.

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 2021 were once again highly influenced by the coronavirus pandemic. As a critical infrastructure company, we have a responsibility to ensure a reliable supply of energy. The coronavirus pandemic will also have a big impact on safe and healthy working practices in 2022. Irrespective of this challenge, we are still striving to continuously reduce both the LTIF for companies controlled by the Group and LTIF overall. 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 EBITDA ⁸ for the Group in 2022 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 ratings ⁹. With respect to our non-financial key performance indicators, we expect a largely stable to positive development in 2022. The only exceptions may be the People Engagement Index (PEI), which is impacted by extraordinary effects, and CO₂ intensity, which, depending on the price of gas, could be higher than the level in the previous year. The possible impact of the war between Russia and the Ukraine has not been taken into account in the forecast. Due to the dynamic situation, we expect the results to be subject to increased volatility. Based on our preliminary updates to the anticipated risks and opportunities, however, we currently do not expect any significant deviations from the forecast.

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)

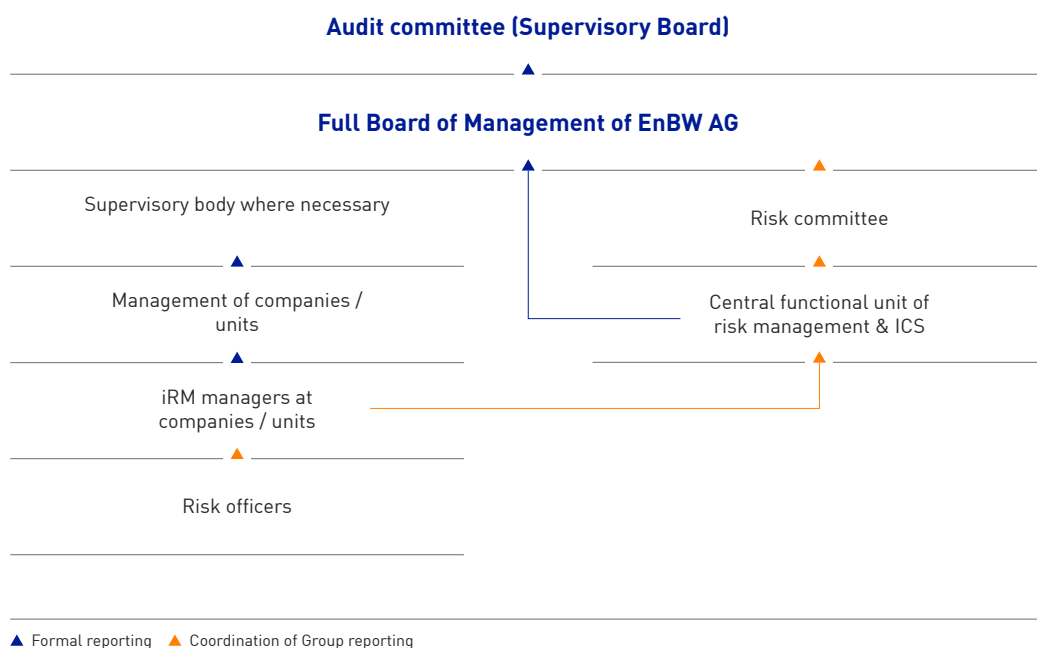
The integrated opportunity and risk management system (iRM) of EnBW is based on the internationally established COSO II framework as a standard for risk management systems that span entire companies. The iRM aims, through a holistic and integrated approach, to effectively and efficiently identify, evaluate 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, the opportunity and risk map that is well known throughout the Group is utilized. The risk map is used to explicitly consider possible 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) ⁸ are also taken into account.

We constantly improve and enhance the maturity of our integrated opportunity and risk management system. In 2020, we already expanded and improved the quantitative assessment of opportunities and risks using a question-based collection method. Building on this, we developed and implemented an approach to assess the risk-bearing capacity in the reporting year. This is 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 company's individual risk-bearing capacity, i.e., the risks that EnBW can tolerate without jeopardizing its ability to continue as a going concern. This can be used as a management instrument and fulfills the requirements of the auditing standard IDW PS 340 n. F.

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 well-known 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.

The iRM is tested annually by the Group auditing department with a focus on different main themes each year and the results of the test are then presented to the Supervisory Board in the form of a so-called effectiveness report. All opportunities and risks are initially assessed with the help of the iRM relevance filter before and after consideration has been taken of both implemented and envisaged management instruments. In the process, they are allocated to one of seven relevance categories on the basis of quantitative and qualitative criteria for each of the four dimensions: “strategic/sustainability,” “operational,” “financial” and “compliance.”

The 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. 46⁷). The possible effects on the key non-financial performance indicators (p. 46 f. ⁷) are discussed with those responsible in the specialist areas.

