EnBW

Six-Monthly Financial Report January to June 2023

Q1 Q2 Q3

Performance indicators of the EnBW Group

Financial and strategic performance indicators

in € million	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
External revenue	**26,686.1**	27,119.5	-1.6	56,002.6
Adjusted EBITDA [1]	**3,498.3**	2,123.9	64.7	3,967.1
Share of adjusted EBITDA accounted for by Smart Infrastructure for Customers in € million/in % [1]	**20.9/0.6**	103.1/4.9	-79.7/–	498.4/12.6
Share of adjusted EBITDA accounted for by System Critical Infrastructure in € million/in % [1]	**1,021.2/29.2**	599.5/28.2	70.3/–	1,057.8/26.7
Share of adjusted EBITDA accounted for by Sustainable Generation Infrastructure in € million/in % [1]	**2,607.0/74.5**	1,551.5/73.0	68.0/–	2,616.2/65.9
Share of adjusted EBITDA accounted for by Other/Consolidation in € million/in %	**-150.8/-4.3**	-130.2/-6.1	-15.8/–	-205.3/-5.2
EBITDA	**5,134.0**	1,642.3	–	4,473.2
Adjusted EBIT [1]	**2,656.1**	1,346.9	97.2	2,351.9
EBIT	**3,920.6**	769.5	–	2,141.2
Adjusted Group net profit [1,2]	**1,653.4**	806.1	105.1	1,414.5
Group net profit [2]	**2,525.8**	563.9	–	1,738.0
Earnings per share from Group net profit (€) [2]	**9.33**	2.08	–	6.42
Retained cash flow [1]	**2,238.0**	1,451.6	54.2	3,216.5
Net cash investment	**1,602.3**	1,092.9	46.6	2,767.7

in € million	30/06/2023	31/12/2022	Change in %	
Net debt	**11,950.4**	10,847.0	10.2	

Non-financial performance indicators [3]

	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
Customers and society goal dimension				
EnBW/Yello Customer Satisfaction Index	**127/170**	139/166	-8.6/2.4	139/166
SAIDI (electricity) in min./year	**5.6**	9.2	-39.1	16.6
Employees goal dimension				
LTIF for companies controlled by the Group [4, 5]	**2.2**	2.6	-15.4	2.6
LTIF overall [4]	**3.1**	3.7	-16.2	4.1

Employees [6, 7]

	30/06/2023	30/06/2022	Change in %	31/12/2022
Employees	**27,575**	26,312	4.8	26,980
Full-time equivalents [8]	**25,932**	24,710	4.9	25,339

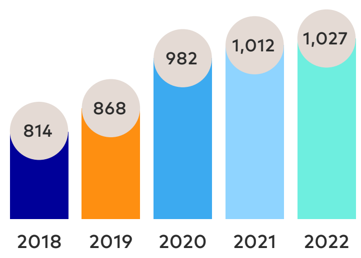
1 The figures for the previous year have been restated.
2 In relation to the profit/loss attributable to the shareholders of EnBW AG.
3 The values for the key performance indicators Reputation Index, People Engagement Index (PEI), "Installed output of renewable energies (RE) in GW and the share of the generation capacity accounted for by RE in %" and CO_2 intensity are exclusively collected at the end of the year.
4 Variations in the group of consolidated companies (all companies with more than 100 employees, excluding external agency workers and contractors, are considered).
5 Companies that are fully consolidated for the first time in the course of the respective financial year were not included in the calculations for the LTIF performance indicators. Except for companies in the area of waste management.
6 Number of employees excluding apprentices/trainees and inactive employees.
7 The number of employees for the ITOs (ONTRAS Gastransport, terranets bw and TransnetBW) is only updated at the end of the year; for intervals of less than a year, the number of employees from 31/12/2022 is carried forward.
8 Converted into full-time equivalents.

Q1–Q2 2023 at a glance

- Adjusted EBITDA of the EnBW Group of €3,498.3 million significantly higher than in previous year
- Increased investment in the grids and the expansion of renewable energies, especially offshore wind power
- Further bonds issued to boost the company's financial strength and accelerate the implementation of the energy transition

Contents

New ways – our training offensive for the future of energy



The energy transition is one of the most ambitious social projects to which Germany has ever committed itself. EnBW is at the heart of it as one of the main players. To ensure its success, we need one thing above all else: a large number of motivated and qualified employees. Demand is outstripping supply. Demographic change is doing the rest: Over the next five years, we could lose up to 3,000 experienced colleagues to semi-retirement or full retirement. It is a gap that urgently needs to be filled, particularly against the background of the staffing needs associated with the energy transition. That is why we reformed our training measures in 2019. Our training offensive offers young people what they expect from a modern company. For us, embracing new ways of training means using a different methodology and modern tools. Find out online how a trainer evolves into a systemic learning companion, where VR headsets are used for welding and what a drone driver's license has to do with training.

To the article ↗

Training rate between 2018 and 2022 risen by

26%

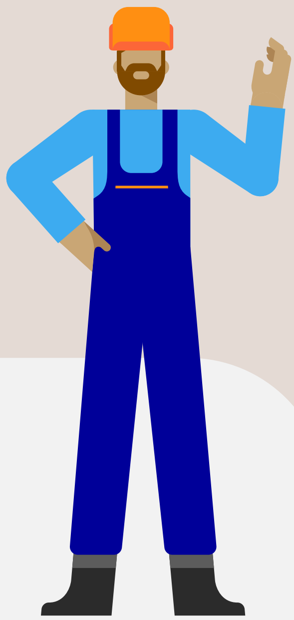
Hossein Sharifi Parakshati's success story: He came to Germany from Iran in 2015 unable to speak a word of German; in 2022, he completed his training as a mechatronics engineer at EnBW.

Training as a mechatronics engineer via the career integration program

Hossein's route to the power plant

Hossein Sharifi Parakshati came to Germany from Iran in 2015. He spoke no German and had no job. He started working at EnBW in 2018 and completed his training as a mechatronics engineer in 2022. Immediately afterwards, he was taken on. Since then, he has been working at the Rheinhafen steam power plant (RDK) in Karlsruhe and is currently training to become an operations assistant. It sounds a bit like a modern fairy tale, but is actually the result of years of hard work, during which the interpersonal aspect has never been neglected, as Hossein assures. "My colleagues have always been the most important thing about my job," he says today. "Without this super team, I would not have made it this far." Hossein got started at EnBW by joining the company's career integration program↗. His good performance impressed his trainers and managers. Even before his training had ended, he was offered a permanent position. What is next for Hossein? "I definitely don't want to stand still," he says. Get to know Hossein in the film.

To the film ↗



A visit to the Apprentice and Student Factory

Training goes agile

A mixed team made up of commercial and technical trainees working on a prototype for a pinball machine, planning, developing and ultimately building it together, all using agile methods – that sounds like at least as much work as fun. Jonas Deck, who is responsible for training future mechatronics engineers and industrial electronics engineers, is only happy to confirm this: "When you see how enthusiastic the young people are about working on their own projects, then it really gives you a lot of pleasure as a trainer." Why is an agile approach to the projects taken? For Jonas Deck, the answer is obvious: Agile is the future. "This is how people work almost everywhere in 'real' professional life nowadays. We are optimally preparing our trainees for their careers." If you want to take a look at the so-called "Apprentice and Student Factory" and see what the Lego prototype of a stamping press looks like, click on the link below.

To the article ↗

Interim Group management report

Business activity and strategy

Business activity

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 our strategy – our EnBW Sustainability Agenda will act as a compass to clearly guide our future strategic alignment.

We believe that we are strongly positioned along the entire value-added chain thanks to our **diversified and integrated business model.** The expansion of renewable energies, of the distribution and transmission grids and of the end customer business forms the cornerstones of our growth strategy. Our business portfolio is characterized by a high proportion of regulated grid business and renewable energies. In a still challenging market environment, our business model is proving itself resilient and contributes to maintaining a reliable energy supply.

Our roots lie in **Baden-Württemberg,** where we are positioned as a market leader. Alongside EnBW AG, we also rely here on Netze BW and other subsidiaries, who are active throughout the whole of **Germany** and in **selected markets abroad.** We develop and realize wind energy and photovoltaic projects with the French project developer and operator of wind farms and solar parks Valeco. We are also represented by our subsidiaries Connected Wind Services (CWS) in Denmark and EnBW Sverige in Sweden. In Turkey, we work together in the renewable energies sector with our partner Borusan. In Great Britain, we plan to build three offshore wind farms through a joint venture with our partner bp that will lie off the coast of Great Britain. They will have a total capacity of 5.9 GW and be placed into operation from 2029. 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 the market leader in Germany for the operation of **quick-charging infrastructure** with our subsidiary EnBW mobility+ and provide our customers with access to more than 400,000 charging points in numerous European countries via the EnBW mobility+ app. We are also the market leader for quick charging in Germany and are now expanding onto the Austrian market with SMATRICS EnBW. Our subsidiary SENEC, based in Leipzig, offers holistic energy solutions for customers to meet their own energy needs using solar electricity and home storage. We have bundled together our telecommunications activities, which focus on the **expansion of broadband,** in the company EnBW Telekommunikation with its subsidiaries NetCom BW and Plusnet.

Our business portfolio is split into **three segments** that encompass the **following activities:**

- The **Smart Infrastructure for Customers** segment comprises the sale of electricity and gas, the provision and expansion of quick-charging infrastructure and digital solutions for electromobility, activities in the telecommunications sector and static storage systems in conjunction with photovoltaics.
- The transmission and distribution of electricity and gas are the main components of the **System Critical Infrastructure segment.** The activities of our grid subsidiaries in this area contribute to the security of supply and system stability. The provision of grid-related services and the supply of water are other activities in this segment.
- The **Sustainable Generation Infrastructure** segment encompasses our activities in the areas of renewable energies and conventional generation, district heating, waste management and energy services. In order to guarantee the security of supply, we maintain the power plants that have been transferred to the grid reserve. In addition, this segment includes the storage of gas and the trading of electricity, gas, CO_2 allowances and other fuels, as well as the direct distribution of renewable energy power systems.

Detailed information on our business model can be found in the Integrated Annual Report 2022 from p. 24↗.

Strategy

Under the motto "Making and shaping the infrastructure world of tomorrow," our **EnBW 2025 strategy** will increasingly place the company's focus onto the infrastructure aspects of existing energy-related business fields. Furthermore, we will use our core expertise to exploit new growth opportunities above and beyond the energy sector. We are transforming ourselves into a **sustainable and innovative infrastructure provider** for our customers and other stakeholders.

The war between Russia and Ukraine, high volatility on the markets and the possibility of further regulatory interventions on the market increase the level of uncertainty with which predictions about the future development of the company can be made. Therefore, we continuously monitor and evaluate conditions with respect to their possible impact on our business. This allows us to introduce any cross-functional measures at an early stage. We remain committed to our overarching strategic alignment as an infrastructure provider, even more so because of its **robustness in times of crisis,** and are currently working on a continuation of the corporate strategy with a focus on the period up to 2030.

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

As part of our EnBW 2025 strategy, we had planned **net investment** of around €12 billion in total between 2021 and 2025, of which 80% was intended for growth projects. Based on our current plans, we are expecting that our investment will be higher at around €14 billion. This is due to, among other things, a faster energy transition and the rise in inflation. 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 construction of H_2-ready gas power plants in Altbach/Deizisau, Stuttgart-Münster and Heilbronn, further developments in the Smart Infrastructure for Customers segment, such as in the areas of broadband, telecommunications and electromobility, and the expansion of renewable energies. In May 2023, for example, we made the decision to invest in the modernization of the existing storage and run-of-river power plant in Forbach and transform it into a highly efficient pumped storage power plant. In addition, the EnBW He Dreiht wind farm – the largest offshore wind farm to date with an installed capacity of 960 MW – is due to be placed into operation by the end of 2025. The total generation capacity of our wind power plants is expected to increase to 4.0 GW by 2025 and our portfolio of photovoltaic projects to 1.2 GW. We strengthen our ability to invest in other projects that support the energy transition through regional investments and financial partnerships. For example, EnBW AG sold a minority shareholding of 24.95% in one of its subsidiaries – the transmission grid operator TransnetBW – to Südwest Konsortium Holding in May 2023. The transaction is expected to close during the second half of the year.

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

Online ↗

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

Strategic themes and measures for the EnBW Sustainability Agenda

New energy and climate neutrality

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

Infrastructure transition

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

Culture of sustainability

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

Protecting the natural environment

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

Further information on our **climate protection targets** can be found here.

Online ↗

The achievement of our **climate protection targets** is crucial for the success of the EnBW Sustainability Agenda. These targets include the reduction of our Scope 1 and 2 emissions by 83% by 2035 (based on the reference year of 2018). In the same period, we aim to reduce our emissions from gas sales by 43%. These ambitious targets were certified by the independent **Science Based Targets Initiative (SBTi).** We will offset any residual Scope 1 and 2 emissions in the period after 2035 on a transitional basis until they have been completely reduced to zero. Along this path we have also defined various intermediate targets and milestones: We will reduce our Scope 1 and 2 emissions by 50% by 2027 and by 70% by 2030 (based on the reference year of 2018). This will make a significant contribution to the planned phaseout of coal by 2028. As an intermediate step, we will convert three of our coal power plants into gas power plants by 2026, which will eventually be powered by green gases.

A detailed presentation of the EnBW Group strategy can be found in the Integrated Annual Report 2022 from p. 33↗.

In dialog with our stakeholders

Shares and capital market

The two major shareholders of EnBW AG, the Federal State of Baden-Württemberg (indirectly via NECKARPRI-Beteiligungsgesellschaft mbH) and OEW Energie-Beteiligungs GmbH, each hold 46.75% of the share capital in the company.

The overall shareholder structure as of 30 June 2023 breaks down as follows:

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-Energieverband (NEV)	0.63
EnBW Energie Baden-Württemberg AG	2.08
Other shareholders	0.39

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

The shareholder structure of EnBW AG remains very stable. There are very limited trading volumes in the shares as a result. According to Xetra, the stock market price stood at €86.00 on 30 June 2023.

We engage in continuous and open dialog with capital market participants in order to ensure that investors, analysts and rating agencies maintain their trust in the company.

During the course of the annual Investor Update in April 2023, the Chief Financial Officer and Investor Relations Team held discussions with around 20 investors from Germany, France, Great Britain and the Netherlands.

The Annual General Meeting was held on 3 May 2023 as a virtual general meeting without the physical presence of shareholders and their proxies in accordance with the “Act on the introduction of virtual general meetings of stock corporations and amending other provisions.” The shareholders discharged the Board of Management and Supervisory Board by a large majority. The Annual General Meeting also resolved to pay out a dividend of €1.10, which was disbursed on 8 May 2023.

Around 55 participants from 27 different institutions took part in the Group Bankers’ Day in the middle of May 2023 in Stuttgart. The agenda included specialist presentations by Andreas Schell, Chairman of the Board of Management, Thomas Kusterer, Chief Financial Officer, and Dr. Lothar Rieth, Head of Sustainability.

Corporate citizenship and social activities

Our commitment to addressing the concerns and interests of society is concentrated on the **core areas** of popular sport, education, social issues, the environment, and art and culture. We place our main focus on overriding social issues with the aim of making a positive contribution to the target groups of end customers, business partners and local authorities.

As a response to the earthquake in the Turkish-Syrian border region at the beginning of 2023, we took action to provide **support in the affected areas.** This included €100,000 of emergency aid, of which €50,000 was donated directly to emergency aid measures in the region and €50,000 provided to our joint venture Borusan EnBW Enerji for local relief campaigns. We were able to raise almost €65,000 with our online fundraising campaign for the victims of the earthquake via betterplace.org and a further €42,000 was raised during a Turkish themed week in the company canteens. Numerous other relief efforts also made a direct contribution: We supported employees who wanted to provide humanitarian aid in the affected region themselves with up to an additional ten days of vacation. Some 200 homeless earthquake victims were given temporary accommodation near to the Kartaldagi wind farm site and provided with aid by the local employees of our joint venture. EnBW and Netze BW employees made in-kind donations and offered their expertise to help restore the heavily damaged infrastructure in the region, focusing especially on guaranteeing a supply of water to the newly constructed tent and container cities.

In the first half of the year, we also offered further **assistance to those people in Ukraine** impacted by the war between Russia and Ukraine. The aid provided by EnBW over the last few months was mainly in the form of in-kind donations. For example, we supplied technical equipment such as emergency generators and power transformers for the repair and maintenance of the damaged energy infrastructure in Ukraine. With these efforts, EnBW and its subsidiaries are taking part in an initiative organized by the Federal Ministry for Economic Affairs and Climate Action (BMWK) for energy companies to offer assistance as part of a Europe-wide campaign.

More information on the **EnBW "Making it happen" bus** can be found here.

Online ↗

The **EnBW "Making it happen" bus** went on tour again in 2023. Each winning project is awarded up to €5,000 for the required materials and up to ten employees from the bus help out at the respective organization for one day. This year's winners included #seimensch gUG (#have a heart) in the "Senior Citizen and Social" category, Sternschnuppe Kindergarten (Shooting Star Kindergarten) in the "Children and Young People" category and Verein für Natur- und Vogelschutz e. V. Östringen (Association for Nature and Bird Conservation Östringen) in the "Animals and Environment" category. The EnBW Jury Prize was awarded this year to the sports club FC Blau-Weiß Bellamont e. V. for the construction of a new ball storage room for their young footballers. The work for all winning projects will be completed by the end of August.

Research, development and innovation

Research and development

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

Further information on **using drones to carry out inspections in the energy industry** can be found here.

Online ↗

There are high logistical costs associated with the **servicing and maintenance of offshore wind turbines.** Since April 2022, we have been researching how transport drones can reduce the number of helicopter and ship deployments in conjunction with the German Aerospace Center (DLR). This three-year project is being funded by the Federal Ministry for Economic Affairs and Climate Action (BMWK). In March 2023, EnBW presented the research project at Amsterdam Drone Week 2023 and organized the dialog event EnBW Offshore Drone Forum #2 in cooperation with the DLR. The first real test flight with DLR drones at an EnBW wind farm is planned for the second half of 2023.

More detailed information on the subject of **hydrogen as an alternative to gas** can be found here.

Online ↗

We are investigating in various research projects how we can provide our customers with carbon-neutral **hydrogen from renewable energy sources** in the future. The largest power-to-gas plant in southern Germany is currently being built at the Wyhlen hydroelectric power plant, which is operated by our subsidiary Energiedienst (ED). EnBW research is heading this project at ED, which is being funded as a field lab by the BMWK. It will supply up to 720 t of green hydrogen to the region every year from 2025. We are offering interested parties the opportunity to secure their required capacities of green hydrogen in the invitation to tender for the volumes of hydrogen generated at the plant, which was issued in April 2023. A study on the generation of hydrogen from ammonia is currently being carried out in Rostock. In June 2023, EnBW, VNG and the Japanese energy company JERA signed a memorandum of understanding with the goal of jointly conducting a feasibility study to evaluate the construction of an ammonia cracker demonstration plant.

Our **Hydrogen Strategy** has been published here.

Online ↗

Natural gas grids can be decarbonized using zero-emission energy sources like hydrogen – just like the electricity grid. At the field laboratory **“Energy Park Bad Lauchstädt”** in central Germany, we are investigating the entire value-added chain for green hydrogen on a large industrial scale, from its production and transport through to its storage and application, in a project led by our subsidiary VNG. The project has been running since September 2021 and is being funded by the BMWK. In June 2023, the consortium partners at Energy Park Bad Lauchstädt took the final investment decision and thus gave the go-ahead for the realization of this hydrogen project. Following the planning phase, the construction work was then able to begin. It is anticipated that transport of green hydrogen from the 30 MW power-to-gas plant will start in 2025.

As part of a one-year pilot project, our subsidiary Netze BW is investigating the impact of a roaming test on its existing public LoRaWAN network (Long Range Wide Area Network). **LoRaWAN wireless technology** facilitates the energy-efficient transmission of data from numerous sensors, is low in radiation and has a very high range. It will enable the fully automated integration of data into work processes with the aid of the Internet of Things (IoT). In May 2023, Netze BW and Minol Zenner Connect agreed to make their LoRaWAN wireless networks available to each other for roaming tests as part of the pilot project. The aim of the project is to further expand Netze BW’s connectivity service while also conserving resources.

EnBW is currently participating in a groundbreaking **pilot electromobility project in the German public transportation network** in the Zollernalb district. In Balingen, we are testing dynamic, wireless charging technology for electric vehicles for the first time on public roads in Germany. Since the beginning of May 2023, an electric bus that charges its batteries inductively during the journey and while stopped at bus stops has been ferrying visitors to and from the garden exhibition in Balingen. To enable this contactless charging process, inductive coils have been embedded on a stretch of road approximately 400 m long and at two bus stops. These coils are connected to the electricity grid using underground cables. In the next stage of the project, inductive coils will now be embedded in another stretch of road measuring 600 m in the third quarter of 2023. The electric bus can then be used on several bus routes in Balingen as part of the regular public transportation service.

Innovation

One fundamental aim of our business activities is to develop innovations that push forward the energy transition. Our innovation strategy is designed to promote innovative ideas in a more targeted manner in cooperation with committed company founders, investors and employees. At the same time, we aim to tap into new business fields for EnBW. One important focus is strengthening the entrepreneurial independence of the team and spinning off business models as start-ups as early as possible. In addition, we also invest in start-ups outside of the EnBW Group, in order to push forward existing innovations and establish a strong network of partners. Overall, we are concentrating our activities on **six key themes:** Smart Grid, Digital Energy Management & Trading, Connected Home, Mobility, Urban Infrastructure and Telecommunications & Data Solutions.