Opportunities and risks are evaluated within the medium-term planning period. Insofar as a financial valuation of the opportunities and risks is possible, they are allocated to relevance classes 0 to 4 if they have a value in the range of less than €0.2 million up to less than €50 million within the medium-term planning period. From relevance class 5 and above, which corresponds to a financial valuation of more than €50 million and a probability of occurrence of over 50%, 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 generally 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.

To ensure that possible extreme scenarios for individual opportunities or risks can be identified, risk ranges are selected that are appropriate to such extreme scenarios. For this purpose, the confidence level for the stochastic modeling of risks for the reporting year was raised from 67% to 98% as of the reporting date of 31 December 2021. This represents larger financial ranges in order to cover possible extreme scenarios with a higher probability. The calculation methods and distribution functions for opportunities and risks were not changed in the process.

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	<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	Group reporting level
Relevance class 6	<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	

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. A report on the effectiveness of the ICS 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.

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). You can find further information on this subject on [p. 145[↗]](#).

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 one of the individual issues. 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 management system, which comprises regular risk assessments of this type. Risks related to fighting corruption and bribery are addressed on p. 49 ff.⁷ in a cross-segment manner.

Social engagement

There are no risks in the area of social engagement. In fact, we take our social responsibility for civic and social engagement seriously (p. 55f.⁷).

Procurement

Sustainable procurement – purchasing: In the area of procurement, risks cannot be excluded due to increasing levels of complexity and the large number of suppliers. 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. 62 ff.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 multistage 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. 64 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. 92⁷). 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 exist especially in connection with the competitive pressure both from direct competitors within the energy industry and, to an increasing extent, competitors from other sectors that have already entered the energy market or will do so shortly. This is associated with the risk of a negative impact on the customer base and sales volumes. It is also accompanied by very volatile market prices in the area of procurement. Opportunities exist above all through the provision of a broader range of customer-specific products and services such as offering hardware bundles⁸ and product options, as well as through processes more oriented to the customer. EnBW also continued to expand its range of electromobility, sustainable energy industry services and energy solutions in 2021 and targeted its sales activities in this direction (p. 92 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 f.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. 99⁷).

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. 97⁷). 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. 92⁷).

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. 40 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. 92 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, 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. 104⁷).

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. 107f. 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 EBITDA 7, debt repayment potential 7 and value spread 7, which will replace the key performance indicator ROCE 7 from the 2022 financial year onwards. The risks are described after the implementation of risk limitation measures. The financial effects based on a 98% confidence level break down as follows:

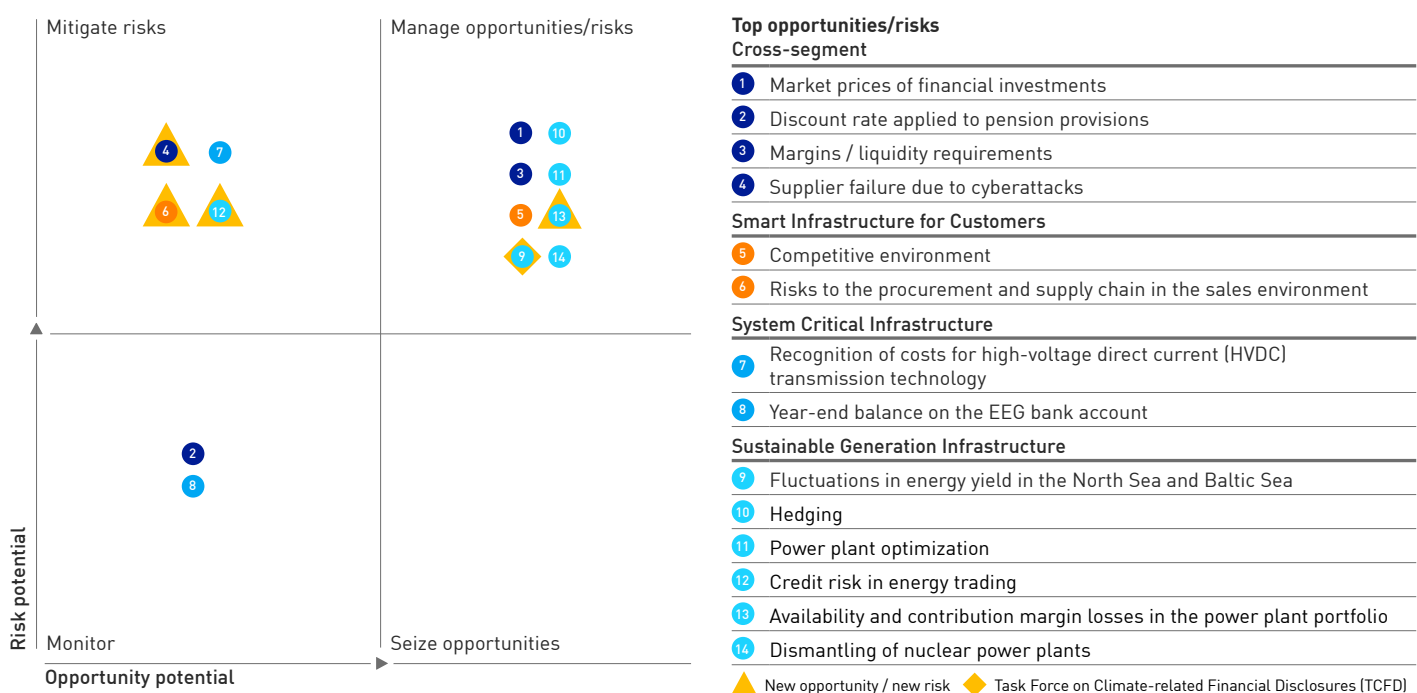
Classification of the level of opportunity/risk