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

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

Online ↗

Venture building: EnPulse is responsible for all of the early-phase activities of EnBW Innovation and develops new business models within the six key themes. It has a broad range of tasks, from analyzing trends and developing and testing initial business ideas through to the foundation of start-ups. EnPulse also offers **start-up grants** to young people with entrepreneurial ambitions and supports them in the further development of their business model for between six and twelve months by providing both expertise and up to €120,000 in start-up capital. EnPulse invested in the company **Zählerfreunde** in 2022. This start-up provides an independent platform that helps users of smart meters save electricity. In the first half of 2023, the focus was placed on establishing closer links between the early stage start-ups and the EnBW units, as well as on initiating joint projects between them.

Venture scaling: EnBW Innovation supports young companies that have successfully entered the market so that they can continue to grow. It assists these companies with financing and also helps them to develop their growth strategy by acting as a strategic sparring partner, while its specialist trainers use their experience to provide them with inspiration in their marketing, sales, operations and organizational development. The aim is to support start-ups as they scale up their business model and open up new segments, countries and fields of application.

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

Online ↗

As the sole shareholder, EnBW is supporting the company **DZ4** to tailor its business model to market requirements and push forward the private energy transition. DZ4 is one of the leading providers of leasing models for solar power systems with several thousand customers. In addition, **EnBW Cyber Security, SMIGHT** and **ChargeHere,** founded as independent companies in 2022, were closely supported by EnBW in the first half of 2023 during the implementation of their growth strategies. EnBW Cyber Security GmbH was founded in response to the growing demand for security solutions for IT (information technology) and OT (operative technology). The start-up SMIGHT is one of the leading providers of IoT (Internet of Things) grid solutions and contributes to the efficient operation of the grids by collecting real-time data from local grids using its own sensor technology. The start-up ChargeHere offers charging solutions for the electrification of company fleets that take into account the current state of the grid when charging.

Venture Capital: EnBW New Ventures (ENV) is responsible for financing external start-ups in line with EnBW's corporate venture capital logic. It supports entrepreneurs as they develop solutions for digital and sustainable infrastructure. ENV also offers these entrepreneurs access to professional investor expertise and a network of customers and suppliers in the energy and infrastructure sectors. ENV has so far invested in a total of 17 start-ups and realized two successful exits, while EnBW has also acquired a majority stake in one of the companies. Its evergreen business model had an initial investment volume of €100 million and allows any proceeds from the sale of shares in start-ups to be reinvested in new companies. ENV invested in the company **VivaCity** in the first half of 2023. This British start-up uses artificial intelligence to help reduce traffic accidents and lower emissions in cities. In addition, ENV invested in the Series A funding rounds for the companies **vialytics** and **CYCLE** in its existing portfolio.

Procurement

Efficient and sustainable procurement processes

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

Online ↗

The purchasing department at EnBW views itself as a **partner for the success of the company.** It optimizes the cooperation between business, suppliers and the market from a commercial viewpoint while maintaining high quality standards. Digitalization also helps to make procurement processes more efficient. Exercising due diligence with respect to human rights and the environment is one of EnBW's core values and is firmly anchored in our corporate and procurement strategies. Therefore, central purchasing strives to achieve sustainable procurement, taking into account the requirements of national laws, EU law and the Group's internal guidelines. As a result, it makes an important contribution to the competitiveness of the company and to minimizing risks.

The first half of 2023 was still characterized by **supply bottlenecks** and a **high level of uncertainty** on the market, which were mainly due to the war between Russia and Ukraine and the resulting disruption to supply chains. In order to minimize the impact on our business, we have been refining our procurement processes and decision-making criteria. Our analysis of the procurement portfolio in the previous year for risk exposure with respect to price increases and supply disruptions and the subsequent adjustments made as a result have also proved effective in the first six months of 2023.

Respecting human rights and protecting the environment are key pillars of our corporate culture. In cooperation with our business partners, we aim to improve the situation with respect to sustainability and transparency across the entire supply chain. We are continuing to make our procurement process even more sustainable – giving consideration especially to social and ecological aspects. This is reflected in both our EnBW Sustainability Agenda (p. 7↗), in which the **anchoring of sustainability criteria in purchasing** is defined as one of the key measures, and also in our **Supplier Code of Conduct,** which defines binding minimum requirements with respect to social and environmental standards for our suppliers.

We are planning to issue invitations to tender this year in which CO_2 emissions will be a relevant award criterion, and we will contractually oblige our suppliers, to, for example, formulate and document clearly defined **CO_2 reduction targets** that cover both direct and indirect emissions.

Further diversifying our suppliers and service providers and improving cooperation with them plays an important role in our efforts to achieve a leading position on the energy market and to avoid dependencies on individual suppliers. **Supplier management** promotes successful cooperation with our suppliers because it makes the performance of suppliers transparent and also makes continuous optimization in partnership possible. We have integrated an automated risk evaluation into the careful selection process for our business partners that allows us to directly consider any risks relating to human rights and the environment in the selection of suppliers and take appropriate preventative measures. 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.

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

Online ↗

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 a supplier portal on whether they have sustainable measures in place in the areas of environmental management, occupational health and safety, the respect for human rights, the fight against corruption, data protection and quality management. Furthermore, our **Supplier Code of Conduct (SCoC)** acts as a shared set of values and an important criterion for the selection and development of our suppliers. 97% of our suppliers (measured by procurement volume) had accepted the SCoC as the basis for our cooperation with them and submitted the self-assessment described above as of the middle of 2023. Suppliers who do not comply with the SCoC have been categorically blocked in our purchasing system since April 2023.

In the first half of 2023, we worked intensively to **implement the requirements of the Act on Corporate Due Diligence Obligations in Supply Chains (Lieferkettensorgfaltspflichtengesetz, LkSG).** The LkSG has been in force since the beginning of 2023. It requires German companies to establish key elements of corporate due diligence in their own value added-chain and with respect to their suppliers. EnBW takes this responsibility seriously and has revised its human rights and environmental risk management system on the basis of the already existing structures and processes, so that it complies with the legal requirements. The entire Board of Management has collective responsibility for compliance with the LkSG risk management requirements at EnBW. The risk management system will be presented together with the EnBW policy statement, which will be published in the second half of 2023. This is an obligatory measure according to the LkSG.

In the first six months of 2023, we primarily analyzed our processes to identify and prioritize risks in our own business areas and along our supply chains. We are now standardizing and automating related processes and using the findings to develop **targeted measures to ensure compliance with human rights due diligence.** We have, for example, integrated an automated risk evaluation process into our supplier management system that allows us to directly consider risks relating to human rights and the environment in the selection of suppliers and take appropriate preventative measures. Additional training courses are being used to raise the awareness of our employees in purchasing for human rights and environmental issues. To ensure that we can develop and implement targeted and effective measures, we have also established a Human Rights Steering Committee.

Our suppliers are provided with central access to information and self-service options in our **supplier portal.**

Online ↗

Various **automation and digitalization initiatives** have been introduced in central purchasing at EnBW AG with the aim of simplifying our processes even further and, in particular, ensuring that any recurring procurement activities are carried out with the minimal amount of effort. This underlines our commitment to develop efficient and sustainable procurement processes in line with the LkSG.

Responsible raw materials procurement in the coal sector

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

Online ↗

Responsible raw materials procurement, especially in the coal sector, is extremely important to EnBW. Following the introduction of the EU ban on the import of Russian coal, Colombia and the USA became established as the main suppliers to the market in Western Europe. This trend continued in the first half of 2023 and was also reflected by the volumes of coal delivered to the EnBW power plants. The remaining Russian coal came from residual volumes from older contracts agreed before the introduction of sanctions that had been stored in seaports to secure the supply of coal.

Origin of coal supplies to EnBW power plants

in million t	01/01–30/06/2023	01/01–30/06/2022	Change in %
Colombia	0.6	0.5	20.0
USA	0.5	0.2	150.0
South Africa	0.1	–	–
Russia	0.1	1.5	-93.3
Others	0.0	0.1	-100,0
Total	**1.3**	**2.2**	**-40.9**

The significant **reduction in supplies** was attributable to the shutdown of the Heilbronn power plant due to damage, a lower demand for electricity, higher production of solar electricity and lower gas prices, which made this fuel a more competitive alternative to coal.

The **EnBW rules of conduct** can be downloaded in PDF format here.

Online ↗

The **EnBW Declaration on Human Rights** is available in PDF format here.

Online ↗

With a view to the CO_2 reduction targets set by the German government and EnBW's own decarbonization path announced in the spring, we will **gradually replace hard coal with more climate-friendly energy sources.** The most important milestones here will be the realization of the fuel switch projects and the planned phaseout of coal by 2028. Nevertheless, hard coal will still play a relevant role for EnBW as a source of energy over the next few years so that it can deliver a reliable and economic supply of electricity. The sustainability performance of our current and potential coal suppliers is examined and evaluated in accordance with the values of our **EnBW rules of conduct** that govern the responsible procurement of hard coal and other raw materials. In order to clarify our responsibilities with respect to human rights for employees, business partners and other stakeholders, the EnBW Board of Management ratified a **Declaration on Human Rights** at the beginning of 2023.

Further information on the international business initiative **Bettercoal** can be found here.

Online ↗

Alongside the measures we are taking within the company, we are networking with other external companies to properly tackle the challenges associated with the responsible procurement of raw materials. We have been a member of the corporate initiative **Bettercoal** since July 2020 and its independent audits flow into our process for auditing business partners. We are primarily active in the Colombian and South African working groups. We are advocating for other coal producers in various different countries to agree to Bettercoal audits. In addition, we use Bettercoal as a platform for exchanging information with our producers and with other stakeholders from civil society, as well as with experts on individual countries and human rights. In the second half of 2023, we will hold further dialog with relevant stakeholders in Colombia and other strategically important procurement countries.

Our rules of conduct form the foundations for our business activities. In the sustainability clause that is part of all of our direct contracts with coal producers, we obligate our business partners to observe our rules of conduct. 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 (especially credit risk trading, compliance, environment and sustainability). The aim is to identify any risks relating to human rights and the environment that arise through our producers, or any violations by our producers, in good time so that we can work together with these producers to develop appropriate preventative or remedial measures.

Responsible raw materials procurement in the gas sector

In the first half of 2023, EnBW mainly sourced its natural gas via supply contracts with companies in Norway as well as via the European wholesale market. The contracts for the supply of pipeline gas from Russia expired at the end of 2022. We still have a contract with the supplier Novatek for liquefied natural gas (LNG) for which outstanding deliveries will continue to be made in 2023. This contract expires at the end of 2023.

We concluded two **long-term LNG purchase agreements** in June 2022 with the American LNG supplier Venture Global LNG, which will diversify our sources of gas in the long term. We have agreed the delivery of a total of 2 million t per annum, half of which will be sourced from the Plaquemines export facility and half from the Calcasieu Pass 2 export facility of Venture Global LNG. In December 2022, we also secured the long-term import rights to 3 billion m³ of LNG via the Hanseatic Energy Hub at the LNG terminal in Stade. We secured a further 3 billion m³ of LNG in April 2023 and thus doubled our future import capacities on the Elbe River. All reserved capacities include the possibility of switching over to ammonia as a hydrogen-based energy source at a later point in time.

LNG is important for securing Germany's gas supply during the energy transition and will act as a **bridging fuel to a green energy supply.** The conversion from liquefied gas to a hydrogen-based energy source, such as ammonia, is already planned at the LNG terminal in Stade. Our cooperation with the Hanseatic Energy Hub thus greatly supports our aim to become climate neutral by 2035. Against this background, we have transferred our due diligence measures for the responsible procurement of coal over to the procurement of natural gas. The main focus will be a comprehensive business partner audit of all the direct LNG suppliers before they are approved as a business partner for EnBW. In addition, the AVB is being expanded to include relevant specialist areas within the company that deal with gas procurement.

Further information on the **Energy Sector Dialog** can be found here.

Online ↗

Within the framework of the **Energy Sector Dialog,** we discuss the risks related to our supply and value-added chain with various different stakeholders. In the first half of the year, a risk profile for potential human rights and environmental risks in the energy sector was developed and one important area of focus was the gas supply chain. Proposals for possible preventative and remedial measures will be developed in the next stage of the discussions. The results will flow into our process for identifying and prioritizing risks along the supply and value-added chain at EnBW.

General conditions

Macroeconomic trends

Economies

In 2023, continuing high inflation and the restrictive interest rate policies introduced by the central banks in response are having a marked effect on the global economy. Although inflation has slowed due to increases in interest rates, the underlying pressure on prices has proved persistent. This is also attributable to the tense situation on job markets in many national economies.

In the meantime, the tension on the energy markets has continued to ease in the first half of the year. The risks are still high despite the positive effects of the meanwhile lower prices for food and energy, although they nevertheless remain at a high level, and largely intact supply chains. In its forecast for the whole of 2023, the International Monetary Fund (IMF) therefore only anticipates an increase in global production of 3.0%. The IMF also expects growth of 3.0% in 2024. At the same time, there has been significantly lower demand overall for electricity this year. According to the sector association, the BDEW, electricity consumption fell by 6.2% in the first half of the year in comparison to the same period of the previous year. The macroeconomic environment remains characterized by huge uncertainty and volatility. Nevertheless, we do not expect any significant negative influences on the business performance of our company in the second half of the year.

Development of interest rates

Following the huge increases in interest rates in the previous year, yields on ten-year German government bonds mainly experienced sideways movement. Although it has been possible to curb the rise in inflation rates, inflation still remains high.

Expectations of a global economic slowdown have led to an inverted yield curve for German government bonds. To return inflation rates back to the target levels set by the central banks, the European Central Bank (ECB) and the US Federal Reserve continued to increase key interest rates in the first half of 2023. Against this background, the actuarial interest rates, which are used to discount the pension and nuclear provisions, largely experienced sideways movement in the reporting period.

Cross-segment framework conditions

War between Russia and Ukraine

The consequences of the war between Russia and Ukraine are still having an impact on economic growth in the current financial year. In the first half of 2023, the EU agreed further **packages of sanctions on Russia.** The sanctions include restrictive measures with sanctions on individuals, economic sanctions and visa measures. The impact on coal, oil and gas deliveries as a result of these sanctions has led to a considerable increase in energy prices for end customers in Germany. For this reason, the Bundesrat approved the **Electricity Price Brake Act (StromPBG)** on 16 December 2022. This mechanism came into force on 1 March 2023. In addition, customers whose gas or electricity prices were above the cap of 12 ct or 40 ct per kWh, respectively, in January and February 2023 will be reimbursed retroactively. Furthermore, windfall profits from the sale of electricity generated using renewable energies, nuclear power, mineral oil, waste and brown coal will be levied in the period between 1 December 2022 and 30 June 2023 to finance the relief provided to end consumers and also the subsidies for higher transmission grid costs (§24b EnWG).

The **windfall profit levy** is understandable insofar as it only applies to profits resulting from the currently very high electricity prices. This means, however, that these windfall profits will no longer be available for investment in the energy infrastructure.

EnBW has joined the **Climate Alliance Baden-Württemberg** supervised by the Ministry of Environment, Climate Protection and the Energy Sector of Baden-Württemberg.

Online ↗

Climate protection

Besides the discussion on the framework conditions for a climate-neutral electricity system after 2030 in the "Climate-Neutral Electricity System Platform" (PKNS) organized by the Federal Ministry for Economic Affairs and Climate Action (BMWK), Federal Minister for Economic Affairs Robert Habeck announced the **"Power Plant Strategy 2023" (KWS)** for summer 2023 which will provide short-term incentives for investments in new, controllable generation capacities and for guaranteeing the security of supply. The KWS strategy will create incentives for the necessary investment in controllable power plant capacity with various auctions within the Renewable Energy Act (EEG), Heat and Power Co-Generation Act (KWKG) and others. More specifically, the strategy provides for three types of auctions – for so-called hybrid power plants, H_2 sprinter power plants (both contained in the EEG) and H_2-ready gas power plants (a newly introduced auction) – the first bidding rounds which will take place already in 2023/2024. These power plants are to be built by 2032 at the latest.

To accelerate the expansion of photovoltaics (PV), the Federal Ministry for Economic Affairs and Climate Action has published a draft **PV Strategy** for consultation. The PV Strategy contains eleven fields of action that are designed to rapidly speed up the expansion of PV. The draft strategy contains, among other things, the fields of action "simplifying rooftop installations" and "accelerating grid connections," as well as a series of measures that will be introduced in the next legislative procedures (Solar Packages I and II).

The BMWK also introduced the cornerstones of an **Onshore Wind Strategy** during two so-called "wind summits" in March and May 2023. In particular, this strategy aims to achieve the target of reserving 2% of Germany's land territory for onshore wind energy much more quickly than currently envisaged in the Onshore Wind Energy Act. Furthermore, the strategy includes plans to simplify and accelerate the approval of wind power plants. The procedural simplifications set out in the EU Emergency Regulation, which are currently still only temporary, will be made permanent. The strategy also includes additional support for repowering projects. These plans will be accompanied by more explicit requirements for nature conservation and the protection of species that will be quicker to implement as a result.

The German government has started a comprehensive modernization offensive with the reform of the **German Buildings Energy Act.** The aim is to speed up the heating transition that is required to help mitigate climate change. As of 1 January 2024, as many newly installed heating systems as possible should be powered at least 65% by renewable energy sources. However, the German Federal Constitutional Court upheld an emergency appeal against the legislative process for the Buildings Energy Act. The second and third readings of the draft law have thus been postponed and will now be added to the German Bundestag's agenda after the summer break. Further consultations on the amendments agreed by the coalition parties will take place as part of the parliamentary procedures. EnBW is strongly in favor of the decarbonization of the building sector.

European energy policy

At an EU level, almost all of the legislative proposals in the **first part of the "Green Deal – Fit for 55" package** have now been passed by the European Council and EU Parliament, including the most important aspect from an EnBW perspective: the dossier on the revision of the EU Emissions Trading System (ETS) that will introduce a separate emissions trading system for the building and transport sector. The EU has also passed revisions of the Renewable Energy Directive, Energy Efficiency Directive, the regulation defining CO_2 emission performance standards for passenger cars and light commercial vehicles, and the regulation on the deployment of alternative fuels infrastructure. The Energy Taxation Directive is the sole piece of legislation in the first package that has so far only been examined by the European Council. There is still deadlock in the negotiations on this directive. The EU Commission has been asked to publish an impact assessment on the directive.

The **second part of the "Fit for 55" package,** which aims to decarbonize the gas sector, is currently at the final trilogue negotiation stage within the legislative institutions of the European Union regarding the prospective hydrogen regulation. Positive steps have been taken with respect to important regulation guidelines and unbundling requirements for a future hydrogen grid. These aspects are crucial for the rapid development of the grid and for connecting Baden-Württemberg to the EU hydrogen infrastructure. From a regulatory perspective, however, no decisions have yet been made on the role that the gas distribution grid can play in the operation of hydrogen lines. The

EU also plans to introduce a regulation on methane emissions before the end of 2023. It is doubtful whether the revision of the Energy Performance of Buildings Directive will be concluded before the end of the current legislative period.

High energy prices and the increasingly difficult situation surrounding the security of energy supply in Europe due to the war between Russia and Ukraine prompted the EU Commission to submit a **proposal for the reform of the design of the EU electricity market** to the European Council and European Parliament in March 2023. The main aims of the reform will be to better protect consumers against high prices by offering them, among other things, long-term fixed-price contracts and to accelerate the expansion in renewable energies. Furthermore, the proposal includes incentives for industry to enter into long-term procurement contracts for non-fossil energy generation, as well as measures to integrate cleaner, more flexible solutions such as load management and storage into the system. Numerous controversial opinions exist at a member state level on windfall profit levies and the design of any potential capacity mechanisms. At an interinstitutional level, it is hoped that the reform will come into force before the EU elections in 2024. EnBW views some of the proposals critically because there are worries that market interventions could have a negative impact on the electricity market overall.

Looking forward to winter 2023/2024, the obligatory **regulations for the management of gas storage facilities** that were defined in 2022 still apply at an EU level. As a result of easing prices on the energy markets and the high fill levels at the gas storage facilities, the EU Commission is not recommending any extension to the emergency measures for the windfall profit levy in the electricity generation sector.

In order to **strengthen European competitiveness and support industrial policy** especially with respect to China and the USA, the EU Commission has presented its proposals for both a Net Zero Industry Act (NZIA) and a Critical Raw Material Act (CRMA). Both dossiers aim to ensure that the EU does not lose its competitiveness in key technologies for the green transition and to reduce Europe's one-sided dependence on individual states for raw materials. In response to the U.S. Inflation Reduction Act (IRA), the EU Hydrogen Bank will, by the end of the year, offer subsidies for the first time for the operation of electrolyzers and thus for the generation of renewable hydrogen.

Smart Infrastructure for Customers segment

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

Following a strong year in 2022, the **home electricity storage market** continued to grow in the first half of 2023. According to an estimate by EUPD Research, 293,000 new photovoltaic power plants with capacities of up to 20 kW and 239,000 home electricity storage systems were installed in the first half of the year. Only 105,000 home photovoltaics storage systems were added in the first half of 2022. Due to the positive development in political framework conditions and persistent high prices for energy, EUPD Research expects further growth in the number of installations in the second half of the year. We are one of the leading providers in this sector via our subsidiary SENEC and are thus participating in this growth.