	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

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 31/12/2021



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 2021:

- Supplier failure due to cyberattacks
- Risks to the procurement and supply chain in the sales environment
- Credit risk in energy trading
- Availability and contribution margin losses in the power plant portfolio

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, remote and they 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 expires, the state capital and EnBW are still striving to reach an amicable settlement. The court proceedings have been suspended several times, namely from January 2015 until the end of 2016 and from April 2018 until the end of January 2019, to give the parties the opportunity to reach an amicable settlement. 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 2022 of losing the water grid without receipt of adequate compensation.

Financial opportunities and risks

1 Market prices of financial investments: The financial investments managed through the asset management system ² are subject to risks that arise from price losses and other losses in value as a result of the volatile financial market environment. Following a clear recovery on the stock markets in 2021, we expect volatile, sideways movement in 2022. However, uncertainty with respect to future developments remains high as higher inflation in the wake of the coronavirus pandemic caused by, for example, a sharp increase in the cost of energy and raw materials, has become a major issue. 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 2022 and a significant level of opportunity and moderate level of risk in this area in 2023. This will have an impact on net debt ² and thus on the key performance indicator debt repayment potential ².

2 Discount rate applied to pension provisions: There is a general 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 2021, the discount rate was 1.15%, which was up 0.40 percentage points on the rate at the end of 2020 (0.75%). Against the background of the expected development of interest rates in future, we identify a significant level of opportunity and moderate level of risk in 2022 and a material level of opportunity and significant level of risk in this area in 2023. This will have an impact on net debt and thus on the key performance indicator debt repayment potential.

3 Margins/liquidity requirements: Due to unforeseeable developments, especially margin payments, unutilized project funds, tax issues or financial market crashes, the Group's liquidity planning is subject to an inherent degree of uncertainty. Persistently high prices for energy and CO₂ allowances and the high level of volatility on the commodity markets are resulting in higher margin requirements.

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. In 2021, this led to the higher utilization of liquidity to cover margins in the short term, also on intraday trading platforms[?]. These effects cannot be excluded in the future. In general, there is also a risk of additional liquidity requirements if the rating agencies downgrade the credit rating of EnBW. The risk can be covered by existing credit lines. There is a material level of opportunity and risk in 2022 and 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[?] via capital employed[?].

4 Supplier failure due to cyberattacks: There is an increasing global risk of cyberattacks on computer systems. As EnBW has many suppliers and third-party service providers, it could be directly or indirectly impacted by these attacks and thus suffer damage. This could not only result in a high level of economic damage but also a loss of reputation. There is a moderate level of risk with an impact on the key performance indicator adjusted EBITDA[?] in 2022 and 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[?].

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. 51 f.](#)⁷.

In addition there are antitrust risks in the sales activities of some subsidiaries that could result in fines and damage to reputation and also have significant strategic implications. This risk is countered by the joint preventative measures of the compliance and legal departments.

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

5 Competitive environment: There is a risk that the volatile competitive situation for all EnBW brands in the electricity, gas and energy solutions business, combined with the historically high procurement prices on the market (for electricity and gas) could have a considerable impact on sales activities. In addition, there is a risk that further insolvencies among competitors could also have a negative impact on results of operations. Opportunities currently exist, for example, in the expansion of the range of electromobility 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 2022 and 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.

6 Risks to the procurement and supply chain in the sales environment: As a result of the current situation on the procurement markets, unexpected price spikes are being experienced on the spot markets for procurement ⁷. There is a risk that the planned contribution margins will not be achieved. 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 higher procurement prices. There is a low level of opportunity and risk with an impact on the key performance indicator adjusted EBITDA in 2022 and 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.

System Critical Infrastructure segment

Strategic opportunities and risks

7 Recognition of costs for high-voltage direct current (HVDC) transmission technology: TransnetBW plans to set up new connections using high-voltage direct current transmission technology (HVDC) ⁷ with other transmission system operators. In addition, a regulation stipulating the use of underground cabling applies to the SuedLink project. In both projects, there are currently general risks of potential delays and additional costs, as well as a low level of risk that the necessity for these transmission lines might no longer be confirmed in a new Network Development Plan ⁷. In 2023, there is a low level of risk with an indirect impact on the key performance indicator value spread via the adjusted EBIT.