There also continues to be very dynamic growth in the **registration of new electric vehicles.** According to the Federal Motor Transport Authority, around 220,000 electric cars were registered in the first half of 2023, which was around 32% more battery electric vehicles than in the same period of the previous year. This meant that the share of the total number of new registrations accounted for by purely electric vehicles reached 16%. In contrast, there was a sharp fall in the number of plug-in hybrid vehicles in the first half of 2023 – with around 79,000 newly registered vehicles – which was due to some extent to the reduction in state subsidies for this category of vehicles. In contrast, the increase in battery electric cars was the result of, among other things, the growing acceptance for these vehicles among customers and the wider choice of models available. This strong growth will be further supported by the target of 15 million registered electric cars by 2030 that is defined in the coalition agreement concluded by the German government. EnBW mobility+ is helping to ensure there is sufficient **charging infrastructure** to achieve this target. It already operates the largest quick-charging network in Germany, is investing in its further expansion and provides drivers with the opportunity to charge their vehicles throughout large areas of Europe using the EnBW mobility+ app. There are plans to also significantly expand the infrastructure for cars, commercial vehicles and ships with alternative drive systems at a European level. A compromise on the Alternative Fuel Infrastructure Regulation (AFIR, previously Regulation 2014/94/EU) was reached on 27 March 2023. It will especially focus on the expansion of e-charging stations. The aim is to install a charging station every 60 km across the core trans-European transport network by the end of 2025. In addition, member states must provide additional charging capacity of 1.3 kW per newly registered electric vehicle.

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

System Critical Infrastructure segment

The second draft of the **Network Development Plan Electricity 2037 with Outlook 2045 (Version 2023)** was published by the four electricity transmission system operators in June 2023. It contains three scenarios for 2037 and, for the first time, also an outlook for a "climate-neutral grid" in Germany in 2045. The plan not only factors in the phaseout of coal and nuclear energy but also the national hydrogen strategy, the highly ambitious policies for the expansion of renewable energies and an increasingly integrated internal energy market in Europe as the main drivers of the transformation of the energy system. The three scenarios reflect different degrees of hydrogen uptake and electrification. The considered installed renewable energy generation capacities reach between 400 and 445 GW for photovoltaics and 160 and 180 GW for onshore wind by 2045. This development and the expectation that gross electricity consumption will roughly double mean that the expansion rate will have to increase fivefold in comparison to the reference year of 2020. The expected investment in the onshore electricity transmission grid up to 2045 is €156 billion in all scenarios with the expectation that the associated expansion measures will be almost completely finished by 2037. In order to integrate the 70 GW of offshore wind power into the grid by 2045, it is anticipated that additional investment in the German offshore electricity transmission grid of €145 billion will be needed.

Our transmission grid operator TransnetBW is participating in two major projects to push forward the development of high-voltage DC transmission lines (HVDC) to transport wind energy in future from the north of Germany to the centers of consumption in the south. TransnetBW is responsible for the most southern section of the **ULTRANET** project between North Rhine-Westphalia and Philippsburg. A change to the plans was submitted in June that takes into consideration the amendments deemed necessary following discussions with the Federal Network Agency (BNetzA) at the end of 2022. The last step of the process will be the final decision to approve the plans. 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 May 2023, the BNetzA approved the plans for the first of a total of eight sections for which TransnetBW is responsible. TransnetBW has submitted the planning documents for a further two sections and the consultation process is expected to last until the end of August 2023. The BNetzA has defined the scope of the assessments required for the further planning of the remaining five sections. Construction of the SuedLink power link in Leingarten – where TransnetBW is building the first of four converters – started in July 2023.

The **grid companies in the EnBW Group have implemented numerous digitalization measures** which should reduce the huge need to expand the electricity grid in order to achieve the climate neutrality targets and also to optimize the processes involved in operating the grids. The Act to Relaunch the Digitalization of the Energy Transition (GNDEW) entered into force at the end of May

2023 and aims to promote the flexible, legally-compliant and comprehensive rollout of smart meters. However, there are still many challenges to overcome. On the one hand, it is important to ensure that this rollout is cost effective. The price caps are unchanged overall and increasing costs for the procurement of the devices and for personnel have also been ignored. On the other hand, there are huge challenges with respect to guaranteeing the performance and responsiveness of the electricity grids as they are being optimized. Obligatory aspects include, for example, enabling control of devices via the smart meter and ensuring that several meters can be connected up to one smart meter gateway. The rollout will be significantly accelerated by current trends in photovoltaics, heat pumps and electromobility. Netze BW thus estimates that it will have more than one million smart meters in its grid area by 2030.

In March 2023, the draft **Network Development Plan (NDP) Gas 2022–2032** was published by the gas transmission system operators (FNB). It takes account of the significant changes to the framework conditions in the gas industry arising from the new geopolitical situation. The plan includes three variants for 2032 based on LNG deliveries and also considers the complete loss of Russian gas volumes both to supply Germany and also for transmission through Germany. The variant for the expansion of the network that is favored by the FNB will require investment of around €4 billion. In addition, the required investment for the hydrogen variant, which is intended to demonstrate how the existing natural gas grid in Germany can be used to develop an infrastructure for hydrogen by 2032, was estimated at between €8 billion and €10 billion.

The current **NDP Gas** runs until 2030 and envisages increasing gas transmission capacities in **Baden-Württemberg,** especially for the supply of new gas power plants, which will make a needs-based expansion of the gas transmission grid of terranets bw necessary. The south German natural gas pipeline (SEL) will form part of the required expansion. The SEL pipeline will enable the phaseout of coal energy as it will secure the supply of heating and electricity. As the first pipeline in Germany to be connected to the European gas transmission routes, it will be used to transport hydrogen from 2030 onwards. As a result, the SEL pipeline will satisfy the requirements for providing the business location Baden-Württemberg with a CO_2-neutral energy supply.

Sustainable Generation Infrastructure segment

Installed net output for electricity generation from renewable energies in Germany[1]

in GW	2023	2022	2021	2020	2019
Solar	**72.5**	67.4	59.0	54.1	49.1
Onshore wind	**59.0**	58.1	56.3	54.8	53.2
Biomass	**8.9**	8.9	9.4	8.3	8.5
Offshore wind	**8.4**	8.1	7.8	7.7	7.5
Hydropower[2]	**5.4**	5.4	5.5	5.5	5.5
Gas	**33.8**	33.8	31.7	30.5	30.1
Hard coal	**19.1**	19.1	19.9	23.7	22.7
Brown coal	**18.7**	18.7	20.0	20.3	20.9
Nuclear power	**–**	4.1	8.1	8.1	9.5
Oil	**4.8**	4.8	4.7	4.4	4.4
Total	**230.6**	**228.4**	**222.3**	**217.4**	**211.3**

1 The figures for the previous year have been restated.
2 Addition of 5.4 GW hydropower by EnBW. Source: Fraunhofer ISE (www.energy-charts.de) | As of 30/06/2023.

Renewable energies

Germany

The share of total electricity generation accounted for by renewable energies was around 52% in the first half of 2023 and thus significantly higher than in the same period of the previous year. This increase was mainly attributable to higher wind yields and a dynamic expansion in photovoltaic power plants.

The German Renewable Energies Act came into force at the beginning of 2023. It defines a target for the share of the gross electricity consumption accounted for by renewable energies in 2030 of at least 80%. In order to achieve this target, significant increases in the annual auction capacities and expansion volumes for renewable energies were also defined. The target values for the installed output from onshore wind power plants in 2030 and 2040 were increased to 115 GW and 160 GW, respectively, while the targets for photovoltaics in 2030 and 2040 were increased to 215 GW and 400 GW, respectively. In the case of offshore wind power, the target values were increased to 30 GW in 2030, 40 GW in 2035 and 70 GW in 2045. We believe that these developments validate our strategy of making renewable energies an important pillar of our business.

Onshore wind
New onshore wind farms with a total capacity of around 1 GW were placed into operation in Germany in the first half of 2023. The targets set for reserved land areas for the federal states will have a positive impact on the expansion of onshore wind energy in the long term. The amendments on the protection of species in the Federal Nature Conservation Act will also have a positive effect.

Offshore wind
There were no new offshore wind farms placed into operation in Germany in the first half of 2023. The auctions for non-centrally pre-investigated sites for a total of 7 GW of output started on 1 June 2023. As part of a joint venture with Equinor, EnBW submitted a zero bid in the first round of bidding for the North Sea auction and was approved for the second round of bidding. A "dynamic bidding procedure" was used for the first time in Germany to select the successful bids in the second round. In this procedure, the successful bidders are the ones willing to pay the highest amount and there will be no funding in the form of a market premium. EnBW was not successful with any of its bids in a bidding process that lasted several days. Two of the three sites in the North Sea, each with a capacity of 2 GW, were won by bp, while a third site in the North Sea, also with a capacity of 2 GW, and a site in the Baltic Sea with a capacity of 1 GW were secured by TotalEnergies. The new wind farms are expected to be commissioned in 2030.

Photovoltaics
Around 6 GW of new photovoltaic capacity was installed in Germany in the first half of 2023. In order to achieve the ambitious expansion targets, it will be necessary to expand the number of useable areas considerably.

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

Great Britain
The British government has defined a target for the expansion of offshore wind power of 50 GW by 2030. The results of the latest round of auctions as part of the CfD scheme (Contracts for Difference Allocation Round 5) have not yet been published.

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

Turkey
Our joint venture in Turkey with our partner Borusan operates wind turbines with a total output of 665 MW and is one of the largest players on the Turkish wind energy market. In addition, the joint venture operates a hydropower plant with an output of 50 MW and two solar parks with a total

output of 9 MW. Turkey slightly increased the feed-in tariffs as part of the funding mechanism for renewable energies as of 1 May 2023. Turkey continues to have great untapped potential with respect to renewable energies, primarily in the areas of onshore wind and photovoltaics. We believe that the Turkish market remains an attractive proposition for the future, although we are monitoring the political and economic developments in Turkey very closely.

Conventional generation: market and fuel prices

Electricity wholesale market

In the first half of 2023, the average spot market price of approximately €104/MWh was around €80/MWh lower than in the previous year. The average price on the forward market was also significantly below that of the previous year. The fall in prices was primarily attributable to lower market prices for gas and coal allowances. In addition, the residual thermal load was lower due to higher generation from renewable energies, while generation from nuclear power in France was significantly higher than in the previous year. The latter also had an impact on electricity markets in neighboring countries. The future development of electricity prices will depend on the development of fuel and CO_2 prices and trends in the electricity generation mix. As well as the future development of energy and climate policies, the future situation with respect to the war between Russia and Ukraine and the sanctions imposed on Russia will have a major influence on the electricity market.

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

in €/MWh	Average H1 2023	Average H1 2022
Spot	103.99	185.80
Rolling front year price[1]	150.94	184.77

1 The figures for the previous year have been restated.

Gas market

Prices on the gas market fell considerably in the first half of 2023. Important reasons for this development were the relatively mild winter and a drop in demand in Europe, combined with more frequent arrivals of LNG ships in northwest Europe in comparison to the same period of the previous year. Gas prices increased from the beginning of June 2023, which was attributable to, among other things, extensive maintenance work in Norwegian production and a price-related fall in LNG deliveries to northwest Europe. Several LNG terminals have been placed into operation in Germany since December 2022 and have improved the supply situation. In the first half of 2023, LNG deliveries to northwest Europe also reached new record levels. Even the strikes over a period of several weeks at the French LNG terminals in protest at the pension reforms in the country did not change this situation. The remaining Russian gas deliveries via Ukraine and Bulgaria (Turk Stream) largely continued at a stable level in the first half of 2023.

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

in €/MWh	Average H1 2023	Average H1 2022
Spot	44.26	98.14
Rolling front year price	55.40	69.86

In addition, targets set by the German government resulted in noticeable reductions in gas consumption in both the industrial and household sectors. During the course of the first half of 2023, a gas price brake was introduced by the German government to relieve the burden on consumers in the event of extremely high prices. However, it has not yet been necessary to utilize this tool. As a result of lower demand and greater supply, it was possible to maintain high fill levels at the gas storage facilities until the end of winter 2022. The feared gas shortages have thus failed to materialize.

The gas storage facilities were also well stocked in the middle of 2023. If gas continues to be stored at the current rates, it is highly likely that the gas storage facilities will be very well filled or even completely filled at the start of next winter. Nevertheless, there is still some uncertainly with respect to the remaining Russian gas deliveries via Ukraine and Bulgaria. A halt to these supplies for political reasons is possible at any time. There continues to be huge demand for LNG in northwest Europe to replace the lost Russian supplies. If the demand for LNG were to increase in other parts of the world, this would now have a bigger impact on the European gas markets than in the past.

Oil market

The price of Brent oil (rolling front month) fell during the first half of 2023 to US$74.90/bbl on 30 June 2023. The main drivers of this development were economic concerns and worries about the demand for oil, while the OPEC+ group tried several times to influence prices upwards with cuts to their oil production. During the first six months of the year, prices initially experienced volatile sideways movement until the middle of March 2023. The expectation among market participants at this time was that the easing of pandemic restrictions in China would have a rebound effect on economic growth in the country and, as a consequence, on the demand for oil. However, it became increasingly clear from March 2023 onwards that there would be no noticeable recovery. There were also fears from the middle of March 2023 that problems at some regional banks in the USA could spread and cause a new banking crisis. The price of Brent oil fell to US$70.12/bbl on 20 March 2023, which was

Development of prices on the oil markets

in US$/bbl	Average H1 2023	Average H1 2022
Crude oil (Brent) front month (daily quotes)	79.92	104.99
Crude oil (Brent), rolling front year price (daily quotes)	75.49	88.91

the lowest level in the first half of 2023. However, the countermeasures taken to dispel the concerns of market participants led to some recovery in oil prices. An agreement by the OPEC+ group to cut production from May 2023 onwards resulted in a sharp rise in oil prices at the beginning of April 2023. The highest Intraday price in the first half of 2023 of US$87.49/bbl was reached on 13 April 2023. However, this effect did not last long and economic concerns and worries about the demand for oil among market participants already started to dominate the market again from the middle of April 2023. The argument in the US political arena about the debt ceiling and increases in interest rates by many central banks, including the US Federal Reserve and European Central Bank (ECB), played an important role in this context. A new OPEC+ meeting, in which Saudi Arabia announced it would voluntarily cut its oil production in July 2023 and possibly beyond by a further 1 million barrels per day stopped the fall in prices at the beginning of May 2023 at just over US$70/bbl. The price of Brent oil then experienced sideways movement between US$71/bbl and US$79/bbl.

The oil market will presumably continue to be influenced by macroeconomic developments and the balance between supply and demand. On late, market participants have tended to pay less attention to geopolitical conflicts, such as the war between Russia and Ukraine and the nuclear dispute with Iran. Prices on the forward market reflect the expectation that prices will continue to fall slightly over time.

Coal market

Development of prices on the coal markets

in US$/t	Average H1 2023	Average H1 2022
Coal – API #2 rolling front year price	133.59	187.31
Coal – API #2 spot market price	135.75	284.64

Coal prices were highly volatile and fell sharply during the first half of 2023. The downward trend on the European coal market was primarily attributable to developments in European gas prices and German electricity prices and other resulting factors. Changed price constellations between energy sources led to an extensive coal-to-gas fuel switch in Europe, which resulted in a sharp downturn in coal consumption and also expected consumption in the future. As there are usually long coal procurement lead times for power plants, coal power plant operators suddenly had a significant oversupply of coal. At the same time, the stocks of steam coal in the ARA region had already been at a very high level since the middle of 2022, which meant that there was limited capacity for these surplus stocks. The power plant operators were forced to either postpone their agreed coal deliveries to a later point in time, divert them to other regions of the world or sell them on the falling market. Due to simultaneously falling prices on the natural gas and LNG markets, comparable developments were also seen in other regions with fuel switch potential. However, the global demand for coal was propped up by China, which imported record amounts of steam coal in the first half of 2023. This development was mainly driven by untypically low hydropower generation, safety inspections at coal mines in the country and a dynamic increase in the demand for electricity. Nevertheless, the very high imports into China at best only alleviated the downward trend in prices on the global market to a limited extent in the first half of 2023.

The European coal market is still expected to be strongly influenced by developments in gas prices in the medium term. This has led to huge uncertainty, especially with respect to the upcoming heating period. The global market could continue to benefit from strong imports into China during its periods of peak consumption in the summer but there is a risk that the volumes of coal imported into China will fall again at the end of the summer. The forward market is anticipating a gradual reduction in coal prices over the coming years.

CO_2 allowances

Development of prices for emission allowances/daily quotes

in €/t CO_2	Average H1 2023	Average H1 2022
EUA – rolling front year price	89.19	83.50

In the first half of 2023, prices for CO_2 allowances experienced sideways movement between almost €80/t CO_2 and €100/t CO_2. The main drivers of prices for EUA certificates in 2023 were lower emissions in the electricity sector due to a fall in fuel switch costs and lower fossil-fuel-based generation, as well as higher energy prices and the flagging economy in the industrial sector. 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, price increases are expected in the long term.

Nuclear power

Germany had decided to phase out nuclear power by 2022. This decision was reaffirmed in the current coalition agreement. We responded to this decision at an early stage with a comprehensive dismantling strategy that is being rigorously implemented by our subsidiary EnBW Kernkraft (EnKK). EnKK is the licensed operator of our five nuclear power plants and is also responsible for their dismantling. The dismantling work has been underway in Obrigheim since 2008, at the blocks

Neckarwestheim I and Philippsburg 1 since 2017 and at Philippsburg 2 since 2020. In accordance with the German Atomic Power Act (AtG), the fifth power plant – Block II in Neckarwestheim – was originally due to be shut down by the end of 2022 at the latest. In order to maintain the security of supply in Germany, however, the German government made an amendment to the German Atomic Power Act at short notice, which came into force on 9 December 2022. The amended act allowed for the continued generation of electricity at the last three nuclear power plants – including Block II in Neckarwestheim – until 15 April 2023. Neckarwestheim II was then finally disconnected from the grid on this date. Even before it was finally shut down, EnBW had already received approval for the decommissioning and dismantling of the nuclear power plant from the Ministry of the Environment of Baden-Württemberg. EnBW indicated its intention in the middle of May 2023 to begin the approved dismantling work before the end of 2023.

Based on its latest estimates, EnBW anticipates that the dismantling work on GKN I and GKN II in compliance with the German Atomic Power Act will take around 10 to 15 years – based on when the dismantling work starts at each site.

The EnBW Group

Finance and strategy goal dimensions

Changes to the segment reporting

One of the Polish subsidiaries was restructured at the beginning of 2023 in order to comply with the Polish energy industry regulations. The grid business at this company was previously reported in the "Smart Infrastructure for Customers" segment but will be part of the "System Critical Infrastructure" segment from the 2023 financial year onwards. The figures for the previous year have been restated.

Results of operations

Electricity sales fall considerably, gas sales increase slightly

Electricity sales volume (without System Critical Infrastructure)

in billions of kWh	Smart Infrastructure for Customers		Sustainable Generation Infrastructure		Total (without System Critical Infrastructure)		Change in %
	01/01–30/06/2023	01/01–30/06/2022	01/01–30/06/2023	01/01–30/06/2022	01/01–30/06/2023	01/01–30/06/2022	
Retail and commercial customers (B2C)	7.3	7.4	0.0	0.0	7.3	7.4	-1.4
Business and industrial customers (B2B)	10.9	12.3	0.0	0.2	10.9	12.5	-12.8
Trade	0.0	0.0	25.9	35.6	25.9	35.6	-27.2
Total	**18.2**	**19.7**	**25.9**	**35.8**	**44.1**	**55.5**	**-20.5**

Electricity sales in the first half of 2023 were below the level in the previous year. In a currently challenging market environment, electricity sales to retail and commercial customers (B2C) remained at the same level as in the previous year, while sales to business and industrial customers (B2B) decreased, mainly as a result of reduced sales activities at GVS. Sales in the trading sector also fell considerably in comparison to the same period of the previous year due to a decrease in trading activities. However, their effect on the earnings potential of the company is limited.

Gas sales volume (without System Critical Infrastructure)

in billions of kWh	Smart Infrastructure for Customers		Sustainable Generation Infrastructure		Total (without System Critical Infrastructure)		Change in %
	01/01–30/06/2023	01/01–30/06/2022	01/01–30/06/2023	01/01–30/06/2022	01/01–30/06/2023	01/01–30/06/2022	
Retail and commercial customers (B2C)	8.9	9.5	0.0	0.0	8.9	9.5	-6.3
Business and industrial customers (B2B)	59.5	83.9	0.0	0.0	59.5	83.9	-29.1
Trade	0.8	1.1	185.6	150.7	186.4	151.8	22.8
Total	**69.2**	**94.5**	**185.6**	**150.7**	**254.8**	**245.2**	**3.9**

In the first half of 2023, there was a slight increase in gas sales in comparison to the same period of the previous year. Gas sales to retail and commercial customers (B2C) fell due to the weather and the currently challenging market environment. Against the backdrop of the loss of Russian gas procurement agreements, there was a significant decrease in sales to business and industrial customers (B2B) in comparison to the previous year. In contrast, sales in the trading sector increased considerably due to expanded trading activities, including in the area of LNG.

External revenue almost at same level as in previous year

External revenue by segment

in € million[1,2]	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
Smart Infrastructure for Customers	10,339.3	9,516.2	8.6	18,754.5
System Critical Infrastructure	3,525.7	3,132.4	12.6	6,697.4
Sustainable Generation Infrastructure	12,807.6	14,465.5	-11.5	30,543.2
Other/Consolidation	13.5	5.4	–	7.5
Total	**26,686.1**	**27,119.5**	**-1.6**	**56,002.6**

1 After deduction of electricity and energy taxes.
2 The figures for the previous year have been restated.

Smart Infrastructure for Customers: Revenue in the Smart Infrastructure for Customers segment increased in the first half of 2023 in comparison to the same period of the previous year. This was mainly due to passing on significantly higher procurement prices and network user charges to customers.

System Critical Infrastructure: Revenue in the System Critical Infrastructure segment was higher in the first half of 2023 than in the same period of the previous year. This increase in revenue was primarily due to higher income from the use of the grids, especially as a result of factoring in the higher expenses for the grid reserve including redispatch to maintain the security of supply into prices.

Sustainable Generation Infrastructure: Revenue in the Sustainable Generation Infrastructure segment fell in comparison to the same period of the previous year, mainly due to lower prices in gas trading activities despite higher sales volumes.