Financial opportunities and risks

8 Year-end balance on the EEG bank account: The EEG ⁷ bank account is a separately managed bank account in accordance with section 5 of the German Compensation Mechanism Ordinance (AusglMechV) and is kept separate from other areas of activity. In accordance with AusglMechV, a deficit or surplus on the account balance can have a temporary positive or negative effect on the calculation of the net debt ⁷ of EnBW, respectively. As of the reporting date of 31 December 2021, there was a surplus of €1,565.2 million on the EEG bank account of our subsidiary TransnetBW (reporting date of 31 December 2020: €-629.3 million). We expect the EEG account to develop positively throughout 2022 and have a positive bank balance at the end of the year. There is a significant or material level of opportunity with an impact on net debt and thus on the key performance indicator debt repayment potential.

Sustainable Generation Infrastructure segment

Financial opportunities and risks

9 Fluctuations in energy yield in the North Sea and Baltic Sea: There is a general opportunity or risk for 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 taken into account in the planning. There is a moderate level of opportunity and risk with an impact on the key performance indicator adjusted EBITDA in 2022 and 2023 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.

10 Hedging ⁷: 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 hedging instruments utilized in 2021 were forwards, futures and swaps. 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. Opportunities and risks generally exist 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.

Further information on **financial instruments** can be found in the notes to the consolidated financial statements in note (25) "Accounting for financial instruments."

11 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 market ⁹, through the sale of system services ⁹ and through placements on the spot and intraday trading platforms ⁹. We currently identify a high level of volatility in the impact of opportunities and risks that is dependent on the development of market prices. There is a moderate level of opportunity and risk with an impact on the key performance indicator adjusted EBITDA in both 2022 and 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.

12 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 carefully monitoring credit lines, conducting stress tests and introducing measures to reduce its impact. There is a significant level of risk with an impact on the key performance indicator adjusted EBITDA in 2022 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.

13 Availability and contribution margin losses in the power plant portfolio (previously: Availability of nuclear power plants): There is a general risk that exogenous and endogenous factors will have an influence on the availability of power plants. We try to counter these risks using preventive measures. Depending on the duration of interruptions to the operation of the power plants and prices on the energy trading market, this could have a positive or negative impact on the operating result. There is a low level of opportunity and significant level of risk in 2022 and a low level of opportunity and risk in this area in 2023. 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.

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. It was already necessary to recognize an impairment loss on the power plants and increase the provisions for onerous contracts at the six-monthly reporting date in 2021 due to tighter requirements with respect to climate protection and stricter climate legislation. In the area of electricity procurement agreements, there are opportunities due to increasing consolidation on the market. 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

14 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 moderate level of risk in 2022 and 2023 with an impact on net debt and thus on the key performance indicator debt repayment potential.

Changes compared to the 2020 financial year

The opportunity “Compensation for the phasing out of nuclear energy” has materialized. The compensation that was contractually agreed with the German government was paid at the beginning of December 2021.

The risk “Obligation to pay EEG cost allocations for power plants” has reduced in comparison to the 2020 financial year and is thus no longer included in the top opportunities/risks.

The risk associated with the reorganization and return transport of reprocessing waste from France that was previously reported as part of the risk “Dismantling of nuclear power plants” has decreased significantly following the conclusion of an agreement with the contractual partner in France. The risk “Dismantling of nuclear power plants” has thus been reduced by the risk associated with the return of waste.

In comparison to the 2020 financial year, the following opportunities/risks have also been eliminated due to their lack of materiality and will thus no longer be reported:

- Effects of the pandemic on certain business areas
- Political and economic environment in Turkey
- Compliance with data protection regulations

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 Market prices of financial investments													
2 Discount rate applied to pension provisions													
3 Margins / liquidity requirements													
4 Supplier failure due to cyberattacks													
Smart Infrastructure for Customers													
5 Competitive environment													
6 Risks to the procurement and supply chain in the sales environment													
System Critical Infrastructure													
7 Recognition of costs for high-voltage direct current (HVDC) transmission technology													
8 Year-end balance on the EEG bank account													
Sustainable Generation Infrastructure													
9 Fluctuations in energy yield in the North Sea and Baltic Sea													
10 Hedging													
11 Power plant optimization													
12 Credit risk in energy trading													
13 Availability and contribution margin losses in the power plant portfolio													
14 Dismantling of nuclear power plants													
Legend													
Direct effect													
Potential/long-term effect													
Task Force on Climate-related Financial Disclosures (TCFD)													

Overall assessment by the management

Due to the comprehensive range of preventative measures and countermeasures to counteract the effects of the coronavirus pandemic that were implemented at an early stage, the pandemic has only had a minor impact on the EnBW Group up to now. However, the economic recovery has had a global impact on supply and demand along the supply chains and on the markets for raw materials. This has led to a sharp increase in prices, also in the energy sector, and resulted in risks in the form of higher energy procurement costs for the sale of electricity and gas. In the energy trading business, the sharp increase in prices has resulted in high short-term cash outflows for stock exchange transactions. The increasing threat of cyberattacks around the world poses a growing risk of, for example, restrictions in supply chains or even of supplier failures. 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.