Material developments in the income statement

The decrease of €433.4 million in revenue in comparison to the previous year to €26,686.1 million was primarily due to lower sales prices in the gas sector. This was offset to some extent by generated volumes of electricity sold at higher prices and by higher network user charges. As a result of lower gas prices, the cost of materials fell by €3,206.2 million in comparison to the figure in the previous year. This was offset to some extent by higher expenses for the procurement of electricity. Other operating income decreased by €1,368.5 million in comparison to the same period of the previous year. This was primarily attributable to lower income from derivatives. There was also a corresponding decrease in other operating expenses of €2,245.7 million, which was also a result of the valuation of derivatives in comparison to the previous year. In contrast, amortization and depreciation increased by €340.6 million compared to the value in the previous year. This was mainly due to impairment losses on conventional power plants and two offshore wind farms.

The investment result in the reporting period stood at €33.6 million, which was €108.0 million lower than the figure of €141.6 million in the previous year. This decrease was primarily the result of an impairment on an investment and lower income from the dedicated financial assets. The financial result deteriorated in the reporting period in comparison to the same period of the previous year by €183.6 million to €-147.0 million (previous year: €36.6 million). This development was due mainly to interest rate effects on non-current provisions. This was offset to some extent by the result from the market valuation of securities.

Overall, earnings before tax (EBT) totaled €3,807.2 million in the first six months of the 2023 financial year, compared with €947.7 million in the same period of the previous year.

Earnings

The Group net profit/loss attributable to the shareholders of EnBW AG increased from €563.9 million in the same period of the previous year by €1,961.9 million to €2,525.8 million in the reporting period. Earnings per share amounted to €9.33 in the reporting period compared to €2.08 in the same period of the previous year.

Adjusted earnings and non-operating result

The sum of the adjusted earnings figures and non-operating figures gives the figures on the income statement. The non-operating result includes effects that either cannot be predicted or cannot be directly influenced by EnBW and as such are not relevant to the ongoing management of the company. The effects are presented in the section "Non-operating EBITDA." 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 of EnBW. We use the adjusted EBITDA – 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 by segment

in € million [1]	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
Smart Infrastructure for Customers	20.9	103.1	-79.7	498.4
System Critical Infrastructure	1,021.2	599.5	70.3	1,057.8
Sustainable Generation Infrastructure	2,607.0	1,551.5	68.0	2,616.2
Other/Consolidation	-150.8	-130.2	-15.8	-205.3
Total	**3,498.3**	**2,123.9**	**64.7**	**3,967.1**

1 The figures for the previous year have been restated.

Share of adjusted EBITDA accounted for by the segments

in % [1]	01/01–30/06/2023	01/01–30/06/2022	01/01–31/12/2022
Smart Infrastructure for Customers	0.6	4.9	12.6
System Critical Infrastructure	29.2	28.2	26.7
Sustainable Generation Infrastructure	74.5	73.0	65.9
Other/Consolidation	-4.3	-6.1	-5.2
Total	**100.0**	**100.0**	**100.0**

1 The figures for the previous year have been restated.

The adjusted EBITDA for the EnBW Group increased in the first half of 2023 by 64.7% in comparison to the same period of the previous year to €3,498.3 million. Please refer to the explanations in the section "Non-operating EBITDA" for further information on the restatement of the figures for the previous year.

Smart Infrastructure for Customers: The adjusted EBITDA of the Smart Infrastructure for Customers segment of €20.9 million was significantly lower than the level in the previous year. The reasons for this fall in earnings were negative effects of €250.8 million related to the deconsolidation of bmp greengas and the associated impairments on receivables. Lower seasonal effects relating to procurement prices in sales in comparison to the previous year cushioned this negative earnings performance to some extent.

System Critical Infrastructure: The adjusted EBITDA in the System Critical Infrastructure segment increased in the first half of 2023 by 70.3% in comparison to the same period of the previous year. This rise in earnings was due to a substantial increase in revenue from the use of the grids as part of the higher investment in the expansion of the grids and from factoring in the higher expenses for the grid reserve including redispatch to maintain the security of supply into prices.

Sustainable Generation Infrastructure: The adjusted EBITDA in the Sustainable Generation Infrastructure segment increased considerably in the first half of 2023 in comparison to the same period of the previous year to €2,607.0 million.

Adjusted EBITDA Sustainable Generation Infrastructure

in € million[1]	01/01–30/06/2023	01/01–30/06/2022	Change in %
Renewable Energies	564.6	546.9	3.2
Thermal Generation and Trading	2,042.4	1,004.6	103.3
Sustainable Generation Infrastructure	**2,607.0**	**1,551.5**	**68.0**

1 The figures for the previous year have been restated.

In the area of Renewable Energies, the adjusted EBITDA rose slightly by 3.2% to €564.6 million. The positive earnings performance at the run-of-river power plants and the expansion of the wind farms and photovoltaic power plants was almost completely offset by falling prices for direct distribution of the generated wind and photovoltaic power. In the area of Thermal Generation and Trading, the adjusted EBITDA increased sharply in the first half of 2023 in comparison to the same period of the previous year. On the one hand, the generated volumes could be sold through the trade at significantly higher prices in comparison to the previous year, while on the other hand, the reductions and cessation in gas supplies due to the war between Russia and Ukraine in the same period of the previous year had a negative effect, which now no longer applies.

Non-operating EBITDA

in € million[1]	01/01–30/06/2023	01/01–30/06/2022	Change in %
Income/expenses relating to nuclear power	-173.0	-307.0	-43.6
Income from the reversal of other provisions	32.4	-0.0	–
Result from disposals	3.1	18.0	-82.8
Additions/Reversals of to the provisions for onerous contracts relating to electricity and gas procurement agreements	-148.9	211.8	–
Income from reversals of impairment losses	28.4	235.7	-88.0
Restructuring	-14.0	-13.3	5.3
Valuation effects	1,691.0	-595.4	–
Other non-operating result	216.7	-31.4	–
Non-operating EBITDA	**1,635.7**	**-481.6**	**–**

1 The figures for the previous year have been restated.

The increase in non-operating EBITDA resulted primarily from valuation effects arising from certain hedging transactions, which we use to hedge against price fluctuations for underlying assets such as our power plants. In contrast to the underlying assets, these hedging transactions have to be recognized at their fair value in accordance with IFRS 9. This results in temporary earnings effects that are reversed over the course of time. As the one-sided recognition of the market value of these hedging transactions does not properly reflect the economic reality, we now recognize these effects in the non-operating result starting from the first half of 2023. This had an effect of €1,732.5 million in the reporting period. The figures for the previous year have been restated accordingly with an effect of €-699.7 million in the comparative period.

The subsidies for network user charges in the other non-operating result also had a positive effect. However, this will be reduced by corresponding expenses over the course of the year.

These positive effects were offset to some extent by increases to a provision for an onerous contract in the current reporting period – mainly due to poorer medium-term income forecasts as a result of the currently falling electricity prices. In addition, there were not only increases to provisions but also reversals of provisions for onerous contracts in the same period of the previous year.

Lower reversals of impairment losses in comparison to the previous year also offset these positive effects to some extent. Primarily, there were higher reversals of impairment losses on our conventional generation plants as a result of an improvement in the profitability of coal power plants in the liquid period in the same period of the previous year. In the current reporting period, there was a small reversal of impairment losses on a gas storage facility, which was due to an improvement in the medium- and long-term earnings forecasts and a change in the expected service lives of its caverns, which were amended after a multi-year measurement cycle.

Group net profit/loss

in € million[1]	01/01–30/06/2023 Total	Non-operating	Adjusted	01/01–30/06/2022 Total	Non-operating	Adjusted
EBITDA	5,134.0	1,635.7	3,498.3	1,642.3	-481.6	2,123.9
Amortization and depreciation	-1,213.4	-371.2	-842.2	-872.8	-95.8	-777.0
EBIT	3,920.6	1,264.5	2,656.1	769.5	-577.4	1,346.9
Investment result	33.6	-55.9	89.5	141.6	-19.6	161.2
Financial result	-147.0	75.7	-222.7	36.6	295.0	-258.4
EBT	3,807.2	1,284.3	2,522.9	947.7	-302.0	1,249.7
Income tax	-1,056.3	-405.5	-650.8	-274.8	56.0	-330.8
Group net profit/loss	2,750.9	878.8	1,872.1	672.9	-246.0	918.9
of which profit/loss shares attributable to non-controlling interests	(225.1)	(6.4)	(218.7)	(109.0)	(-3.8)	(112.8)
of which profit/loss shares attributable to the shareholders of EnBW AG	(2,525.8)	(872.4)	(1,653.4)	(563.9)	(-242.2)	(806.1)

1 The figures for the previous year have been restated.

Group net profit rose considerably as a result of the significantly higher EBITDA in comparison to the same period of the previous year. Please refer to the explanations in the section "Adjusted and non-operating EBITDA" for more information on the reasons for these developments.

In contrast to the increase in EBITDA, higher impairment losses had a negative impact on Group net profit. Conventional generation plants were impaired in the current financial year. These impairments were mainly attributable to poorer medium-term income forecasts as a result of currently falling electricity prices. Impairment losses were also recognized on two offshore wind farms. The main reason for these impairments was the successively fewer operating years with EEG funding. In contrast, the same period of the previous year was mainly characterized by reversals of impairment losses.

Group net profit was also impacted to some extent by the fall in the investment result, which was primarily the result of an impairment on an investment and lower income from the dedicated financial assets.

Furthermore, the decrease in the financial result had a negative effect on the earnings performance. This development was mainly due to interest rate effects on non-current provisions. This was offset to some extent by the positive result from the market valuation of securities.

Income taxes change according to the development of EBT.

Financial position

Financial management

Financing strategy

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

Alongside the internal financing capability and our own funds, we have the following financing instruments at our disposal to cover the financing needs of the operating business (as of 30 June 2023):

- Debt Issuance Program (DIP), via which bonds are issued: €~6.9 billion of €10.0 billion drawn
- Subordinated bonds: €~2.5 billion
- US private placement: equivalent value of US$~850 million (translation on the pricing day)
- Bonds in Swiss francs: CHF 410 million (€420 million as of 30 June 2023)
- Promissory notes: €0.5 billion

- Commercial paper (CP) program: €~0.0 billion of €2.0 billion drawn
- Sustainability-linked syndicated credit facility: €1.5 billion undrawn, with a term until the end of June 2027 after utilizing the second extension option for an additional year
- Committed credit lines: €~0.0 billion of €~3.5 billion drawn
- Uncommitted credit lines, which can be utilized in agreement with our banks: €~0.2 billion of €~1.6 billion drawn
- Bank loans and loans from the European Investment Bank (EIB). Two loan agreements were concluded to finance the EnBW He Dreiht offshore wind farm. The bank loan of €600 million signed with the EIB in December 2022 was drawn in March 2023. In May 2023, a bank loan of €500 million was signed with a consortium of banks and a partial amount of €250 million was drawn. The loan is being guaranteed by the Danish export credit agency EIFO.
- In addition, subsidiaries have other financing activities in the form of bank loans and promissory notes.

Credit ratings

We aim to hold solid investment-grade ratings. EnBW currently has the following issuer ratings:

- Moody's: Baa1/stable
- Standard & Poor's (S&P): A–/stable

Following the publication of the results for the 2022 financial year, the rating agency S&P announced on 30 March 2023 that it had raised the outlook for EnBW to stable. S&P also confirmed the credit rating of A–.

This rating update was in response to the publication of solid results by EnBW for the 2022 financial year, despite the volatile environment and the negative impact of VNG – a subsidiary of EnBW – having to reprocure replacement gas at high prices as a result of the war between Russia and Ukraine.

Capital market activities

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

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

On 24 May 2023, EnBW issued two bonds with a total volume of 410 million Swiss francs. These bonds were issued to refinance a bond in CHF from 2013 and also serve to finance and hedge EnBW's activities in Switzerland.

Net debt

Net debt

in € million[1]	30/06/2023	31/12/2022	Change in %
Cash and cash equivalents available to the operating business	-5,658.0	-4,626.1	22.3
Current financial assets available to the operating business	-200.6	-600.4	-66.6
Long-term securities available to the operating business	-4.6	-2.4	91.7
Bonds	10,620.2	9,683.8	9.7
Liabilities to banks	2,900.9	1,969.4	47.3
Other financial liabilities	1,243.8	1,238.0	0.5
Lease liabilities	920.1	912.6	0.8
Valuation effects from interest-induced hedging transactions	-32.8	-51.0	-35.7
Restatement of 50% of the nominal amount of the subordinated bonds[2]	-1,250.0	-1,250.0	0.0
Other	-115.2	-59.7	93.0
Net financial debt	**8,423.8**	**7,214.2**	**16.8**
Provisions for pensions and similar obligations[3]	5,544.7	5,426.0	2.2
Provisions relating to nuclear power	4,495.8	4,614.4	-2.6
Receivables relating to nuclear obligations	-381.1	-372.9	2.2
Net pension and nuclear obligations	**9,659.4**	**9,667.5**	**-0.1**
Long-term securities and loans to cover the pension and nuclear obligations[4]	-5,732.9	-5,642.1	1.6
Cash and cash equivalents to cover the pension and nuclear obligations	-174.7	-185.0	-5.6
Current financial assets to cover the pension and nuclear obligations	-73.1	-75.7	-3.4
Surplus cover from benefit entitlements	-127.2	-106.0	20.0
Other	-24.9	-25.9	-3.9
Dedicated financial assets	**-6,132.8**	**-6,034.7**	**1.6**
Net debt relating to pension and nuclear obligations	**3,526.6**	**3,632.8**	**-2.9**
Net debt	**11,950.4**	**10,847.0**	**10.2**

1 The liquid assets in the EEG account, which can only be used by the transmission grid operator, cannot be used for the operating business and are thus not allocated to net debt but rather to capital employed.
2 The structural characteristics of our subordinated bonds meet the criteria for half of the hybrid bonds 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 €664.2 million (31/12/2022: €714.2 million).
4 Includes equity investments held as financial assets.

As of 30 June 2023, net debt had risen by €1,103.4 million compared to the figure posted at the end of 2022. The increase in net financial debt in comparison to that reporting date was mainly due to the increase in collateral.

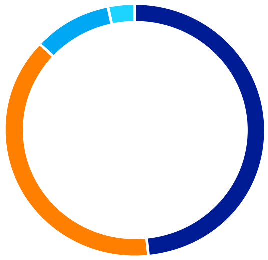
Investment analysis

Net cash investment

in € million[1]	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
Investments in growth projects[2]	1,178.6	784.6	50.2	2,355.6
Investments in existing projects	405.5	284.4	42.6	797.8
Total gross investment	**1,584.1**	**1,069.0**	**48.2**	**3,153.5**
Divestitures	-1.2	-70.0	-98.3	-68.3
Participation models[3]	102.6	165.2	-37.9	-152.6
Disposals of long-term loans	-12.1	-0.1	–	-0.6
Other disposals and subsidies	-71.1	-71.2	-0.1	-164.3
Total divestitures	**18.2**	**23.9**	**-23.8**	**-385.8**
Net (cash) investment	**1,602.3**	**1,092.9**	**46.6**	**2,767.7**

1 Excluding investments held as financial assets.
2 Does include cash and cash equivalents acquired with the acquisition of fully consolidated companies. These amounted to €5.1 million in the reporting period (01/01/2022–30/06/2022: €0.0 million, 01/01/2022–31/12/2022: €0.0 million).
3 This includes capital reductions in non-controlling interests with short-term receivables from foreign companies. The latter was due to advance payments made in the previous year as a result of contractual arrangements.

Investment by segment
in %[1]



- 48.6 System Critical Infrastructure (01/01–30/06/2022: 50.1)
- 38.4 Sustainable Generation Infrastructure (01/01–30/06/2022: 33.8)
- 9.8 Smart Infrastructure for Customers (01/01–30/06/2022: 14.2)
- 3.2 Other (01/01–30/06/2022: 1.9)

1 The figures for the previous year have been restated.

Gross investment by the EnBW Group in the first half of 2023 of €1,584.1 million was significantly higher than the level in the previous year (€1,069.0 million). 74.4% of overall gross investment was attributable to growth projects; the proportion of investment in existing facilities stood at 25.6%.

Gross investment in the **Smart Infrastructure for Customers** segment totaled €156.0 million and was around the same level as in the previous year (previous year restated: €151.3 million). As in the previous year, the investment in this segment was primarily in the area of electromobility.

Gross investment in the **System Critical Infrastructure** segment of €777.0 million was significantly higher than the level in the previous year of €536.4 million (figure for previous year restated). This increase was primarily the result of higher investment by our grid companies in the expansion of capacities and the renewal of the distribution grid, as well as higher investment by our subsidiary TransnetBW as part of the Network Development Plan Electricity.

There was gross investment of €606.9 million in the **Sustainable Generation Infrastructure** segment, which was higher than the level in the same period of the previous year (€361.4 million). A total of €438.1 million of this investment was in the area of **Renewable Energies,** compared to €293.1 million in the same period of the previous year. This increase was mainly attributable to the offshore wind sector due to the investment in our EnBW He Dreiht wind farm in the German North Sea. The final investment decision was taken in March this year. Investment in the **Thermal Generation and Trading** area stood at €168.8 million and was thus significantly higher than the figure in the previous year (€68.3 million). Among other things, this was due to the decisions that had already been taken to invest in fuel switch projects for converting three of our thermal power plants in Baden-Württemberg from coal to gas.

Investments in Sustainable Generation Infrastructure

in %	01/01–30/06/2023	01/01–30/06/2022
Renewable Energies	27.7	27.4
Thermal Generation and Trading	10.7	6.4
Sustainable Generation Infrastructure	**38.4**	**33.8**

Other gross investment increased from €19.9 million in the same period of the previous year to €51.2 million in the first half of 2023. This mainly comprised capital contributions at other investments.

Divestitures were below the level in the same period of the previous year when they included the impact of our exit from the offshore wind power business in the USA. This was offset to some extent in our participation models by capital reductions at our offshore wind farms that are already in operation. These were lower than in the previous year. Other disposals were at the same level as in the previous year.

Liquidity analysis

Condensed cash flow statement

in € million[1]	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
Cash flow from operating activities	-76.1	1,419.4	–	1,804.8
Cash flow from investing activities	-1,121.2	-1,320.6	-15.1	-2,734.9
Cash flow from financing activities	1,184.0	-1,527.2	–	734.6
Net change in cash and cash equivalents	**-13.3**	**-1,428.4**	**-99.1**	**-195.5**
Change in cash and cash equivalents due to changes in the consolidated companies	4.3	-3.2	–	0.3
Net foreign exchange difference and other changes in cash and cash equivalents	-4.0	21.4	–	17.7
Change in cash and cash equivalents	**-13.0**	**-1,410.3**	**-99.1**	**-177.5**

1 The figures for the comparative period have been restated.

There had already been a change on the reporting date of 31 December 2022 to the presentation of advance payments to third-party shareholders due to contractual arrangements. These payments are now reported in the cash flow from financing activities and not under cash flow from investing activities as previously. This led to a restatement of the figures for the previous year as of 30 June 2022 in the current interim financial reporting period. Cash flow from investing activities as of 30 June 2022 was reduced by €113.2 million. In contrast, cash flow from financing activities increased by €113.2 million.

Cash flow from operating activities fell sharply in the reporting period despite the significant increase in cash-relevant EBITDA in comparison to the same period of the previous year. This development was mainly due to an outflow of cash in the net current assets for reasons related to the reporting date. This was primarily attributable to an increase in the net balance of trade receivables and payables and cash outflows for collateral against the backdrop of current price fluctuations on the market. In contrast, there was an increase in liabilities and cash inflows in the form of collateral in the same period of the previous year. This was offset to some extent in the same period of the previous year by significant increases in inventories.

Cash flow from investing activities returned a lower outflow of cash in comparison to the same period of the previous year, despite the higher net investment on intangible assets and property, plant and equipment. The main reason for this development was lower net investment as part of the portfolio management of securities and financial investments.

There was a cash inflow from financing activities in the reporting period compared to a cash outflow in the same period of the previous year. This increase was primarily due to net increases in financial liabilities (previous year: net repayments) as part of liquidity management.

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[1]	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
EBITDA	**5,134.0**	**1,642.3**	**–**	**4,473.2**
Change in provisions excluding obligations from emission allowances	-147.4	-45.0	–	36.2
Non-operating valuation effects from derivatives[2]	-1,691.0	595.4	–	908.1
Other non-cash-relevant expenses/income[2]	-96.3	-181.0	-46.8	-1,478.3
Income tax paid	-426.2	-101.9	–	-227.9
Interest and dividends received	213.0	200.8	6.1	427.0
Interest paid for financing activities	-161.5	-153.6	5.1	-318.8
Dedicated financial assets contribution	52.3	-42.9	–	-92.2
Funds from operations (FFO)	**2,876.9**	**1,914.1**	**50.3**	**3,727.3**
Declared dividends	-638.9	-462.5	38.1	-510.8
Retained cash flow	**2,238.0**	**1,451.6**	**54.2**	**3,216.5**

1 The figures for the previous year have been restated.
2 The non-operating valuation effects from derivatives contain effects on the cash flow statement of €-455.2 million (01/01 – 30/6/2022: €-104.3 million, 01/01 – 31/12/2022: €226.6 million) in the item "Other non-cash-relevant expenses/income". Other non-cash-relevant expenses/income included in the calculation of the retained cash flow were adjusted by the corresponding amount. In addition, the non-operating valuation effects from derivatives contain effects on the cash flow statement of €-1,235.8 million (01/01 – 30/6/2022: €699.7 million, 01/01 – 31/12/2022: €681.5 million) in the item "Change in assets and liabilities from operating activities".