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. In particular, the procurement of raw and other materials, the increased need for liquidity as a result of rising energy prices and the even greater risk of cyberattacks have a significant impact on the overall risk position. These effects could have an impact on the following top opportunities/risks: ① Market prices of financial investments, ③ Margins / liquidity requirements, ④ Supplier failure due to cyberattacks, ⑤ Competitive environment, ⑥ Risks to the procurement and supply chain in the sales environment, ⑩ Hedging, ⑪ Power plant optimization and ⑫ Credit risk in energy trading. Nevertheless, we do not believe that the current situation endangers the company's ability to continue as a going concern, even if deliveries of Russian coal and gas are halted.

No risks currently exist that might jeopardize the EnBW Group as a going concern.

Further information on **financial instruments** can be found in the notes to the consolidated financial statements in note (25) "Accounting for financial instruments."

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 19 of the notes to the consolidated financial statements [\(p. 207⁷\)](#).

Restrictions relating to voting rights or transferability of shares

Agreements were reached on 22 December 2015 between, on the one hand, Zweckverband Oberschwäbische 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 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. 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. 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 2021, 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 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 EnBW agreements 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:

EnBW concluded a new sustainability-linked syndicated credit line [?] with a volume of €1.5 billion on 24 June 2020. A one-year extension was agreed with the bank consortium in June 2021 and the credit line is now available until 24 June 2026. The sustainability-linked syndicated credit line remained undrawn as of 31 December 2021. The credit line can be terminated by the lenders and become due for repayment given a change of control at EnBW. This does not apply if the purchaser of the shares is the Federal State of Baden-Württemberg or Zweckverband OEW or another German state-owned public law legal entity.

A bond of JPY 20 billion issued on 12 December 2008 under the Debt Issuance Program [?] can be terminated by the lenders and become due for repayment given a change of control at EnBW. This does not apply if the purchaser of the shares is EDF (whose legal successor as shareholder has been the Federal State of Baden-Württemberg since February 2011) or Zweckverband OEW or another German state-owned public law corporation.

Two bilateral long-term bank loans, drawn to the value of €300 million and around €227 million as of 31 December 2021, can be terminated by the lender and become due for repayment given a change of control at EnBW, provided the change of control has a negative effect on repayment of the loan in future. This does not apply if the purchaser of the shares is EDF (whose legal successor as shareholder has been the Federal State of Baden-Württemberg since February 2011) or Zweckverband OEW.

Stadtwerke Düsseldorf AG (SWD AG) has a promissory note loan drawn to the value of €200 million and two bilateral bank loans together drawn to the value of around €35 million as of 31 December 2021 for the financing of its CCGT power plant. These can each be terminated and become due for repayment given a change of control at SWD AG, including an indirect change of control. This does not apply if, after the change of control, the majority of shares in SWD AG are held directly or indirectly by German government entities and the City of Düsseldorf holds at least 25.05% of the shares in SWD AG.

SWD AG took out a syndicated credit line [?] with a volume of €350 million on 16 December 2020, of which €196 million was drawn as of 31 December 2021. The credit line can be terminated and become due for repayment given a change of control at SWD AG, including an indirect change of control. This does not apply if, after the change of control, the majority of shares in SWD AG are held directly by German legal entities under public law or indirectly by these shareholders via controlled legal entities and the City of Düsseldorf holds at least 25.05% of the shares in SWD AG.

A syndicated credit line with a volume of €700 million agreed with VNG AG, of which around €139 million was drawn as of 31 December 2021, can become due for repayment given a change of control at VNG AG, including an indirect change of control. This does not apply if, after the change of control, the majority of shares in VNG AG continue to be held directly by German public sector shareholders or indirectly by these shareholders via controlled legal entities.