Valuation effects due to temporary fluctuations in the value of certain derivatives are recognized in non-operating EBITDA. Therefore, such effects cannot be taken into account when calculating the operational earnings power of EnBW. Funds from operations (FFO) and retained cash flow will thus be adjusted for the described effects from this reporting period onwards. These totaled €-1,732.5 million in the reporting period. The comparative figures for the previous year were adjusted by €699.7 million (1 January to 30 June 2022) and €681.5 million (1 January to 31 December 2022). In addition, there was an adjustment to the declared dividends for the comparative period in the previous year of €-40.1 million. This amendment was due to the fact that dividends that had already been declared by the reporting date of 30 June 2022 were actually only paid out at a later date in 2022. As of the reporting date of 31 December 2022, dividends to shareholders and minority partners will be recognized in the retained cash flow at the time the resolution is passed.

FFO was above the level in the previous year, which was mainly the result of the significantly higher EBITDA. This was offset above all by the non-operating valuation effects from derivatives and higher income tax paid.

Higher declared dividends in comparison to the previous year reduced the retained cash flow. Nevertheless, the retained cash flow was still significantly higher than in the previous year due to the positive contribution of the FFO. It is an expression of the internal financing capability of EnBW and reflects the funds that are available to the company for investment – after all stakeholder claims have been settled – without the need to raise additional debt.

Net assets

Condensed balance sheet

in € million	30/06/2023	31/12/2022	Change in %
Non-current assets	36,605.2	36,984.0	-1.0
Current assets	27,522.1	32,511.9	-15.3
Assets held for sale	7.9	7.8	1.3
Assets	**64,135.2**	**69,503.7**	**-7.7**
Equity	14,316.4	12,769.3	12.1
Non-current liabilities	29,976.1	28,064.5	6.8
Current liabilities	19,842.7	28,669.9	-30.8
Equity and liabilities	**64,135.2**	**69,503.7**	**-7.7**

As of 30 June 2023, total assets were lower than the figure at the end of the previous year. Non-current assets decreased by €378.8 million to €36,605.2 million between the two reporting dates. The decrease in long-term derivatives was bigger than the increase in property, plant and equipment and in entities accounted for using the equity method. The fall in current assets by €4,989.8 million was due to decreases in short-term derivatives, in collateral paid and in inventories. Equity increased by €1,547.1 million as of 30 June 2023. The primary reason for this development was the Group net profit achieved in the reporting period. This was reflected in an increase in the equity ratio from 18.4% at the end of 2022 to 22.3% on the reporting date. Non-current liabilities increased by €1,911.6 million. This was mostly attributable to the issuing of two senior bonds in the first quarter of 2023 and two bonds in Swiss francs in the second quarter of 2023. This was offset to some extent by a decrease in the long-term derivatives. Current liabilities decreased by €8,827.2 million in comparison to the end of the previous year, which affected all balance sheet items in this area. The main reasons for this development were the decrease in trade payables for reasons related to the reporting date, lower collateral received against the backdrop of current fluctuations on the market and the decrease in short-term derivatives.

Related parties

Relationships with related parties (entities and individuals) have not changed significantly in comparison to the reporting date of 31 December 2022.

Customers and society goal dimension

We report on the non-financial goal dimensions of EnBW in the areas of customers and society, the environment and employees at the six-month stage using the key non-financial performance indicators presented in the Group management report 2022 as a basis (Integrated Annual Report 2022 from p. 91↗ onwards). Exceptions are the Reputation Index in the customers and society goal dimension, the key performance indicators of "installed output of renewable energies (RE) in GW and the share of the generation capacity accounted for by RE" in the environment goal dimension, as well as the CO_2 intensity, and the People Engagement Index (PEI) in the employees goal dimension. The values for these key indicators are exclusively collected at the end of the year.

Customer proximity

"Infrastructure transition" is one of the strategic themes covered by our Sustainability Agenda. The measures bundled within this theme that directly address our customers are "eco-efficient quick charging parks," "development of the grid infrastructure," "environmentally sustainable and socially inclusive residential districts and real estate" and "laying new fiber-optic cables in rural areas." Furthermore, we aim to rigorously anchor sustainability in our sales processes (e.g., with respect to our products and services). In the "Selected activities" section below, we present some of the projects that make a significant contribution to the "Infrastructure transition" and have a positive influence on climate protection.

Customer Satisfaction Index

Our customers lie at the heart of our philosophy and actions. We aim to build long-term customer relationships by offering an intelligent combination of products and services, developing new product worlds, communicating transparently and delivering the highest-quality service possible. This will be achieved based on high customer satisfaction, which is measured in accordance with the requirements of the EnBW Group standard for market research and surveys. The Customer Satisfaction Indices for EnBW and Yello are compiled from customer surveys carried out by an external provider.

Key performance indicator

	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
Customer Satisfaction Index for EnBW/Yello	127/170	139/166	-8.6/2.4	139/166

The key performance indicator Customer Satisfaction Index for EnBW achieved a value of 127 in the first half of 2023. The satisfaction of EnBW private customers was thus at a good level and within our expected target corridor for the entire year. A good level is reached when 50% of those surveyed indicate that overall they are particularly satisfied with EnBW. This is the case from 114 points upwards.

In comparison to the value for the first half of 2022 (139), the Customer Satisfaction Index for EnBW fell to a lower level against the background of the subsequent exceptionally high rises in the market prices for electricity and gas. However, the index value only fell for customers with a basic supply tariff. The Customer Satisfaction Index remained stable for all other customers in comparison to the same period of the previous year.

The Customer Satisfaction Index for Yello achieved a value of 170 in the first half of 2023. The satisfaction of Yello customers thus improved by 2.4% in comparison to the first half of 2022 (166) and stood at an outstanding level – the highest level since 2005. An outstanding level is reached when 70% of those surveyed indicate that overall they are particularly satisfied with Yello (from 159 points). The reasons given by Yello customers were good service and attractive prices.

This film gives a simple explanation of the **electricity and gas price brake**.

Online ↗

Selected activities

The first half of 2023 was characterized by the **implementation of the regulatory requirements** due to the energy crisis. The German government has passed numerous laws and ordinances in this area, such as the December advance payment, the electricity and gas price brake, the reduction in value added tax and various allocations (p. 16 f.↗). Our high degree of digitalization and agile working methods meant that we were able to implement all of the legal requirements at short notice and will be able to help reduce the financial burden on our customers by around €100 million in 2023. Furthermore, the gas saving bonus offered by EnBW for the heating period 2022/2023 was already paid out to our customers in the second quarter of 2023. Our advances in the area of digitalization are also being demonstrated by the increase in use of our "zuhause+" app. It helps our customers to monitor their energy consumption (electricity, gas and heating) and thus also their energy costs and more than 190,000 customers have now installed the app on their mobile devices.

Green electricity has become the standard in the product portfolio of the EnBW and Yello brands. The proportion of the electricity supplied to new customers by EnBW and Yello that is accounted for by green energy now stands at 100% (EnBW excluding the basic supply of energy). 65% of the total customer base are now supplied with green electricity by both brands. Taking offsetting measures into account, Yello and EnBW were able to save a total of around 720,000 t of CO_2 emissions in the first half of 2023.

To help people in Germany make the **switch over to sustainable heating technology,** EnBW has been working together with Vaillant, one of the leading suppliers of heat pumps, since May 2023. We can thus offer customers individual advice and also a range of heat pumps from Vaillant specialist partners, together with an appropriate heat pump tariff from EnBW. EnBW is using this partnership to expand its range of products and services for customers in the rapidly growing market for sustainable heating technology (p. 16↗).

As we **expand the charging infrastructure for electromobility,** we are focusing on quick charging with capacities of up to 300 kW and charging stations that supply 100% green electricity. We already operate the largest quick-charging network in Germany and place one new quick-charging station into operation on average every day. Alongside smaller sites, we are also installing large quick-charging parks with eight or more high-capacity charging points and quick-charging parks with solar roofs. In the first half of 2023, we opened seven new roofed charging parks, including our second-largest quick-charging park to date with 32 high-capacity charging points in Großburgwedel, north of Hannover. For the first time, we have also equipped this charging park with other services for vehicles, such as vacuum cleaners.

In our role as an **electromobility provider,** we now offer our customers access to more than 400,000 charging points in 17 European countries via the EnBW HyperNetwork operated by our subsidiary **EnBW mobility+.** The EnBW mobility+ app has also been available for Android Auto since May 2023. Customers had already been able to use the app via Apple CarPlay since 2022. The app has now been downloaded more than two million times in total.

Our subsidiary **SENEC** is one of the top three providers of home storage systems for solar power systems in Germany and a specialist in equipping customers so that they are able to meet their own energy needs with solar electricity. In the first half of 2023, we sold more than 32,000 electricity storage systems in Germany, Italy and Australia. Homeowners have been able to sell their own self-generated energy using the complete solution "Cloud pro" from EnBW and SENEC since June 2023. The product includes an integrated home energy management system, which allows customers to directly sell their surplus electricity at the green electricity tariffs offered by EnBW.

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 with our participating interests and other public utilities. Local authorities are also able to invest in Netze BW using our **"EnBW connects"** participation model. A total of 214 local authorities have currently indirectly invested in Netze BW by acquiring shares in the local authority holding company Netze BW GmbH & Co. KG. Almost 14% of the shares in Netze BW are now held by local authorities. Against the background of the German Buildings Energy Act (Gebäudeenergiegesetz), we expanded our advisory services in the first half of 2023 to include local authority heating system planning. We are able to help local authorities identify any potential for improvement and develop customized heating concepts to explicitly exploit this potential. We also launched our digital carbon footprint service that provides local authorities with a transparent depiction of their greenhouse gas emissions. As a result, we can provide comprehensive support to local authorities during all of their decision-making processes dealing with the theme of heating.

In the area of **contracting,** we provide industry, the real estate sector and public clients with sustainable and efficient energy infrastructure implemented directly at the customer's site. We create customized energy concepts for the provision of energy with either no CO_2 emissions or only low emissions – a service that is now in ever greater demand. At our Energy Center Waldbronn, we started work in early 2023 on a new, highly efficient, high-temperature heat pump that uses the natural refrigerant ammonia. It will supply heating, cooling and electricity to connected customers in the local authority area and two industrial companies. The new heat pump will save up to 600 t CO_2 per year in future, which corresponds to a reduction of around 50%. Gas consumption will thus be reduced by up to 75% in comparison to the existing natural gas-fired heating system consisting of a combined heat and power plant and a boiler.

The main telecommunications activities at EnBW AG are bundled together in **EnBW Telekommunikation** with its subsidiaries NetCom BW and Plusnet. **NetCom BW** continued to expand in Baden-Württemberg and the neighboring state of Bavaria in the first half of 2023. Transforming so-called FTTC networks, in which the fiber-optic cable connects up to the copper network, to purely FTTB networks, in which the fiber-optic cable is laid straight to the building, continues to be a main focus of the corporate strategy followed by the company. Aside from carrying out any necessary expansion of the broadband network together with cities, local authorities and municipal associations, NetCom BW is working more intensely on the implementation of self-financed projects. In the first half of 2023, NetCom BW concluded ten new cooperation agreements with local authorities in this context. While the pre-marketing process is still being carried out in most cities and municipalities, NetCom BW has already been able to successfully conclude this process with 29 local authorities and secure a large number of preliminary contracts for fiber-optic connections. The construction work for each expansion project will now be gradually completed to supplement the six self-financed expansion areas that are already being realized. The construction work is currently at the most advanced stage for the two pilot projects in Rottenburg am Neckar and Nagold, where a total of about 8,000 households are due to be connected up by 2024 – the first now have fiber-to-the-home connections and thus already have access to gigabit bandwidths for surfing the Internet.

Plusnet continued to push forward the expansion of the fiber-optic network in selected undersupplied industrial areas in the first six months of 2023 and is financing this expansion itself. This company, based in Cologne, expanded its sales regions in the first half of 2023 to include another six local authorities in North Rhine-Westphalia and Hesse. It will continue to expand the network during the course of the year, build new fiber-optic access networks and place these into operation. Plusnet will also push forward the transition from copper-based to fiber-optic services and, among other things, expand its marketing capacities. It took an important step towards this goal by acquiring its subsidiary fonial, thus adding a powerful online platform to its sales portfolio. As a successful cloud telephone services specialist in the SoHo (Small Office/Home Office) segment, fonial exclusively focuses on online marketing. This closer cooperation will enable Plusnet to divide its marketing activities into distinct market segments and serve its commercial customers more easily and more flexibly.

In the area of **sustainable districts,** we develop sustainable, holistic and, at the same time, cost-effective concepts for district infrastructure for cities, municipalities and project developers. This business area is responsible as the supplier for the general planning of the technical infrastructure with the aim of operating this infrastructure in future. In addition, we are also integrating other innovative themes such as mobility concepts and digital parking space management into these districts. In the first half of 2023, we received the first orders for nine new projects covering around 840 residential units. As a partner of the IBA'27 Festival that was held in Stuttgart in June 2023, EnBW developed the infrastructure concepts for several of the districts exhibited – including the infrastructure planning for the "Wohnen am Fluss" (Riverside Living) district in Stuttgart-Untertürkheim and the "Hangweide" (Sloped Meadow) district in Kernen im Remstal. The district in Untertürkheim will use the Neckar River as a natural heat source, so that the planned 200 residential units will be completely self-sufficient with regards to heating. 650 apartments and other commercial units will be built in the large district in Kernen, which will be 90% heat self-sufficient thanks to the use of heat pumps and ice storage units.

Supply reliability

SAIDI

Key performance indicator

	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
SAIDI (electricity) in min./year [1]	5.6	9.2	-39.1	16.6

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

As in the past, the grid subsidiaries of EnBW have always achieved a high level of supply reliability throughout their grid areas 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 a very good level of 5.6 minutes in the first half of 2023. This figure was achieved due to the lack of any extraordinary events that could have caused faults in the first six months of the year.

The grid subsidiaries of EnBW aim to achieve a value of between 15 and 20 minutes per end consumer for the whole of 2023.

Environment goal dimension

Detailed information on the **environment goal dimension** can be found in our **Integrated Annual Report 2022.**

Online ↗

As a large energy company, we share responsibility for our environment and climate protection. Supplying our customers with energy causes emissions, above all through the operation of power plants, and uses natural resources and space. In consideration of this fact, environmental and climate protection form an integral part of our corporate strategy.

The long-term success of an energy supply company's activities hinges on acceptance by society. We strive to achieve a credible balance between respecting the environment and achieving corporate, political and social goals, and underpin this commitment with a diverse range of activities.

A detailed presentation of the **EnBW Sustainability Agenda** and our **climate neutrality strategy** can be found here.

Online ↗

The main aim of our comprehensive Sustainability Agenda is to make EnBW climate neutral with respect to its own CO_2 emissions by 2035. The path to achieving this goal will be marked by the switch from coal to gas, from gas to hydrogen and from hydrogen to green hydrogen – alongside the further expansion and multifaceted use of renewable energies.

Installed output

The installed output of renewable energies at the EnBW Group stood at 5.4 GW at the end of 2022. Alongside hydropower, this included 976 MW of offshore wind power, 1,031 MW of onshore wind power and 832 MWp of photovoltaics. In the first half of 2023, we successfully realized several projects in the area of renewable energies with an output of around 200 MW. For example, a number of wind farms and solar parks were placed into operation in France in the first half of 2023. We also added new output in the area of photovoltaics and especially onshore wind farms in Germany. A flagship project for the expansion of renewable energies is the EnBW He Dreiht offshore wind farm, for which we took the final investment decision in March 2023. This major project will be realized with the support of a consortium of partners, who will provide half of the total investment volume of around €2.4 billion. He Dreiht will be one of the largest offshore wind farms in Germany with an installed output of 960 MW and is expected to provide enough green electricity for the equivalent of 1.1 million households. The wind farm is due to be commissioned by the end of 2025. We have so far signed several long-term power purchase agreements (PPAs) covering 335 MW of the total output of 960 MW, including two contracts with Bosch and Evonik in the first half of 2023. In order to accelerate the expansion of renewable energies, we will also modernize the Forbach hydropower plant and transform it into a fully-fledged pumped storage power plant. After taking the decision to invest in the project in the first half of 2023, we plan to start the construction work in fall 2023 and complete it by the end of 2027. The investment volume for this project is €280 million.

Our thermal output decreased as planned due to the final decommissioning of our Neckarwestheim II nuclear power plant in April 2023. We will be investing around €1.6 billion in three fuel switch projects as part of the announced phaseout of coal. Alongside the power plants in Altbach/Deizisau and Heilbronn, this also includes the gas power plant in Stuttgart-Münster, where we started construction work in the first half of 2023. We plan to be operating all three power plants with green hydrogen by 2035 at the latest.

CO_2 intensity

The value for the key performance indicator CO_2 intensity is exclusively collected at the end of the year. However, market prices were significantly lower with correspondingly narrower spreads in the first half of 2023 and this led to a reduced deployment of our coal power plants. Therefore, we expect CO_2 intensity to fall more sharply than our originally forecasted range for 2023. We refer you to the explanations in the "Forecast" (p. 43↗).

Current selected activities

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

Online ↗

To promote **biodiversity** and the **preservation of species,** we carried out a number of activities in the first half of 2023. For example, we issued an invitation to tender for a comprehensive range of biodiversity measures for our EnBW site in Biberach. We explained the planned measures to our colleagues at the site during an in-person event. The work to transform the green area between the sandstone villa and the company restaurant is due to begin in the fall, while the close-to-nature design of the entire company premises will be realized over the coming year. As part of the "UnternehmensNatur" (CompanyNature) project funded by the Federal State of Baden-Württemberg, we discussed and exchanged ideas on this transformation with NABU and the Baden-Württemberg Land Agency. Our main focus was how we can use biodiversity measures to create valuable habitats for various endangered species of flora and fauna on our site. EnBW will use the redesign of the Biberach site as a template for further close-to-nature design projects across the entire Group. Our subsidiary Energiedienst (ED) also implemented measures to protect indigenous fauna and flora at its site in Laufenburg in the first half of 2023. In June, almost 20 employees helped to remove non-indigenous plants from the green spaces at the Laufenburg power plant to prevent any negative impact on indigenous fauna and flora.

Further information on how we contribute to the **protection of species** using our **solar parks** can be found here.

Online ↗

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 usually found in the natural environment at the respective sites. A further ten transformer stations have already been transformed this year into "buzzing transformer stations" using regional seeds and now provide a rich habitat for numerous species of butterflies, wild bees and other insects. These habitats boast up to 60 different plant species per 10 m², providing food, protection and a place of retreat for native insects. Netze BW has already created flower meadows at 49 sites covering a total area of around 120,000 m² and is thus actively contributing to the conservation and proliferation of flower pollinating insects.

The redesign of the EnBW site in Biberach and the blooming transformer station project are measures directly associated with our EnBW Sustainability Agenda.

Switching over to **environmentally friendly grid operation** makes a contribution to protecting the environment in Germany. ED Netze also made contribution to the sustainable development of the German electricity grid in the first half of 2023. For example, the company opened a new transformer station in February for the South-Baden region of Löffingen in which the electricity is converted from high to medium voltage entirely without the use of the greenhouse gas sulfur hexafluoride. Dry air and a vacuum are used as insulating and switching media. The construction of the new transformer station with 17 switchgear panels is another pioneering pilot project for ED Netze as it continues its work to make local transformer stations more climate friendly.

The EnBW funding program **"Stimuli for Diversity"** has been successfully supporting social engagement in Baden-Württemberg for the protection of amphibians since 2011 and the protection of reptiles since 2016. This funding program was jointly launched by the Baden-Württemberg State Institute for the Environment, Measurements and Nature Conservation (LUBW) and EnBW. It is part of the project "The economy and business for nature," which is a component of the initiative "Active for biological diversity" that has been developed by the state government of Baden-Württemberg. The application period for the 2023 funding year ended in May. Numerous well-founded project applications were received once again. The winning projects selected by a specialist jury will be funded by us and realized between October and December 2023.

Employees goal dimension

Selected activities

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 managers and 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. Our sustainable HR strategy is also part of the strategic theme "Culture of sustainability" in the EnBW Sustainability Agenda.

The HR strategy focuses here on six key strategic themes: People-centered transformation, Employer brand & recruiting, Leadership & skills, Qualification@EnBW, Diversity@EnBW as well as HR processes, services & digitalization. We provided detailed information on these individual themes in our Integrated Annual Report 2022 from p. 104↗.

As part of the **"BestWork"** initiative, we are reshaping our working world and making it fit for the future. Our aim here is to improve both the quality of our work and the satisfaction of employees in equal measure. 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 requirements of a more flexible and hybrid way of working. The second stage of BestWork has been underway since February 2022 with the motto "CooperationSpaces." In this stage we will optimize workspaces and technical equipment for the form of cooperation selected by each team and the type of hybrid collaboration. In April 2023, we concluded the surveys on the specific needs of each team. Employees are due to move into their newly designed workspaces by the end of the first half of 2024 within this second stage.

Many companies are being impacted by a lack of skilled labor as a result of demographic changes. Due to the strategic alignment of EnBW and its increasingly complex business fields, the company has a huge need for specialist skills and expertise. In order to tackle these challenges, we not only need new recruitment strategies but also diverse and resilient teams. In this context, we took the first steps in the implementation of our new Strategy for Diversity, Equity & Inclusion, in short the **DE&I Strategy,** in the first half of 2023. In particular, this strategy will help make us more attractive as an employer, increase the innovative strength of EnBW and further promote the themes of sustainability and competitiveness.

Our **EnBW Corporate Trainee Program** will also help to tackle the skills shortage. A new round of this program was started in April 2023 and will last for 20 months. A total of twelve trainees will get to know the different areas of our company and the various tasks we carry out in eight practical phases. Our new **training and apprenticeship campaign** was also launched in June 2023. More than 270 places for apprenticeships in various trades and on dual study programs are available to applicants in the 2024 apprenticeship-year. For the first time EnBW is also looking for young talents interested in completing a dual study program at the site in Hamburg.

Further information on the **Dual Vocational Training Preparation Program** can be found here.

Online ↗

We have been offering a multi-stage **career integration program** to refugees and migrants since 2016, in which 37 people are currently serving a technical apprenticeship. 42 participants have now successfully completed their training as either an industrial mechanic, electronics technician, plant mechanic or mechatronics engineer and 37 of them have been awarded a permanent contract. As part of this program, Netze BW participated for the first time in the **Dual Vocational Training Preparation Program** (AVdual) initiated by the Baden-Württemberg Training Alliance in the first half of 2023. AVdual aims to provide more young people with the opportunity to start their training or apprenticeship immediately after leaving school. Two of the first four participants in the AVdual program have been accepted on the career integration program so far. As part of our social engagement activities, we will continue the career integration program over the next few years and also continue to use it as an additional tool for recruiting young talent.

The aim of our **Ambassador Program** is to provide employees and managers with the skills needed to communicate effectively on social media. The third round of this program started in the first half of 2023. The ambassadors regularly report on their personal social media accounts on their everyday work at EnBW and their experiences working on projects in order to improve the visibility of EnBW on social media and give potential new specialists a practical insight into the company.

In accordance with the **collective bargaining agreement** from 4 April 2023, the first wage increase of 5.5% came into force and was backdated to 1 March 2023. The wages for the different pay scales will be increased by a further 3.0% with effect from 1 January 2024. Remuneration for trainees increased by €180 per month, backdated to 1 March 2023, and will increase by a further €70 per month on 1 January 2024. The collective bargaining agreement is valid for 14 months until 30 April 2024.

EnBW developed very positively from an economic perspective in the 2022 financial year. Against this background, it was decided that employees at the Group companies that have corresponding company agreements would receive a **profit sharing bonus** for 2022 in the amount of 115% of one month's salary. The profit sharing bonus was paid out with the salary checks for April 2023.

Performance indicators for employees

Employees [1, 2]

	30/06/2023	31/12/2022 [3]	Change in %
Smart Infrastructure for Customers	5,531	5,248	5.4
System Critical Infrastructure	11,158	11,638	-4.1
Sustainable Generation Infrastructure	7,326	7,151	2.4
Other	3,560	2,943	21.0
Total	**27,575**	**26,980**	**2.2**
Number of full-time equivalents [4]	25,932	25,339	2.3

1 Number of employees excluding apprentices/trainees and inactive employees.
2 The number of employees for the ITOs (ONTRAS Gastransport, terranets bw and TransnetBW) is only updated at the end of the year; for intervals of less than a year, the number of employees from 31/12/2022 is carried forward.
3 The figures for the previous year have been restated.
4 Converted into full-time equivalents.

As of 30 June 2023, the EnBW Group had 27,575 employees, which was 595 more than at the end of 2022. This increase was primarily due to the intake of 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 increased demand for energy and storage solutions, the expansion of broadband and the billing service. In the System Critical Infrastructure segment, the number of employees decreased as a result of intercompany restructuring in the area of grid services. This was offset to some extent by increases in the number of employees in other areas, primarily in the area of electricity distribution. The increase in the number of employees in the Sustainable Generation Infrastructure segment was mainly in the areas of Electricity Generation and Trading and Renewable Energies. Digitalization and transformation processes as well as intercompany restructuring increased the number of employees in "Other."

Occupational safety

LTIF

Key performance indicator

	01/01–30/06/2023	01/01–30/06/2022	Change in %	01/01–31/12/2022
LTIF for companies controlled by the Group [1, 2, 3]	2.2	2.6	-15.4	2.6
LTIF overall [1, 2]	3.1	3.7	-16.2	4.1

1 LTIF indicates how many LTI occurred per one million working hours performed.
2 Variations in the group of consolidated companies (all companies with more than 100 employees, excluding external agency workers and contractors, are considered).
3 Companies that are fully consolidated for the first time in the course of the respective financial year were not included in the calculations for the LTIF performance indicators. Except for companies in the area of waste management.

The key performance indicator LTIF (Lost Time Injury Frequency) for companies controlled by the Group decreased significantly in terms of percentage change in the first six months of 2023 in comparison to the same period of the previous year – and also decreased considerably in comparison to the figure for the whole of 2022. We believe that this was due to greater efforts by management and the Board of Management to improve awareness for occupational safety among employees and to the implementation of targeted measures to encourage employees to take greater care when carrying out certain tasks. The average days of absence per accident at companies controlled by the Group stood at 9.7 and thus almost at the same level as in the previous year (9.6). The LTIF overall – including our subsidiaries in the area of waste management – fell more sharply in the reporting period than was the case for the LTIF for companies controlled by the Group. However, the average days of absence per accident was 12.5 days and was thus also above the value in the same period of the previous year (10.3).

In the first half of 2023, we once again held more **training courses** on occupational safety. As more of our employees are now working from home since the coronavirus pandemic, we launched a new training course on our online platform in January 2023 as part of our “BestWork” initiative (p. 39↗). This course also includes information on occupational safety for those employees working from home.

Forecast

In the following forecast we take a look at the expected development of EnBW in the current financial year.

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

Development in 2023 (adjusted EBITDA and the share of adjusted EBITDA accounted for by the segments) compared to the previous year[1]

	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	
	Forecast for 2023 according to IAR 2022	Current forecast for 2023	2022	2023	2022
Smart Infrastructure for Customers	€0.4 to €0.5 billion	↘	€498.4 million	5% to 15%	12.6%
System Critical Infrastructure	€1.6 to €1.9 billion	✓	€1,057.8 million	30% to 45%	26.7%
Sustainable Generation Infrastructure	€2.9 to €3.2 billion	↗	€2,616.2 million	55% to 70%	65.9%
Other/Consolidation			€-205.3 million		-5.2%
Total	€4.7 to €5.2 billion	(✓)	**€3,967.1 million**		**100.0%**

1 The figures for the previous year have been restated.

The adjusted EBITDA of the **Smart Infrastructure for Customers** segment will fall in 2023. The negative effects of the deconsolidation of bmp greengas and the associated impairments on receivables contained in the financial statements for the first half of 2023 will lead to a negative earnings performance for the year as a whole. In addition, we still anticipate falling volatility and believe the market for the B2B and B2C commodity business will normalize as a result of increasingly stiffer competition, although this will be offset to some extent by a stable or slightly improved result from the growth in our new business fields. Especially as a result of the negative effects described above, we anticipate that the adjusted EBITDA will fall below the forecasted range presented in the 2022 Group management report.

The forecast for the **System Critical Infrastructure** segment remains unchanged.

The adjusted EBITDA of the **Sustainable Generation Infrastructure** segment will increase further in 2023 and is expected to exceed the forecasted range. This development is not due to renewable energies, which should still contribute more than €1 billion to earnings and be at about the same level as in the previous year. The forecasts for wind and water yields, and thus for the volume of electricity generated, are based on the long-term average. As the volumes of electricity generated in 2022 were below this level, especially at the run-of-river power plants, we anticipate higher volumes in 2023 in comparison to the previous year. The moderate expansion in power plants for the uptake of renewable energies will also make a slightly positive contribution to earnings performance. This will be offset to some extent by lower prices in comparison to 2022.
Based on the adjusted EBITDA in the first half of 2023, we expect a significant increase in earnings for 2023 at the thermal power plants, which will exceed the forecasted range presented in the 2022 Group management report, whereby this earnings trend will not continue at the same level in the second half of 2023. Alongside the positive effect of the significantly higher sales prices for the generated volumes of electricity in comparison to the previous year, the financial statements for the first half of 2023 also include a positive effect from the extended operation of our Neckarwestheim II nuclear power plant until April 2023 and earnings from out-of-period billing. The earnings contribution from both of these effects will not increase further during the course of 2023. Moreover, there is still some uncertainty about a possible gas shortage in the coming winter and any resulting negative impact.

As a result of the current developments in the individual segments, the **adjusted EBITDA** for the EnBW Group in 2023 will be at the higher end of the forecasted range of between €4.7 billion and €5.2 billion presented in the 2022 Group management report.

Expected trends in the environment goal dimension

Key performance indicator

	2023	2022
CO_2 intensity in g/kWh[1]	-25% to -10%	491

1 The calculation for this performance indicator does not include nuclear generation and the share of positive redispatch that cannot be controlled by EnBW.

CO_2 intensity

In the Integrated Annual Report 2022, we forecasted that CO_2 intensity in 2023 would fall in the best-case scenario by 10% or increase in the worst-case scenario by 5% in comparison to 2022. In contrast to our original forecast for 2023, market prices were significantly lower with correspondingly narrower spreads in the first half of 2023 and this led to reduced deployment of our coal power plants. As a result, we now expect CO_2 intensity to fall more sharply than our originally forecasted range for 2023 and anticipate that the CO_2 intensity for the whole of 2023 will decrease by between 10% and 25% in comparison to 2022.

Aside from the expected development of CO_2 intensity, there were no other significant changes after the first half of 2023 to the non-financial performance indicators compared to the expectations formulated for the 2023 financial year in the Integrated Annual Report 2022 (Integrated Annual Report 2022, p. 129 ff.↗).

Opportunities and risks

The energy crisis and the associated rise in energy prices in the previous year are continuing to have an impact on our value-added chain and the individual segments as a result of fluctuating conditions. In comparison to the report issued at the end of 2022 and to the Quarterly Statement January to March 2023, the overall risk position of the EnBW Group remained stable until the middle of 2023 due to fact that any changes in risk were almost fully offset by changes in opportunities.

However, high prices and the limited availability of materials have continued to exacerbate the risks faced in the individual segments. Persistent inflation and the associated risk of payment defaults are also an issue. The risk of cyberattacks on critical infrastructure remains high.

Using the report on risks in the 2022 Group management report as a basis, only the material opportunities or risks in the respective segments which have significantly changed, arisen or ceased to exist in the reporting period are described in this Six-Monthly Financial Report January to June 2023. No risks currently exist that might jeopardize the EnBW Group as a going concern. A detailed presentation of the opportunity and risk position can be found in the Integrated Annual Report 2022 from p. 132↗ onwards.

The ranges used for classifying the level of opportunity/risk are as follows:

Classification of the level of opportunity/risk

	Adjusted EBITDA	Net debt
Low	< €200 million	< €600 million
Moderate	≥ €200 million to < €550 million	≥ €600 million to < €2,000 million
Significant	≥ €550 million to < €1,000 million	≥ €2,000 million to < €3,500 million
Material	≥ €1,000 million	≥ €3,500 million

Cross-segment opportunities and risks

Discount rate applied to pension provisions: There is generally opportunity and risk associated with any change in the discount rate applied to the pension provisions because the present value of the pension provisions falls when the discount rate increases and increases when the discount rate falls. As of the reporting date of 30 June 2023, the discount rate was 3.6%, which was down 0.1 percentage points on the rate at the end of 2022 (3.7%). Against the background of the expected development of interest rates, we identify a moderate level of risk and a significant level of opportunity for 2023. This will have an impact on net debt and thus on the key performance indicator debt repayment potential.

Sustainable Generation Infrastructure segment

Credit risk in energy trading: There is a risk that trading partners will fail to fulfill their financial obligations or be unable to fulfill them on time. Our credit management department counters this risk by monitoring credit lines very closely, conducting stress tests and introducing measures to reduce its impact. There is a low level of risk with an impact on the key performance indicator adjusted EBITDA for 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.

Availability of power plants: There is a general opportunity and risk that endogenous and exogenous factors will have an influence on the planned availability of our power plants and could thus increase or decrease earnings. There is a low level of opportunity and risk in 2023 associated with the pricing assumptions used for our planning. There is also an opportunity in the area of power plant optimization depending on the volatility of prices on the market. In addition, there is a low level of risk in 2023 related to the damage to Block 7 of the combined heat and power plant in Heilbronn. 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.

Expansion of major projects: There are uncertainties with respect to major projects until the time the final investment decision is taken due to changes that may be made to regulatory framework conditions. There may also be additional effects arising from increasing prices, a scarcity of materials and raw materials, and possible shortfalls in personnel. We have taken the decision to invest in one of our major projects. The residual risks could have a negative impact in the high three-digit million euro range in 2023 on capital employed and thus an impact on the key performance indicator value spread.

Power plant optimization: Following the conclusion of the hedging of generation activities, the Trading business unit now manages the further deployment of the power plants. This is being carried out as part of power plant optimization on the forward market, through the sale of system services and through placements on the spot and intraday trading platforms. We currently identify a high level of volatility due to prices on the market. There is a moderate level of opportunity and risk for 2023 with 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.

Eliminated opportunities/risks

The following opportunities/risks are no longer included in the reporting because, in comparison to the Integrated Annual Report 2022, they have now been taken into account in the planning, the level of opportunity/risk has reduced or they were reported under other individual topics:

- Additional expenses for the grid reserve and redispatch (no sustained effects on earnings expected)
- Risks to the procurement and supply chain in the sales environment

Six-monthly consolidated financial statements

Income statement

in € million	01/04–30/06/2023	01/04–30/06/2022	01/01–30/06/2023	01/01–30/06/2022
Revenue including electricity and energy taxes	10,856.7	13,519.5	26,954.4	27,403.8
Electricity and energy taxes	-141.8	-124.5	-268.3	-284.3
Revenue	**10,714.9**	**13,395.0**	**26,686.1**	**27,119.5**
Changes in inventories	79.2	20.2	92.3	56.7
Other own work capitalized	94.1	68.1	161.6	115.6
Other operating income [1]	195.5	2,895.0	3,536.6	4,905.1
Cost of materials	-8,347.0	-12,211.0	-21,183.7	-24,389.9
Personnel expenses	-655.2	-635.9	-1,328.7	-1,242.0
Impairment losses [2]	-151.0	-20.2	-176.4	-23.2
Other operating expenses	-750.7	-3,220.1	-2,653.8	-4,899.5
EBITDA	**1,179.8**	**291.1**	**5,134.0**	**1,642.3**
Amortization and depreciation	-789.2	-488.9	-1,213.4	-872.8
Earnings before interest and taxes (EBIT)	**390.6**	**-197.8**	**3,920.6**	**769.5**
Investment result	-12.7	75.3	33.6	141.6
of which net profit/loss from entities accounted for using the equity method	(-33.3)	(-16.3)	(-10.4)	(-2.4)
of which other profit/loss from investments	(20.6)	(91.6)	(44.0)	(144.0)
Financial result	-34.7	79.4	-147.0	36.6
of which finance income	(223.5)	(385.9)	(413.1)	(568.6)
of which finance costs	(-258.2)	(-306.5)	(-560.1)	(-532.0)
Earnings before tax (EBT)	**343.2**	**-43.1**	**3,807.2**	**947.7**
Income tax	-126.2	-44.4	-1,056.3	-274.8
Group net profit/loss	**217.0**	**-87.5**	**2,750.9**	**672.9**
of which profit/loss shares attributable to non-controlling interests	(-20.2)	(-45.1)	(225.1)	(109.0)
of which profit/loss shares attributable to the shareholders of EnBW AG	(237.2)	(-42.4)	(2,525.8)	(563.9)
EnBW AG shares outstanding (million), weighted average	**270.855**	**270.855**	**270.855**	**270.855**
Earnings per share from Group net profit/loss (€) [3]	**0.88**	**-0.16**	**9.33**	**2.08**

1 Includes reversals of impairment losses of €28.4 million (30/06/2022: €235.8 million).
2 According to IFRS 9.
3 Diluted and basic; in relation to profit/loss attributable to the shareholders of EnBW AG.

Statement of comprehensive income

in € million[1]	01/04–30/06/2023	01/04–30/06/2022	01/01–30/06/2023	01/01–30/06/2022
Group net profit/loss	**217.0**	**-87.5**	**2,750.9**	**672.9**
Revaluation of pensions and similar obligations	-37.7	1,248.2	-68.4	2,085.8
Income taxes on other comprehensive income	12.5	-367.2	23.3	-536.8
Total of other comprehensive income and expenses without future reclassifications impacting earnings	**-25.2**	**881.0**	**-45.1**	**1,549.0**
Currency translation differences	0.6	-0.3	20.3	30.0
Cash flow hedge	-209.4	405.0	-767.4	1,012.5
Financial assets at fair value in equity	8.3	-128.1	76.8	-233.0
Entities accounted for using the equity method	-0.4	1.0	-0.9	3.1
Income taxes on other comprehensive income	314.4	-87.5	207.4	-246.1
Total of other comprehensive income and expenses with future reclassifications impacting earnings	**113.5**	**190.1**	**-463.8**	**566.5**
Total other comprehensive income	**88.3**	**1,071.1**	**-508.9**	**2,115.5**
Total comprehensive income	**305.3**	**983.6**	**2,242.0**	**2,788.4**
of which profit/loss shares attributable to non-controlling interests	(-70.3)	(-48.2)	(151.4)	(201.4)
of which profit/loss shares attributable to the shareholders of EnBW AG	(375.6)	(1,031.8)	(2,090.6)	(2,587.0)

1 The figures for the previous year have been restated. The basis adjustments in inventories in cash flow hedges are no longer disclosed in total other comprehensive income. The figure for the previous year has been adjusted by the effect of the basis adjustments in the amount of €213.0 million (01/04-30/06/2022: €167.5 million) and of the deferred taxes in the amount of €–63.3 million (01/04-30/06/2022: €–49.7 million). Further information can be found in the statement of changes in equity.

Balance sheet

in € million	30/06/2023	31/12/2022
Assets		
Non-current assets		
Intangible assets	3,186.3	3,218.2
Property, plant and equipment	23,149.4	22,705.3
Entities accounted for using the equity method	1,435.1	1,134.0
Other financial assets	6,587.3	6,560.1
Trade receivables	337.0	329.4
Other non-current assets	1,841.3	2,957.6
Deferred taxes	68.8	79.4
	36,605.2	36,984.0
Current assets		
Inventories	2,423.8	3,835.7
Financial assets	939.3	1,348.3
Trade receivables	5,928.7	5,591.3
Other current assets	11,767.7	15,261.0
Cash and cash equivalents	6,462.6	6,475.6
	27,522.1	32,511.9
Assets held for sale	7.9	7.8
	27,530.0	32,519.7
	64,135.2	69,503.7
Equity and liabilities		
Equity		
Shares of the shareholders of EnBW AG		
Subscribed capital	708.1	708.1
Capital reserve	774.2	774.2
Revenue reserves	9,500.6	7,272.7
Treasury shares	-204.1	-204.1
Other comprehensive income	1.0	412.1
	10,779.8	8,963.0
Non-controlling interests	3,536.6	3,806.3
	14,316.4	12,769.3
Non-current liabilities		
Provisions	10,587.2	10,483.9
Deferred taxes	1,645.8	958.1
Financial liabilities	14,071.6	11,927.3
Other liabilities and subsidies	3,671.5	4,695.2
	29,976.1	28,064.5
Current liabilities		
Provisions	2,146.8	3,346.8
Financial liabilities	693.3	963.9
Trade payables	6,131.3	8,443.3
Other liabilities and subsidies	10,871.3	15,915.9
	19,842.7	28,669.9
	64,135.2	69,503.7

Cash flow statement

in € million [1]	01/01–30/06/2023	01/01–30/06/2022
1. Operating activities		
Group net profit	2,750.9	672.9
Income tax	1,056.2	274.8
Investment and financial result	113.5	-178.2
Amortization and depreciation	1,213.4	872.8
EBITDA	5,134.0	1,642.3
Change in provisions excluding obligations from emission allowances	-147.4	-45.0
Result from disposals	-3.0	-18.0
Other non-cash-relevant expenses/income	-548.5	-267.3
Change in assets and liabilities from operating activities	-4,085.0	209.3
Net balance of inventories and obligations from emission allowances	(37.9)	(-2,001.8)
Net balance of trade receivables and payables, services not yet invoiced and payments on account that have been made and received	(-3,181.9)	(1,278.3)
Net balance of other assets and liabilities	(-941.0)	(932.8)
Income tax paid	-426.2	-101.9
Cash flow from operating activities	**-76.1**	**1,419.4**
2. Investing activities		
Capital expenditure on intangible assets and property, plant and equipment	-1,369.1	-871.2
Disposals of intangible assets and property, plant and equipment	23.7	30.6
Cash received from subsidies for construction costs and investments	47.4	40.6
Cash paid for the acquisition of companies and interests in entities accounted for using the equity method as well as in joint operations	-89.9	-98.9
Cash received from the sale of companies and interests in entities accounted for using the equity method as well as in joint operations	0.0	24.7
Change in securities, financial investments and other financial assets	53.7	-647.2
Interest received	126.3	61.9
Dividends received	86.7	138.9
Cash flow from investing activities	**-1,121.2**	**-1,320.6**
3. Financing activities		
Interest paid	-161.5	-153.6
Dividends paid	-355.0	-311.0
Increase in financial liabilities	2,937.4	6,231.5
Repayment of financial liabilities	-1,022.5	-7,047.5
Repayment of lease liabilities	-84.3	-92.6
Cash received from capital increase of non-controlling interests	14.7	3.5
Cash paid for capital decrease of non-controlling interests	-12.1	-25.3
Other cash paid at non-controlling interests	-132.7	-132.2
Cash flow from financing activities	**1,184.0**	**-1,527.2**
Net change in cash and cash equivalents	**-13.3**	**-1,428.4**
Change in cash and cash equivalents due to changes in the consolidated companies	4.3	-3.2
Net foreign exchange difference and other changes in cash and cash equivalents	-4.0	21.4
Change in cash and cash equivalents	**-13.0**	**-1,410.3**
Cash and cash equivalents at the beginning of the period	6,475.6	6,653.1
Cash and cash equivalents at the end of the period	**6,462.6**	**5,242.8**

1 The figures for the previous year have been restated. Further information can be found in the section “Changes to the presentation of the cash flow statement” in the chapter “Changes in accounting policies”.