In the event of a change of control, the financing instruments described above can become due for repayment at the aforementioned conditions. The corresponding debt instruments may have to be refinanced as a result – 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 in the 2021 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. 31 f. [↗]				
Materiality analysis	p. 53 [↗]				
EU taxonomy	p. 110 ff. [↗]				
TOP Key performance indicators					
Aspects	Themes	Concepts, results and measures	Target achievement 2021	Forecast 2022	Opportunities and risks
Fighting corruption and bribery	Compliance	p. 51 f. [↗] p. 57 [↗]	–	–	p. 132 [↗]
Social issues	Social engagement	p. 55 ff. [↗]	–	–	p. 132 [↗]
Respect for human rights	Procurement	p. 62 ff. [↗]	–	–	p. 132 [↗]
Standing in society	Reputation		TOP Reputation Index		
		p. 53 ff. [↗] p. 92 [↗]	p. 92 [↗]	p. 125 [↗]	p. 132 [↗]
Customer satisfaction	Customer proximity		TOP Customer Satisfaction Index		
		p. 53 ff. [↗] p. 93 ff. [↗]	p. 93 [↗]	p. 125 f. [↗]	p. 132 [↗]
Supply quality	Supply reliability		TOP SAIDI Electricity		
		p. 96 [↗]	p. 96 [↗]	p. 126 [↗]	p. 133 [↗]
Environmental issues	Expansion of renewable energies		TOP Installed output of RE and share of generation capacity accounted for by RE		
		p. 31 ff. [↗] p. 40 ff. [↗] p. 97 f. [↗]	p. 97 [↗]	p. 126 [↗]	p. 132 f. [↗]
	CO ₂ intensity / climate protection		TOP CO₂ intensity		
		p. 31 ff. [↗] p. 40 ff. [↗] p. 99 ff. [↗]	p. 99 [↗]	p. 126 f. [↗]	p. 133 [↗]
Employee issues	Engagement of employees		TOP People Engagement Index (PEI)		
		p. 104 ff. [↗]	p. 104 [↗]	p. 127 [↗]	p. 133 f. [↗]
	Occupational safety		TOP LTIF for companies controlled by the Group		
		p. 108 f. [↗]	p. 107 f. [↗]	p. 127 [↗]	p. 134 [↗]

The non-financial declaration is issued jointly for the EnBW Group and EnBW AG. 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. 31 ff. [↗]). We have not identified any material individual risks in the 2021 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 ↗](#)

The reporting of sustainability issues is based on the GRI Standards, including the Electric Utilities Sector Supplement. This report was created in accordance with the GRI Standards “Core” option. An audit will be carried out in the second quarter of 2022 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 Goals [↗](#). 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 [\(p. 151 ff. ↗\)](#).

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.

Index for the Task Force on Climate-related Financial Disclosures (TCFD)

EnBW started to implement the recommendations of the TCFD [↗](#) 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	• Corporate management	• Corporate governance	page 49 ↗
	• Materiality analysis	• In dialog with our stakeholders	page 53 ↗
	• Investment guidelines	• Strategy, goals and performance management system	page 47 f. ↗
	• Climate protection initiatives	• The EnBW Group	page 86 ↗
		• In dialog with our stakeholders	page 54 ↗
	• Overall assessment by the management	• General conditions	page 68 f. ↗
Strategy	• Board of Management remuneration	• Overall assessment of the economic situation of the Group	page 122 ↗
		• Corporate governance	page 49 ↗
	• Robustness of business model / scenario analysis	• Business model	page 32 f. ↗
	• Strategy, strategic development	• Strategy, goals and performance management system	page 40 ff. ↗
	• Interdependencies	• Strategy, goals and performance management system	page 47 f. ↗
	• Materiality analysis	• In dialog with our stakeholders	page 53 ↗
Risk management	• Green bonds	• Strategy, goals and performance management system	page 44 ↗
		• The EnBW Group	page 83 f. ↗
	• General conditions, climate protection	• General conditions	page 68 f. ↗
	• Integrated opportunity and risk management including opportunity and risk map	• Report on opportunities and risks	page 128 ff. ↗
	• Environment goal dimension: opportunities and risks	• Report on opportunities and risks	page 132 f. ↗
Performance indicators and targets	• Sustainability ratings	• In dialog with our stakeholders	page 54 f. ↗
	• Key performance indicators and long-term targets	• Strategy, goals and performance management system	page 44 ff. ↗
	• Environment goal dimension: key performance indicators and other performance indicators	• The EnBW Group	page 97 ff. ↗

Key performance indicators for the EU taxonomy

Revenue

EnBW activity	No significant harm to other EU objectives (DNSH)												
	Revenue	Proportion of revenue	Substantial contribution to climate change mitigation	Climate change adaptation	The sustain-able use and protection of water and marine resources	The tran-sition to a circular economy	Pollution prevention and control	The pro-tection and restoration of biodiversi-ty and eco-systems	Minimum social safe-guards	Taxono-my-aligned proportion of revenue 2021	Taxono-my-aligned proportion of revenue 2020	Category enabling activities	Category transitional activities
	in € million	in %	in %	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	in %	in %	E/-	T/-
A. Taxonomy-eligible activities	4,698.4	14.6								14.6	20.3		
A.1 Environmentally sustainable activities (taxonomy-aligned)	4,698.4	14.6								14.6	20.3		
4.1 Electricity generation via photovoltaic technology	31.9	0.1	100	Yes	Yes	Yes	Yes	Yes	Yes	0.1	0.2	–	–
4.3 Electricity generation via wind power	446.8	1.4	100	Yes	Yes	Yes	Yes	Yes	Yes	1.4	3.8	–	–
4.9 Transmission and distribution of electricity	3,096.9	9.6	100	Yes	Yes	Yes	Yes	Yes	Yes	9.6	12.7	–	–
4.10 Storage of electricity ¹	832.5	2.6	100	Yes	Yes	Yes	Yes	Yes	Yes	2.6	2.3	–	–
4.13 Production of biogas and biofuels for the transport sector and liquid biofuels ²	54.8	0.2	100	Yes	Yes	Yes	Yes	Yes	Yes	0.2	0.2	–	–
5.1 Construction, expansion and operation of systems to extract, treat and supply water	197.8	0.6	100	Yes	Yes	Yes	Yes	Yes	Yes	0.6	1	–	–
6.15 Infrastructure for low-carbon road traffic and public transport	37.7	0.1	100	Yes	Yes	Yes	Yes	Yes	Yes	0.1	0.1	–	–
Revenue from environmentally sustainable activities (taxonomy-aligned) (A.1)													
A.2 Taxonomy-eligible activities that are not taxonomy-aligned													
–	–	–	–	–	–	–	–	–	–	–	–	–	–
Revenue from taxonomy-eligible activities that are not taxonomy-aligned (taxonomy non-aligned activities) (A.2)													
Total (A.1 + A.2)	4,698.4	14.6								14.6	20.3		
B. Taxonomy non-eligible activities	27,449.5	85.4								85.4	79.7		
Revenue from non-environmentally sustainable activities (taxonomy-aligned) (B)	27,449.5	85.4								85.4	79.7		
Total (A + B)	32,147.9	100.0								100.0	100		