Statement of changes in equity

in € million[1]				Other comprehensive income							
	Subscribed capital and capital reserve	Revenue reserves	Treasury shares	Revaluation of pensions and similar obligations	Currency translation differences	Cash flow hedge	Financial assets at fair value in equity	Entities accounted for using the equity method	Shares of the shareholders of EnBW AG	Non-controlling interests	Total
As of 01/01/2022	**1,482.3**	**5,742.1**	**-204.1**	**-2,559.3**	**43.0**	**136.0**	**9.3**	**-1.9**	**4,647.4**	**3,851.9**	**8,499.3**
Other comprehensive income				1,529.9	24.8	629.1	-163.8	3.1	2,023.1	92.4	**2,115.5**
Group net profit		563.9							563.9	109.0	**672.9**
Total comprehensive income	**0.0**	**563.9**	**0.0**	**1,529.9**	**24.8**	**629.1**	**-163.8**	**3.1**	**2,587.0**	**201.4**	**2,788.4**
Derecognition in the cost of hedged items						-149.7			-149.7		**-149.7**
Dividends		-297.9							-297.9	-145.0	**-442.9**
Other changes[2]		0.0							0.0	-147.5	**-147.5**
As of 30/06/2022	**1,482.3**	**6,008.1**	**-204.1**	**-1,029.4**	**67.8**	**615.4**	**-154.5**	**1.2**	**6,786.8**	**3,760.8**	**10,547.6**
As of 01/01/2023	**1,482.3**	**7,272.7**	**-204.1**	**-799.5**	**94.6**	**1,270.8**	**-154.6**	**0.8**	**8,963.0**	**3,806.3**	**12,769.3**
Other comprehensive income				-46.4	54.1	-496.2	54.2	-0.9	-435.2	-73.7	**-508.9**
Group net profit		2,525.8							2,525.8	225.1	**2,750.9**
Total comprehensive income	**0.0**	**2,525.8**	**0.0**	**-46.4**	**54.1**	**-496.2**	**54.2**	**-0.9**	**2,090.6**	**151.4**	**2,242.0**
Derecognition in the cost of hedged items						24.2			24.2		**24.2**
Dividends		-297.9							-297.9	-320.5	**-618.4**
Other changes[2]		0.0							0.0	-100.6	**-100.6**
As of 30/06/2023	**1,482.3**	**9,500.6**	**-204.1**	**-846.0**	**148.7**	**798.8**	**-100.4**	**-0.1**	**10,779.8**	**3,536.6**	**14,316.4**

1 The figures for the previous year have been restated. A separate line item has been added below total comprehensive income to disclose the basis adjustments in inventories in cash flow hedges. This led to a reduction in total other comprehensive income for the previous year of €149.7 million.
2 Of which capital increases by minority shareholders of €14.7 million (previous year: €3.5 million). Of which capital reductions by minority shareholders of €104.8 million (previous year: €159.3 million).

Notes and explanations

General principles

The six-monthly financial statements of the EnBW Group are prepared according to the International Financial Reporting Standards (IFRS), the adoption of which is mandatory in the EU as of the reporting date. In addition, the related interpretations (IFRIC/SIC) are observed. Standards and interpretations that have not yet come into force have not been adopted.

The accounting policies applied for the six-monthly consolidated financial statements as of 30 June 2023, as well as the evaluation methods and input parameters for measuring fair value, are the same as those used for the consolidated financial statements as of 31 December 2022 with the exception of the new policies described below.

In accordance with IAS 34, the form of reporting chosen for the presentation of the consolidated financial statements of EnBW AG as of 30 June 2023 was shortened in comparison with that used for the consolidated financial statements as of 31 December 2022.

In addition to the income statement, the statement of comprehensive income, balance sheet, condensed cash flow statement and statement of changes in equity for the EnBW Group are presented separately. Rounding differences may occur due to the methods used to carry out the calculations.

Changes in accounting policies

Changes to the presentation of the cash flow statement

Changes to the presentation of the cash flow statement led to a restatement of the figures for the previous year as of 30 June 2022 in this interim report as follows:

in € million	01/01–30/06/2022 before restatement	Change	01/01–30/06/2022 after restatement
1. Operating activities			
Change in provisions excluding obligations from emission allowances	-45.0	–	-45.0
Change in assets and liabilities from operating activities	209.3	–	209.3
Net balance of inventories and obligations from emission allowances	-2,001.8	–	-2,001.8
Net balance of trade receivables and payables, services not yet invoiced and payments on account that have been made and received	1,288.4	-10.1	1,278.3
Net balance of other assets and liabilities	922.7	10.1	932.8
Cash flow from operating activities	**1,419.4**	**0.0**	**1,419.4**
2. Investing activities			
Change in securities, financial investments and other financial assets	-534.0	-113.2	-647.2
Cash flow from investing activities	**-1,207.4**	**-113.2**	**-1,320.6**
3. Financing activities			
Dividends paid	-422.4	111.4	-311.0
Increase in financial liabilities	6,156.5	75.0	6,231.5
Repayment of financial liabilities	-6,972.5	-75.0	-7,047.5
Cash paid for capital decrease of non-controlling interests	-159.3	134.0	-25.3
Other cash paid at non-controlling interests	–	-132.2	-132.2
Cash flow from financing activities	**-1,640.4**	**113.2**	**-1,527.2**
Net foreign exchange difference and other changes in cash and cash equivalents	21.4	–	21.4

Advance payments to third-party shareholders

There had already been a change as of the reporting date of 31 December 2022 in the presentation of how dividends and capital reductions in non-controlling interests are offset against short-term receivables from third-party shareholders. In the previous year, the latter arose from advance payments to third-party shareholders as a result of contractual arrangements. In addition, advance payments to third-party shareholders are now reported under cash flow from financing activities and no longer under cash flow from investing activities. This led to a restatement of the figures for the previous year as of 30 June 2022 in the current interim financial reporting period. Cash flow from investing activities fell by €113.2 million as of 30 June 2022 as a result of a decrease in the change in securities and financial investments of €113.2 million. In contrast, cash flow from financing activities increased by a total of €113.2 million. This was attributable to a decrease in paid dividends of €111.4 million and a decrease in cash paid for capital reductions in non-controlling interests of €134.0 million. This was offset to some extent by an increase in other payments to non-controlling interests of €132.2 million. These line items were entered in the cash flow statement as of the reporting date of 31 December 2022.

Payments on account made and received, and assets and liabilities

In this interim reporting period, the change in payments on account made and received, and in assets and liabilities is no longer reported in the change in net balance of other assets and liabilities. Instead, this change, is now presented in the change in net balance of trade receivables and payables. Accordingly, the name of the line item “net balance of trade receivables and payables” has been changed to “Net balance of trade receivables and payables, services not yet invoiced and payments on account made and received.” This change in presentation resulted in an increase in the figure for the previous year as of 30 June 2022 for “net balance of other assets and liabilities” of €10.1 million. The net balance of trade receivables and payables, services not yet invoiced and payments on account made and received decreased accordingly by €10.1 million. This change in presentation did not have any impact on either the change in assets and liabilities from operating activities overall or the cash flow from operating activities.

Cash receipts and payments relating to time deposits

The line items “Increase in financial liabilities” and “Repayment of financial liabilities” contained a net disclosure of the cash receipts and payments relating to time deposits up to the reporting date of 31 December 2022. The netting option according to IAS 7 is no longer being utilized for this as of the 2023 financial year in order to improve the presentation. As a result, the figures for the previous year as of 30 June 2022 for the line items “Increase in financial liabilities” and “Repayment of financial liabilities” increased in each case by €75 million. This change had no impact on the cash flow from financing activities.

Other changes to line items in the cash flow statement

In this interim reporting period, the line item “Changes in provisions” was renamed “Changes in provisions excluding obligations from emission allowances” and the line item “Inventories” within the item “Change in assets and liabilities from operating activities” was renamed “Net balance of inventories and obligations from emission allowances.” These changes were made for the purpose of clarification. The netting of the changes in inventories with the changes in obligations from emission allowances within the item “Change in assets and liabilities from operating activities” is due to the fact that the emission allowances have already been used at the time of the emissions, even if these allowances have not yet been returned to the government or have not yet been acquired.

Furthermore, the line item “Change in securities and financial investments” was renamed as “Change in securities, financial investments and other financial assets”. And the line items “Net foreign exchange difference” and “Change in cash and cash equivalents due to risk provisions” were merged into the line item “Net foreign exchange difference and other changes in cash and cash equivalents.”

First-time adoption of amended accounting standards

The International Accounting Standards Board (IASB) has adopted the following new standards and amendments to existing standards:

First-time adoption of amended accounting standards

Announcement	Title	Mandatory adoption for the EnBW Group	Expected impact on the EnBW consolidated financial statements
Amendments to IAS 1	Disclosure of Accounting Policies	1/1/2023	No material impact.
Amendments to IAS 8	Definition of Accounting Estimates	1/1/2023	No material impact.
Amendments to IAS 12	Income Taxes: Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction	1/1/2023	No material impact.
IFRS 17 and Amendments to IFRS 17	Insurance Contracts and Amendments to IFRS 17	1/1/2023	No material impact.
Amendments to IFRS 17	Initial Application of IFRS 17 and IFRS 9 – Comparative Information	1/1/2023	No material impact.

Effects of new accounting standards that are not yet mandatory

The IASB published the following amendments to standards whose adoption is not yet mandatory for the 2023 financial year. Their application in the future is subject to their endorsement by the EU into European law.

Effects of new accounting standards that are not yet mandatory

Announcement	Title	Mandatory adoption for the EnBW Group	Expected impact on the EnBW consolidated financial statements
Amendments to IAS 1	Classification of Liabilities as Current or Non-current	1/1/2024	No material impact.
Amendments to IAS 7 and IFRS 7	Supplier financing agreements	1/1/2024	No material impact.
Amendments to IAS 1	Non-current Liabilities with Covenants	1/1/2024	No material impact.
Amendments to IAS 12	International Tax Reform — Pillar Two Model Rules	1/1/2023 [1]	The effects are still being analyzed. We do not expect any material impact at this time.
Amendments to IFRS 16	Lease Liability in a Sale and Leaseback	1/1/2024	No material impact.

1 This date refers to the intended date of adoption according to the IASB. Endorsement by the EU into European law is still pending.

Supplementary taxes that result from the implementation of the “Tax Challenges Arising from the Digitalisation of the Economy - Global Anti-Base Erosion Model Rules (Pillar Two): Inclusive Framework on BEPS” guidelines (better known as the Pillar Two model rules) published by the OECD are not taken into account in the accounting of deferred income taxes, although the rules have already been transposed into national law in Great Britain. This is in line with the amendments to IAS 12 that were published by the IASB in May.

Exercise of judgment and estimates when applying accounting policies

In the second quarter, EnBW revised its expectations with respect to energy industry conditions and price trends in the relevant procurement and sales markets. We refer you to the sections “Other operating income” and “Amortization and depreciation” for more information.

The exercise of judgment and estimates when assessing the impact of the war between Russia and Ukraine and the associated substantial uncertainties are explained further in the section “Impact of the war between Russia and Ukraine on interim financial reporting.”

Impact of the war between Russia and Ukraine on interim financial reporting

The war between Russia and Ukraine is continuing to cause uncertainty on the energy market. It has resulted in, among other things, fluctuations in prices in the gas and electricity sector on the reporting dates and fluctuations in procurement costs. In addition, it is continuing to cause interruptions to the supply chain and rising inflation rates.

Due to the looming threat of a gas shortage, our coal-fired power plants were deployed more frequently in the second half of 2022 to ensure the security of supply. The supply situation in the gas sector had already improved by the end of 2022. This situation continued in the first half of 2023 and meant that the gas storage facilities were more than 40% full on average in April and prices on the wholesale market fell as a result. As a consequence, the thermal power plants were deployed less than planned in the first half of 2023. Our forward-looking hedging policies improved profitability also in the first half of 2023. The described effects have had an impact on the items "Other operating expenses" and "Other operating income" in particular.

As a result of the war between Russia and Ukraine and the associated shifts on the market, it was necessary for bmp greengas GmbH (bmp) to submit an application in accordance with section 270 a InsO on 25 May 2023 for the opening of protective shield proceedings. Due to shortfalls in the biomethane gas sector, the company plans to adjust existing contracts with customers to the changed procurement situation as part of a restructuring process. The protective shield proceedings will allow bmp to unilaterally terminate existing contracts and conclude new ones on the basis of the quantities of gas that can actually be procured and delivered. The application to open protective shield proceedings at bmp has now been granted. The company initiated the insolvency proceedings under its own management on 1 August 2023. As a result of this loss of control, it was necessary to deconsolidate bmp and also impair the receivables from this company. The described effects of €251 million had an impact on the items "Other operating expenses" and "Impairment losses" in the first half of 2023 in particular.

Despite the volatile market conditions, we remain committed to our strategic alignment.

Consolidated companies

All subsidiaries under the control of the Group are included in the consolidated financial statements in accordance with the full consolidation method. The equity method is used when there is a joint arrangement in the form of a joint venture or a significant influence may be exercised over the business policy of the associate, but the entity does not qualify as a subsidiary. Joint arrangements that are classified as joint operations are reported based on the proportion of the assets, liabilities, income and expenses which are attributable to the parent company in compliance with the respective applicable IFRS.

There are no reciprocal shareholdings in the EnBW Group as defined by section 19 (1) German Companies Act (AktG).

The consolidated companies are as follows:

Type of consolidation

Number of companies	30/06/2023	31/12/2022	30/06/2022
Fully consolidated companies	251	235	230
Entities accounted for using the equity method	26	26	27
Joint operations	3	3	3

As a consequence of opening protective shield proceedings at bmp, the EnBW Group lost control over the company in the sense of IFRS 10. Therefore, bmp was deconsolidated in the 2023 six-monthly financial statements. We refer you to the explanations in the section "Impact of the war between Russia and Ukraine on interim financial reporting."

Revenue

Alongside revenue from contracts with customers, there is other revenue from ordinary business activities. This is how it breaks down:

in € million	01/01–30/06/2023	01/01–30/06/2022
Revenue from contracts with customers	26,461.2	26,935.6
Other revenue	224.9	183.9
Total	**26,686.1**	**27,119.5**

The decrease of €433.4 million in revenue in comparison to the previous year to €26,686.1 million was primarily attributable to lower sales prices in the gas sector. This was offset to some extent by generated volumes of electricity sold at higher prices and by higher income from the use of the grids.

The following tables break down the revenue according to region and products.

External revenue by region

01/01–30/06/2023 in € million	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Generation Infrastructure	Other/ Consolidation	Total
Revenue from contracts with customers by region	10,339.3	3,301.7	12,806.7	13.5	26,461.2
Germany	(8,003.9)	(3,232.6)	(6,165.8)	(9.3)	(17,411.6)
European currency zone excluding Germany	(373.9)	(3.1)	(6,436.5)	(0.0)	(6,813.5)
Rest of Europe	(1,953.7)	(65.0)	(204.4)	(4.2)	(2,227.3)
Rest of world	(7.8)	(1.0)	(0.0)	(0.0)	(8.8)
Other revenue	0.0	224.0	0.9	0.0	224.9
Total	**10,339.3**	**3,525.7**	**12,807.6**	**13.5**	**26,686.1**

External revenue by region

01/01–30/06/2022 in € million[1]	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Generation Infrastructure	Other/ Consolidation	Total
Revenue from contracts with customers by region	9,516.2	2,949.6	14,464.4	5.4	26,935.6
Germany	(7,889.5)	(2,850.5)	(10,722.3)	(5.2)	(21,467.5)
European currency zone excluding Germany	(251.1)	(1.7)	(3,633.0)	(0.2)	(3,886.0)
Rest of Europe	(1,374.3)	(97.4)	(109.1)	(0.0)	(1,580.8)
Rest of world	(1.3)	(0.0)	(0.0)	(0.0)	(1.3)
Other revenue	0.0	182.8	1.1	0.0	183.9
Total	**9,516.2**	**3,132.4**	**14,465.5**	**5.4**	**27,119.5**

1 The figures for the previous year have been restated.

External revenue by product

01/01–30/06/2023 in € million	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Generation Infrastructure	Other/ Consolidation	Total
Revenue from contracts with customers by product	10,339.3	3,301.7	12,806.7	13.5	26,461.2
Electricity	(4,709.1)	(2,526.1)	(4,843.6)	(0.5)	(12,079.3)
Gas	(4,923.7)	(458.0)	(7,598.9)	(0.0)	(12,980.6)
Energy and environmental services/other	(706.5)	(317.6)	(364.2)	(13.0)	(1,401.3)
Other revenue	0.0	224.0	0.9	0.0	224.9
Total	**10,339.3**	**3,525.7**	**12,807.6**	**13.5**	**26,686.1**

External revenue by product

01/01–30/06/2022 in € million[1]	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Generation Infrastructure	Other/ Consolidation	**Total**
Revenue from contracts with customers by product	9,516.2	2,949.6	14,464.4	5.4	**26,935.6**
Electricity	(3,651.0)	(2,234.2)	(4,737.0)	(0.0)	**(10,622.2)**
Gas	(5,323.8)	(398.9)	(9,429.9)	(0.0)	**(15,152.6)**
Energy and environmental services/other	(541.4)	(316.5)	(297.5)	(5.4)	**(1,160.8)**
Other revenue	0.0	182.8	1.1	0.0	**183.9**
Total	**9,516.2**	**3,132.4**	**14,465.5**	**5.4**	**27,119.5**

1 The figures for the previous year have been restated.

One of the Polish subsidiaries was restructured at the beginning of 2023 in order to comply with the Polish energy industry regulations. The grid business at this company was previously reported in the "Smart Infrastructure for Customers" segment but will be part of the "System Critical Infrastructure" segment from the 2023 financial year onwards. The figures for the previous year have been restated accordingly.

Revenues mainly arise from goods supplied or services that are rendered over a particular time period.

Other operating income

The reversals of impairment losses included €28 million for one of the cash-generating units (gas storage facilities) in the Sustainable Generation Infrastructure segment. The recoverable amount is around €0.1 billion. This reversal of impairment losses was mainly due to improved earnings forecasts both in the medium and long term. In addition, a change to the expected service lives of the caverns, which were amended after a multi-year measurement cycle, also increased the value of these facilities. The discount rates used in the valuation were between 6.8% and 7.4% after tax and 9.6% and 10.5% before tax.

The reversals of impairment losses in the previous year were mainly carried out on a cash-generating unit for conventional power plants in the Sustainable Generation Infrastructure segment. The recoverable amount was around €-30 million. The reversal of impairment losses of €156 million was due to improved medium-term earnings forecasts as a result of the high gas and electricity prices. The regulations limiting gas-fired generation in the Substitute Power Plant Maintenance Act have also increased the anticipated deployment times for the coal-fired power plants.

In the Sustainable Generation Infrastructure segment, there were reversals of impairment losses on two offshore wind farms totaling €78 million in the previous year. These reversals were due to changed expectations for the medium- and long-term market conditions as a result of the developments on the commodity markets and in the area of climate protection. The recoverable amounts were around €0.9 billion.

The discount rates used in the valuations in the previous year were between 4.6% and 5.8% after tax and between 6.6% and 8.2% before tax for the conventional power plants and between 3.2% and 5.6% after tax and between 4.6% and 8.1% before tax for the offshore wind farms.

Amortization and depreciation

in € million	01/01–30/06/2023	01/01–30/06/2022
Amortization of intangible assets	131.5	140.5
Depreciation of property, plant and equipment	991.4	644.1
Depreciation of investment properties	0.4	0.5
Depreciation of right-of-use assets from leases	90.1	88.1
Reversals of investment cost subsidies	0.0	-0.4
Total	**1,213.4**	**872.8**

Impairment losses on intangible assets and property, plant and equipment were €371.2 million (previous year: €95.8 million), of which €35.3 million (previous year: €53.0 million) were on intangible assets and €335.9 million (previous year: €42.8 million) on property, plant and equipment.

In the current financial year, there were impairment losses of €198 million for a cash-generating unit for conventional power plants in the Sustainable Generation Infrastructure segment. The recoverable amount is around €2 billion. This write-down was mainly attributable to poorer medium-term earnings forecasts as a result of currently falling electricity prices. The discount rates used in the valuation were between 6.8% and 7.4% after tax and between 9.6% and 10.5% before tax (31 December 2022: between 6.7% and 7.0% after tax and between 9.6% and 9.9% before tax).

In addition, the impairment losses included €51 million for another cash-generating unit for conventional power plants in the Sustainable Generation Infrastructure segment. The recoverable amount is around €0.6 billion. These impairments were also mainly attributable to poorer medium-term earnings forecasts as a result of currently falling electricity prices. The discount rates used in the valuation were between 6.6% and 7.2% after tax and between 9.6% and 10.5% before tax (31 December 2022: between 6.5% and 6.7% after tax and between 9.4% and 9.8% before tax).

Impairment losses of €97 million were also recognized on two offshore wind farms in the Sustainable Generation Infrastructure segment. The recoverable amount is around €2.4 billion. The main reason for the impairments was the successively and fewer operating years with EEG funding. The discount rates were between 5.2% and 6.5% after tax and between 7.4% and 9.4% before tax (31 December 2022: between 5.1% and 6.8% after tax and between 7.3% and 9.8% before tax).

In the previous year, impairment losses were mainly recognized on one offshore wind farm in the Sustainable Generation Infrastructure segment in the amount of €60 million. The main reasons for the impairment were higher capital costs and the successively fewer operating years with EEG funding, which overcompensated for the positive effects of the long-term earnings expectations. The recoverable amount was around €2.3 billion.

In the previous year, there were impairment losses on goodwill of €32 million in the System Critical Infrastructure segment. These were made in part to goodwill at ZEAG Energie AG System Critical Infrastructure and in part to goodwill at HEV Hohenloher Energie Versorgung GmbH System Critical Infrastructure. The main reason for these impairment losses was the sharp increase in capital costs in this segment. The recoverable amounts were around €0.2 billion.

The discount rates used for the valuations in the previous year were 3.3% after tax and 4.7% before tax for transmission and distribution grids and between 3.2% and 5.6% after tax and between 4.6% and 8.1% before tax for offshore wind farms.

Investment result

In the current financial year, there was a write-down of €60 million on the shares in an entity accounted for using the equity method in the Sustainable Generation Infrastructure segment. This write-down was mainly attributable to poorer medium-term earnings forecasts as a result of currently falling electricity prices.

In the same period of the previous year, the write-downs on entities accounted for using the equity method of €21 million related to the joint venture in Turkey in the Sustainable Generation Infrastructure segment. The main reasons for this write-down were the increase in capital costs and the negative development of the US dollar exchange rate. The recoverable amount was around €0.2 billion. In the previous year, the discount rates used in the valuation were between 9.6% and 10.6% after tax and 12.0% and 13.3% before tax.

Dividends

On 3 May 2023, the Annual General Meeting of EnBW AG approved the proposal by the Board of Management and the Supervisory Board to distribute a dividend of €1.10 per share for the 2022 financial year. Dividends of €297.9 million were paid to shareholders on 8 May 2023. In the previous year, there was also a dividend of €1.10 per share distributed for the 2021 financial year.

Contingent liabilities and other financial commitments

Compared to 31 December 2022, contingent liabilities and other financial commitments decreased by €7,051.1 million to €36,029.1 million. This decrease was primarily attributable to lower purchase obligations for electricity, gas and hard coal as well as lower investment obligations for property, plant and equipment and lower payment obligations for orders.

Notes relating to fair value

The fair value of financial assets and financial liabilities is determined by reference to quoted market prices, insofar as the financial instruments are traded on an active market, or by using recognized valuation methods such as the discounted cash flow method. Where the parameters used in the valuation techniques are not supported by observable market data, assumptions need to be made which can affect the fair value of financial assets and financial liabilities.

The fair value and carrying amounts of the financial assets and financial liabilities under the individual balance sheet items are shown below.

Carrying amounts and fair value of financial instruments

in € million	30/06/2023			31/12/2022		
	Fair value	Not in scope of IFRS 7	Carrying amount	Fair value	Not in scope of IFRS 7	Carrying amount
Financial assets	6,862.1	664.5	7,526.6	7,268.1	640.3	7,908.4
Measured at fair value through profit or loss	(3,927.5)		(3,927.5)	(4,160.6)		(4,160.6)
Measured at fair value in equity	(1,904.3)		(1,904.3)	(1,774.6)		(1,774.6)
Measured at amortized cost	(1,030.3)		(1,030.3)	(1,332.9)		(1,332.9)
Trade receivables	6,265.7		6,265.7	5,920.7		5,920.7
Other assets	11,956.6	1,652.4	13,609.0	16,253.0	1,965.6	18,218.6
Measured at fair value through profit or loss	(10,232.8)		(10,232.8)	(12,892.6)		(12,892.6)
Measured at amortized cost	(1,420.8)		(1,420.8)	(2,823.5)		(2,823.5)
Derivatives designated as hedging instruments	(272.2)		(272.2)	(504.6)		(504.6)
Lease receivables	(30.8)		(30.8)	(32.3)		(32.3)
Cash and cash equivalents	6,462.6		6,462.6	6,475.6		6,475.6
Assets held for sale [1]	0.0	7.9	7.9	0.0	7.8	7.8
Total	**31,547.0**	**2,324.8**	**33,871.8**	**35,917.4**	**2,613.7**	**38,531.1**
Financial liabilities [2]	14,081.9		14,764.9	12,001.3		12,891.2
Trade payables	3,550.1	2,581.2	6,131.3	3,380.5	5,062.8	8,443.3
Other liabilities and subsidies	11,601.5	2,941.3	14,542.8	17,123.9	3,487.2	20,611.1
Held for trading	(8,136.5)		(8,136.5)	(10,836.1)		(10,836.1)
Measured at amortized cost	(2,290.1)		(2,290.1)	(5,079.6)		(5,079.6)
Derivatives designated as hedging instruments	(254.7)		(254.7)	(295.7)		(295.7)
Lease liabilities	(920.2)		(920.2)	(912.5)		(912.5)
Total	**29,233.5**	**5,522.5**	**35,439.0**	**32,505.7**	**8,550.0**	**41,945.6**

1 This mainly refers to a non-recurring measurement of the fair value due to the application of IFRS 5.
2 The fair value of bonds and liabilities to banks must be allocated to hierarchical level 1 (30/06/2023: €9,673.0 million, 31/12/2022: €7,820.5 million) and hierarchical level 2 (30/06/2023: €4,408.9 million, 31/12/2022: €4,180.8 million), respectively €297.6 million of the bonds are held in fair value hedging relationships (31/12/2022: €301.7 million).

The individual levels of the valuation hierarchy are as follows:

- Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2: Methods for which all input parameters that have a significant effect on the recorded fair value are observable, either directly or indirectly
- Level 3: Methods that use input parameters which have a material impact on the recorded fair value and are not based on observable market data

At the end of each reporting period it is determined whether there is any reason to reclassify between the levels of the valuation hierarchy. A reclassification is carried out if the valuation method for measuring fair value is changed and the input factors with significance for the valuation will result in allocation to a different level. Due to the fact that prices quoted by brokers are used, securities with a fair value of €9.9 million (31 December 2022: €200.5 million) were reclassified from Level 1 to Level 2 and securities with a fair value of €24.1 million (31 December 2022: €19.7 million) were reclassified from Level 2 to Level 1 in the six-monthly financial statements.

Counterparty default risk is taken into account when measuring the fair value of derivative financial instruments. Default risk with respect to an individual counterparty is calculated on the basis of the net risk position. For information on the valuation method and the input parameters used, please refer to the explanations in the section "Accounting for financial instruments" in the Integrated Annual Report 2022 (p. 238 f.↗).

Hierarchy of input data

in € million	30/06/2023 Level 1	Level 2	Level 3	31/12/2022 Level 1	Level 2	Level 3
Financial assets	2,679.6	898.1	2,254.1	2,698.1	932.4	2,304.7
Measured at fair value through profit or loss	(1,088.1)	(585.3)	(2,254.1)	(1,251.7)	(604.2)	(2,304.7)
Measured at fair value in equity	(1,591.5)	(312.8)		(1,446.4)	(328.2)	
Other assets		10,505.0		0.1	13,397.1	
Measured at fair value through profit or loss		(10,232.8)			(12,892.6)	
Derivatives designated as hedging instruments		(272.2)		(0.1)	(504.5)	
Total	**2,679.6**	**11,403.1**	**2,254.1**	**2,698.2**	**14,329.5**	**2,304.7**
Other liabilities and subsidies		8,391.2			11,131.8	
Held for trading		(8,136.5)			(10,836.1)	
Derivatives designated as hedging instruments		(254.7)			(295.7)	
Total	**0.0**	**8,391.2**	**0.0**	**0.0**	**11,131.8**	**0.0**

The following table shows the development of the financial instruments to be accounted for at fair value in accordance with Level 3:

in € million	As of 01/01/2023	Changes recognized through profit or loss	Changes recognized in equity	Additions	Disposals	As of 30/06/2023
Financial assets	2,304.7	-28.0	3.2	94.7	-120.5	2,254.1

Unrealized changes recognized through profit or loss for financial assets of € -28.0 million (previous year: €120.0 million) were recognized in the financial result and relate to financial instruments held in the financial year. In the first six months of the year, there were realized changes recognized through profit or loss recognized in the investment result and financial result of €36.7 million (previous year: €124.3 million). of which €44.4 million (previous year: €122.8 million) is accounted for by financial instruments still held on the reporting date.

The premises for determining the price risks associated with the financial instruments measured at fair value in accordance with Level 3 were 1.0% for investments in real estate and infrastructure funds (31 December 2022: 1.0%) and 10.0% for other financial instruments (31 December 2022: 10.0%). In the risk scenario in question, the net profit/loss for the year would improve by €101.5 million (31 December 2022: €102.9 million). A decrease of the same amount would have an opposite effect.

In the context of our energy trading activities, EnBW enters into energy trading contracts for the purpose of price risk management, optimization of power plants, load equalization and optimization of margins. Trading for own account is only permitted within narrow, clearly defined boundaries. The price risks mostly arise from the procurement and sale of electricity, the procurement of coal, gas and oil as fuels, and the procurement of emission allowances. Furthermore, EnBW is exposed to price risks from speculative items entered into in own-account trading. The price risks are hedged using appropriate financial instruments on the basis of continuously monitored forecasts of market prices.

The hedging instruments used in the first half of the year were forwards, futures, swaps and options. The sensitivity of the measurement of derivatives to the price of electricity, coal, oil, gas and emission allowances is analyzed below. The analysis was made assuming that all other parameters remain unchanged. It includes only derivatives whose changes in market value affect equity or the net profit/loss for the year. These are derivatives that are accounted for as stand-alone derivatives as well as derivatives used as hedging instruments in cash flow hedges.

For all commodities, typical volatilities were determined and rounded on the basis of the front year. These volatilities give the percentage rate by which the market price is shifted on the evaluation date. For all commodities, the resulting changes in market prices are multiplied by the sensitivities and aggregated for each commodity.

The analysis does not include any derivatives that are intended for the purpose of receipt or delivery of a non-financial item in accordance with the entity's expected purchase, sale or usage requirements (own use), and hence are not required to be accounted for in accordance with IFRS 9. Our generation and distribution positions are not included in the analysis either.

The sensitivities presented below therefore do not represent the actual economic risks to which the EnBW Group is exposed but rather serve solely to satisfy the disclosure requirements of IFRS 7.

The information presented in the table shows only the effects of the price risks on the six-monthly net profit/loss and on equity. A change in price of the same amount in the other direction would have an opposite, positive effect.

Price risks

in € million			30/06/2023	31/12/2022
Electricity	+70% (previous year: +80%)	Profit for the year	-112.0	-924.4
	+70% (previous year: +80%)	Equity	-585.5	-1,750.9
Coal	+60% (previous year: +90%)	Profit for the year	-182.3	-809.3
	-60% (previous year: -90%)	Equity	-147.1	-855.5
Oil	-25% (previous year: -30%)	Profit for the year	-5.0	-24.6
	-25% (previous year: -30%)	Equity	-3.1	-4.5
Gas	+70% (previous year: +90%)	Profit for the year	-378.2	-34.8
	-70% (previous year: -90%)	Equity	-406.8	-530.7
Emission allowances	+40% (previous year: -50%)	Profit for the year	-5.0	-314.0
	-40% (previous year: -50%)	Equity	-1,130.7	-1,373.3

EnBW has investments in shares, share-based investment funds, fixed-income securities and investments in private equity companies that pose price risks for the company, which include, among other things, currency risk. When selecting securities, the company always attaches particular importance to high marketability and a good credit rating. As of the reporting date of 30 June 2023, shares, share-based investment funds, fixed-income securities and investments in private equity companies totaling €5,260.3 million (31 December 2022: €5,415.7 million) were exposed to market risk.

The effects of price risks from shares, share-based investment funds, interest-bearing securities and investments in private equity companies (real estate, infrastructure and private equity funds) on the six-monthly net profit/loss and on equity are analyzed below. For information on the assumptions made in the analysis, please refer to the explanations in the section "Accounting for financial instruments" in the Integrated Annual Report 2022 (p. 238↗). The premises on which the sensitivity analysis is based are 10.0% for shares, share-based investment funds and investments in private equity funds (31 December 2022: 10.0%) and 1.0% for interest-bearing securities and investments in real estate and infrastructure funds (31 December 2022: 1.0%).

In the risk scenario in question, the six-monthly net profit/loss would improve by €151.9 million (31 December 2022: €153.1 million). The hypothetical change in profit/loss for the year is primarily due to shares, share-based investment funds and investments in private equity companies. In the risk scenario in question, the equity would increase by €16.0 million (31 December 2022: €15.2 million). Of the hypothetical change in equity, €16.0 million (31 December 2022: €15.2 million) is accounted for by fixed-income securities. The information presented shows only the effects on the six-monthly net profit/loss and on equity in the case of an increase in the values of shares, share-based investment funds, interest-bearing securities and investments in private equity companies. A reduction of the same amount would have the opposite effect.

Segment reporting

01/01–30/06/2023

in € million	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Generation Infrastructure	Other/ Consolidation	Total
External revenue	10,339.3	3,525.7	12,807.6	13.5	**26,686.1**
Internal revenue	618.9	912.6	4,506.1	-6,037.6	**0.0**
Total revenue	10,958.2	4,438.3	17,313.7	-6,024.1	**26,686.1**
Adjusted EBITDA	20.9	1,021.2	2,607.0	-150.8	**3,498.3**
EBITDA	12.7	1,285.3	3,892.5	-56.5	**5,134.0**
Adjusted EBIT	-65.0	695.9	2,206.8	-181.6	**2,656.1**
EBIT	-73.2	959.2	3,121.9	-87.3	**3,920.6**
Scheduled amortization and depreciation	-85.8	-325.4	-400.2	-30.8	**-842.2**
Impairment losses	0.0	-0.8	-370.5	0.0	**-371.3**
Capital employed as of 30/06/2023	2,132.2	13,396.2	11,465.7	622.3	**27,616.4**

01/01–30/06/2022

in € million[1]	Smart Infrastructure for Customers	System Critical Infrastructure	Sustainable Generation Infrastructure	Other/ Consolidation	Total
External revenue	9,516.2	3,132.4	14,465.5	5.4	**27,119.5**
Internal revenue	725.9	1,156.3	3,437.5	-5,319.7	**0.0**
Total revenue	10,242.1	4,288.7	17,903.0	-5,314.3	**27,119.5**
Adjusted EBITDA	103.1	599.5	1,551.5	-130.2	**2,123.9**
EBITDA	-91.3	569.2	1,204.4	-40.0	**1,642.3**
Adjusted EBIT	23.2	282.9	1,196.8	-156.0	**1,346.9**
EBIT	-171.2	217.2	789.3	-65.8	**769.5**
Scheduled amortization and depreciation	-79.9	-316.6	-354.8	-25.7	**-777.0**
Impairment losses	0.0	-35.4	-60.4	0.0	**-95.8**
Capital employed as of 31/12/2022	1,863.9	12,427.0	10,217.9	469.6	**24,978.4**

1 The figures for the previous year have been restated.

One of the Polish subsidiaries was restructured at the beginning of 2023 in order to comply with the Polish energy industry regulations. The composition of our segments has changed as a result. Please refer to the section "Revenue" for further information. In addition, there was a change in presentation of valuation effects arising from certain hedging transactions, which we use to hedge against price fluctuations for underlying assets such as our power plants. In contrast to the underlying assets, these hedging transactions have to be recognized at their fair value in accordance with IFRS 9. This results in temporary earnings effects that are reversed over the course of time. As the one-sided recognition of the market value of these hedging transactions does not properly reflect the economic reality, we now recognize these effects in the non-operating result starting from the first half of 2023. The figures for the comparative periods have been restated in each case.

The Smart Infrastructure for Customers segment comprises the sale of electricity and gas, the provision and expansion of quick-charging infrastructure and digital solutions for electromobility, activities in the telecommunications sector and static storage systems in conjunction with photovoltaics. The System Critical Infrastructure segment encompasses the value-added stages of transmission and distribution of electricity and gas. Our activities in this segment are designed to guarantee the security of supply and system stability. In addition, the provision of grid-related services and the supply of water is reported in the System Critical Infrastructure segment. The Sustainable Generation Infrastructure segment comprises the areas of Renewable Energies and Thermal Generation and Trading. Renewable Energies includes project development, project planning and the construction and operation of power plants based on renewable energies. Thermal Generation and Trading encompasses conventional electricity generation and the trading of electricity, gas, CO_2 allowances and fuels. In order to guarantee the security of supply, we maintain the power plants that have been transferred to the grid reserve. Thermal Generation and Trading also includes the storage of gas, district heating, waste management and the provision of energy services.

Internal and total revenue reported under “Other/Consolidation” mainly refers to consolidation effects. In particular, activities that cannot be attributed to the separately presented activities of the segments are disclosed in the other performance indicators here.

Segment reporting is based on internal reporting.

The segment figures have been determined in accordance with the accounting policies used in the consolidated financial statements. Internal revenue shows sales between Group companies. Sales between the segments were made at market prices.

Adjusted EBITDA is one of the key internal performance indicators. Adjusted EBITDA is an earnings ratio before the investment and financial results, income taxes and amortization, adjusted for non-operating effects, which accurately reflects the development of results of operations. In the management report, the performance of the segments is explained with the aid of adjusted EBITDA.

Adjusted EBITDA can be reconciled to earnings before taxes (EBT) as follows:

in € million[1]	01/01–30/06/2023	01/01–30/06/2022
Adjusted EBITDA	3,498.3	2,123.9
Non-operating EBITDA	1,635.7	-481.6
EBITDA	**5,134.0**	**1,642.3**
Amortization and depreciation	-1,213.4	-872.8
Earnings before interest and taxes (EBIT)	**3,920.6**	**769.5**
Investment result	33.6	141.6
Financial result	-147.0	36.6
Earnings before tax (EBT)	**3,807.2**	**947.7**

1 The figures for the previous year have been restated.

Significant events in the reporting period

Following an amendment to the Energy Industry Act (section 24b) in response to the extraordinary development of prices on the energy and raw materials markets and for the purpose of reducing the burden on end consumers, the German transmission system operators are now able to receive subsidies to finance some of their transmission grid costs in 2023. In this context, Transnet BW received around €573 million in the first half of 2023 that was recognized as revenue through profit or loss.

In May, EnBW sold a minority shareholding of 24.95% in one of its subsidiaries – the transmission grid operator TransnetBW – to Südwest Konsortium Holding GmbH. The transaction is expected to close during the second half of the year. KfW has an option to acquire a second minority stake, also of 24.95%, which it can exercise in the coming weeks at the market terms established in the sale process. In any event, EnBW will remain the majority shareholder of TransnetBW.

In addition, EnBW agreed leases in the reporting period that have not yet begun totaling €1.2 billion in order to manage its gas procurement contracts.

Significant events after the reporting date

With effect from the end of July 2023, EnBW has sold 49.9% of its shares in the He Dreiht offshore wind farm with a capacity of 960 MW before the start of construction to a consortium consisting of Allianz Capital Partners on behalf of the Alliance companies, AIP and Norges Bank Investment Management. Several long-term power purchase agreements (PPAs) have already been concluded for the distribution of the electricity.

Certification following auditor's review

To EnBW Energie Baden-Württemberg AG, Karlsruhe

We have reviewed the interim condensed consolidated financial statements of EnBW Energie Baden-Württemberg AG, Karlsruhe, which comprise the income statement, statement of comprehensive income, balance sheet, condensed cash flow statement, statement of changes in equity and selected explanatory notes, and the interim group management report for the period from 1 January to 30 June 2023, which are part of the half-year financial report pursuant to Sec. 115 WpHG ["Wertpapierhandelsgesetz": German Securities Trading Act]. Management is responsible for the preparation of the interim condensed consolidated financial statements in accordance with IFRSs on interim financial reporting as adopted by the EU and of the interim group management report in accordance with the requirements of the WpHG applicable to interim group management reports. Our responsibility is to issue a report on the interim condensed consolidated financial statements and the interim group management report based on our review.

We conducted our review of the interim condensed consolidated financial statements and of the interim group management report in compliance with German Generally Accepted Standards for the Review of Financial Statements promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Those standards require that we plan and perform the review to obtain a certain level of assurance in our critical appraisal to preclude that the interim condensed consolidated financial statements are not prepared, in all material respects, in accordance with IFRSs on interim financial reporting as adopted by the EU and that the interim group management report is not prepared, in all material respects, in accordance with the requirements of the WpHG applicable to interim group management reports. A review is limited primarily to making inquiries of the Company's employees and analytical assessments and therefore does not provide the assurance obtainable from an audit of financial statements. Since, in accordance with our engagement, we have not performed an audit of financial statements, we cannot issue an auditor's report.

Based on our review, nothing has come to our attention that causes us to believe that the interim condensed consolidated financial statements are not prepared, in all material respects, in accordance with IFRSs on interim financial reporting as adopted by the EU or that the interim group management report is not prepared, in all material respects, in accordance with the provisions of the WpHG applicable to interim group management reports.

Stuttgart, 9 August 2023

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Prof. Dr. Kuhn	Müller
Wirtschaftsprüfer	Wirtschaftsprüferin
(German Public Auditor)	(German Public Auditor)

Declaration of the legal representatives

We assure to the best of our knowledge that, in accordance with the accounting principles applicable for six-monthly financial reporting, the six-monthly consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the Group and that the interim Group management report gives a true and fair view of the business development including the result and situation of the Group and also describes the significant opportunities and risks relating to the anticipated development of the Group in the remaining financial year.

Karlsruhe, 9 August 2023

EnBW Energie Baden-Württemberg AG

Schell　　Güsewell　　Kusterer

Rückert-Hennen　　Dr. Stamatelopoulos

Financial calendar

Q1–Q2

11 August 2023
Publication of the Six-Monthly Financial Report
January to June 2023

Q1–Q3

13 November 2023
Publication of the Quarterly Statement
January to September 2023

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Please also note the important information relating to all of our publications which is also valid for this report. This information can be found on the EnBW website at www.enbw.com/disclaimer-en. This Quarterly Statement can be downloaded in German or English. Only the German version is authoritative.