1 Including 4.5 Electricity generation from hydropower.
2 Including 4.20 Combined heat/cooling and power plants with bioenergy.

Capex

EnBW activity	No significant harm to other EU objectives (DNSH)										Taxonomy-aligned proportion of capex 2020	Category enabling activities	Category transitional activities
	Capex	Proportion of capex	Substantial contribution to 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 capex 2021			
	in € million	in %	in %	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	in %	in %	E/-	T/-
A. Taxonomy-eligible activities	1,826.5	68.2								68.2	70.0		
A.1 Environmentally sustainable activities (taxonomy-aligned)	1,826.5	68.2								68.2	70.0		
4.1 Electricity generation via photovoltaic technology	140.1	5.2	100	Yes	Yes	Yes	Yes	Yes	Yes	5.2	3.4	–	–
4.3 Electricity generation via wind power	162.1	6.1	100	Yes	Yes	Yes	Yes	Yes	Yes	6.1	19.2	–	–
4.9 Transmission and distribution of electricity	1,372.1	51.3	100	Yes	Yes	Yes	Yes	Yes	Yes	51.3	41.0	–	–
4.10 Storage of electricity ¹	16.9	0.6	100	Yes	Yes	Yes	Yes	Yes	Yes	0.6	0.7	–	–
4.13 Production of biogas and biofuels for the transport sector and liquid biofuels ²	7.2	0.3	100	Yes	Yes	Yes	Yes	Yes	Yes	0.3	1.7	–	–
5.1 Construction, expansion and operation of systems to extract, treat and supply water	20.9	0.8	100	Yes	Yes	Yes	Yes	Yes	Yes	0.8	0.8	–	–
6.15 Infrastructure for low-carbon road traffic and public transport	107.2	4.0	100	Yes	Yes	Yes	Yes	Yes	Yes	4.0	3.2	–	–
Capex from environmentally sustainable activities (taxonomy-aligned) (A.1)													
A.2 Taxonomy-eligible activities that are not taxonomy-aligned													
–	–	–	–	–	–	–	–	–	–	–	–	–	–
Capex from taxonomy-eligible activities that are not taxonomy-aligned (taxonomy non-aligned activities) (A.2)													
Total (A.1 + A.2)	1,826.5	68.2								68.2	70.0		
B. Taxonomy non-eligible activities	850.5	31.8								31.8	30.0		
Capex from non-environmentally sustainable activities (taxonomy-aligned) (B)	850.5	31.8								31.8	30.0		
Total (A + B)	2,677.0	100.0								100.0	100.0		

1 Including 4.5 Electricity generation from hydropower.
2 Including 4.20 Combined heat/cooling and power plants with bioenergy.

Opex

EnBW activity	No significant harm to other EU objectives (DNSH)												
	Opex	Proportion of opex	Substantial contribution to climate change mitigation	Climate change adaptation	The sustain-able use and protection of water and marine resources	The tran-sition to a circular economy	Pollution prevention and control	The pro-tection and restoration of biodiversi-ty and eco-systems	Minimum social safe-guards	Taxono-my-aligned proportion of opex 2021	Taxono-my-aligned proportion of opex 2020	Category enabling activities	Category transitional activities
	in € million	in %	in %	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	in %	in %	E/-	T/-
A. Taxonomy-eligible activities	335.0	29								29.3	37.1		
A.1 Environmentally sustainable activities (taxonomy-aligned)	335.0	29.3								29.3	37.1		
4.1 Electricity generation via photovoltaic technology	-4.7	-0.4	100	Yes	Yes	Yes	Yes	Yes	Yes	-0.4	-0.1	-	-
4.3 Electricity generation via wind power	78.9	6.9	100	Yes	Yes	Yes	Yes	Yes	Yes	6.9	9.5	-	-
4.9 Transmission and distribution of electricity	223.6	19.6	100	Yes	Yes	Yes	Yes	Yes	Yes	19.6	23.7	-	-
4.10 Storage of electricity ¹	14.2	1.2	100	Yes	Yes	Yes	Yes	Yes	Yes	1.2	1.2	-	-
4.13 Production of biogas and biofuels for the transport sector and liquid biofuels ²	12.6	1.1	100	Yes	Yes	Yes	Yes	Yes	Yes	1.1	1.0	-	-
5.1 Construction, expansion and operation of systems to extract, treat and supply water	14.0	1.2	100	Yes	Yes	Yes	Yes	Yes	Yes	1.2	1.9	-	-
6.15 Infrastructure for low-carbon road traffic and public transport	-3.6	-0.3	100	Yes	Yes	Yes	Yes	Yes	Yes	-0.3	-0.1	-	-
Opex from environmentally sustainable activities (taxonomy-aligned) (A.1)													
A.2 Taxonomy-eligible activities that are not taxonomy-aligned													
-	-	-	-	-	-	-	-	-	-	-	-	-	-
Opex from taxonomy-eligible activities that are not taxonomy-aligned (taxonomy non-aligned activities) (A.2)													
Total (A.1 + A.2)	335.0	29.3								29.3	37.1		
B. Taxonomy non-eligible activities	807.8	70.7								70.7	62.9		
Opex from non-environmentally sustainable activities (taxonomy-aligned) (B)	807.8	70.7								70.7	62.9		
Total (A + B)	1,142.8	100.0								100.0	100.0		

1 Including 4.5 Electricity generation from hydropower.
2 Including 4.20 Combined heat/cooling and power plants with bioenergy.

Adjusted EBITDA

	No significant harm to other EU objectives (DNSH)													
					The sustain- able use and protection of water and marine resources	The transi- tion to a circular economy	Pollution prevention and control	The pro- tection and restoration of biodiversi- ty and eco- systems	Minimum social safe- guards	Taxono- my-aligned proportion of adjusted EBITDA 2021	Taxono- my-aligned proportion of adjusted EBITDA 2020	Category enabling activities	Category transitional activities	
EnBW activity	Adjusted EBITDA	Proportion of adjusted EBITDA	Substantial contribution to climate change mitigation	Climate change adaptation										
	in € million	in %	in %	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	in %	in %	E/-	T/-	
A. Taxonomy-eligible activities	1,853.1	62.6								62.6	68.0			
A.1 Environmentally sustainable activities (taxonomy-aligned)	1,853.1	62.6								62.6	68.0			
4.1 Electricity generation via photovoltaic technology	45.0	1.5	100	Yes	Yes	Yes	Yes	Yes	Yes	1.5	1.0	–	–	
4.3 Electricity generation via wind power	609.1	20.6	100	Yes	Yes	Yes	Yes	Yes	Yes	20.6	24.3	–	–	
4.9 Transmission and distribution of electricity	875.0	29.6	100	Yes	Yes	Yes	Yes	Yes	Yes	29.6	35.5	–	–	
4.10 Storage of electricity ¹	301.3	10.2	100	Yes	Yes	Yes	Yes	Yes	Yes	10.2	6.0	–	–	
4.13 Production of biogas and biofuels for the transport sector and liquid biofuels ²	15.3	0.5	100	Yes	Yes	Yes	Yes	Yes	Yes	0.5	0.5	–	–	
5.1 Construction, expansion and operation of systems to extract, treat and supply water	41.8	1.4	100	Yes	Yes	Yes	Yes	Yes	Yes	1.4	1.7	–	–	
6.15 Infrastructure for low-carbon road traffic and public transport	-34.4	-1.2	100	Yes	Yes	Yes	Yes	Yes	Yes	-1.2	-1.0	–	–	
Adjusted EBITDA from environmentally sustainable activities (taxonomy-aligned) (A.1)														
A.2 Taxonomy-eligible activities that are not taxonomy-aligned														
–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Adjusted EBITDA from taxonomy-eligible activities that are not taxonomy-aligned (taxonomy non-aligned activities) (A.2)														
Total (A.1 + A.2)	1,853.1	62.6								62.6	68.0			
B. Taxonomy non-eligible activities	1,106.2	37.4								37.4	32.0			
Adjusted EBITDA from non-environmentally sustainable activities (taxonomy-aligned) (B)	1,106.2	37.4								37.4	32.0			
Total (A + B)	2,959.3	100.0								100.0	100.0			

1 Including 4.5 Electricity generation from hydropower.
2 Including 4.20 Combined heat/cooling and power plants with bioenergy.


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.

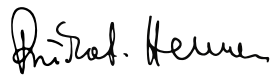
Karlsruhe, 9 March 2022


EnBW Energie Baden-Württemberg AG


Dr. Mastiaux


Güsewell


Kusterer


Rückert-Hennen


Dr. Stamatiopoulos