

The EnBW Group

Finance and strategy goal dimensions

Results of operations

Electricity sales as in previous year, gas sales increase significantly

Electricity sales volume (without System Critical Infrastructure)

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

Electricity sales in the 2021 financial year were at the same level as in the previous year. In a persistently challenging competitive environment, electricity sales to retail and commercial customers (B2C) remained at the same level as in the previous year. In contrast, sales to business and industrial customers (B2B) increased significantly. Sales in the trading sector were slightly lower than in the previous year.

Gas sales volume (without System Critical Infrastructure)

in billion kWh	Smart Infrastructure for Customers		Sustainable Generation Infrastructure		Total (without System Critical Infrastructure)		Change in %
	2021	2020	2021	2020	2021	2020	
Retail and commercial customers (B2C)	18.3	17.1	0.0	0.0	18.3	17.1	7.0
Business and industrial customers (B2B)	246.6	199.7	0.0	0.0	246.6	199.7	23.5
Trade	1.2	0.3	228.9	224.4	230.1	224.7	2.4
Total	266.1	217.1	228.9	224.4	495.0	441.5	12.1

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

Significant increase in revenue, especially from trading activities

External revenue by segment

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

¹ After deduction of electricity and energy taxes.

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

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

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

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

Material developments in the income statement

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

Earnings

The Group net profit/loss attributable to the shareholders of EnBW AG decreased from €596.1 million in 2020 by €232.9 million to €363.2 million in the reporting period. Earnings per share amounted to €1.34 in the 2021 financial year, compared to €2.20 in the previous year.

Adjusted earnings and non-operating result

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

Adjusted EBITDA and the share of the adjusted EBITDA accounted for by the segments**TOP****Adjusted EBITDA by segment**

in € million	2021	2020	Change in %	Forecast 2021
Smart Infrastructure for Customers	323.1	335.0	-3.6	300 to 375
System Critical Infrastructure	1,288.5	1,346.6	-4.3	1,300 to 1,400
Sustainable Generation Infrastructure	1,535.1	1,277.8	20.1	1,375 to 1,475
Other/Consolidation	-187.4	-178.2	5.2	-
Total	2,959.3	2,781.2	6.4	2,825 to 2,975

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

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

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

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

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

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

Adjusted EBITDA Sustainable Generation Infrastructure

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

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

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

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

Non-operating EBITDA

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

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

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

Considerable decrease in Group net profit

Group net profit

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

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

We use the amended adjusted investment result to calculate the value added. This is calculated on the basis of the adjusted investment result less the adjusted result from investments held as financial assets of €133.7 million (previous year: €69.6 million).

Financial position

Financial management

Basis and objectives

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

The liquidity management system at EnBW is based on an efficient inhouse bank [?] approach in which liquidity is combined in an EnBW cash pool. Using a newly developed forecasting tool, liquidity needs are transparently measured against liquidity sources in order to determine the financing needs. Almost 100 relevant liquidity drivers were identified for the forecast. The tool combines a deterministic approach with a risk-based approach to liquidity management. Daily operational management of liquidity is secured using a seven-day and three-month assessment. We also examine the situation over a period of twelve months in our strategic financial analysis.

In the operating business, derivatives [?] are deployed for hedging purposes only: for example, for forward contracts for electricity and primary energy source trading. This also applies for foreign exchange and interest rate derivatives. All trading activities take place within a consistent framework using risk capital on the one hand and derived limits on the other. The risk capital for trading is approved by the entire Board of Management of EnBW on an annual basis. The risk capital used for own trading stood at €130 million (previous year: €60 million).

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

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

As part of the EnBW-wide digital transformation, the treasury IT landscape [?] including the payment transaction system is being replaced. The aim is to achieve greater automation and more stable processes. In addition, new and amended governance rules will be implemented.

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

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

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

A target level of 12% should enable the company to exploit growth opportunities while maintaining the creditworthiness of the company at the same time. This target level is reviewed on a regular basis to guarantee a solid investment-grade rating.

Further explanations of our financial terms can be found in the chapter “Strategy, goals and performance management system” on p. 47⁷.

Ratings

We aim to hold solid investment-grade ratings ⁸ in order to:

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

Development of credit ratings – rating/outlook

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

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

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

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

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

Assessment by the rating agencies

Moody's (18/05/2021)

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

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

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

Financing strategy

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

Alongside the internal financing capability and our own funds, we have the following financing instruments at our disposal to cover the financing needs for the operating business:

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

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

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

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

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

Capital market activities in 2021

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

To implement our sustainable corporate strategy, we use green bonds as a sustainable financing instrument. We have already issued green bonds [?] with a total volume of €2.5 billion. They are exclusively used to finance climate-friendly projects, which means that all of the proceeds are invested in sustainable environmental and climate protection projects. All of our green bonds fulfill the criteria for certification by the Climate Bonds Standard Board [?] on behalf of the Climate Bonds Initiative [?]. To gauge the requirements of the capital market with respect to ESG, we held dedicated ESG discussions with prominent investors from England, France and Germany in 2021. We want to hold these discussions on a regular basis so that we can provide our investors with detailed information on the transformation of EnBW and respond to any changes more quickly.

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

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

[Online ↗](#)

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

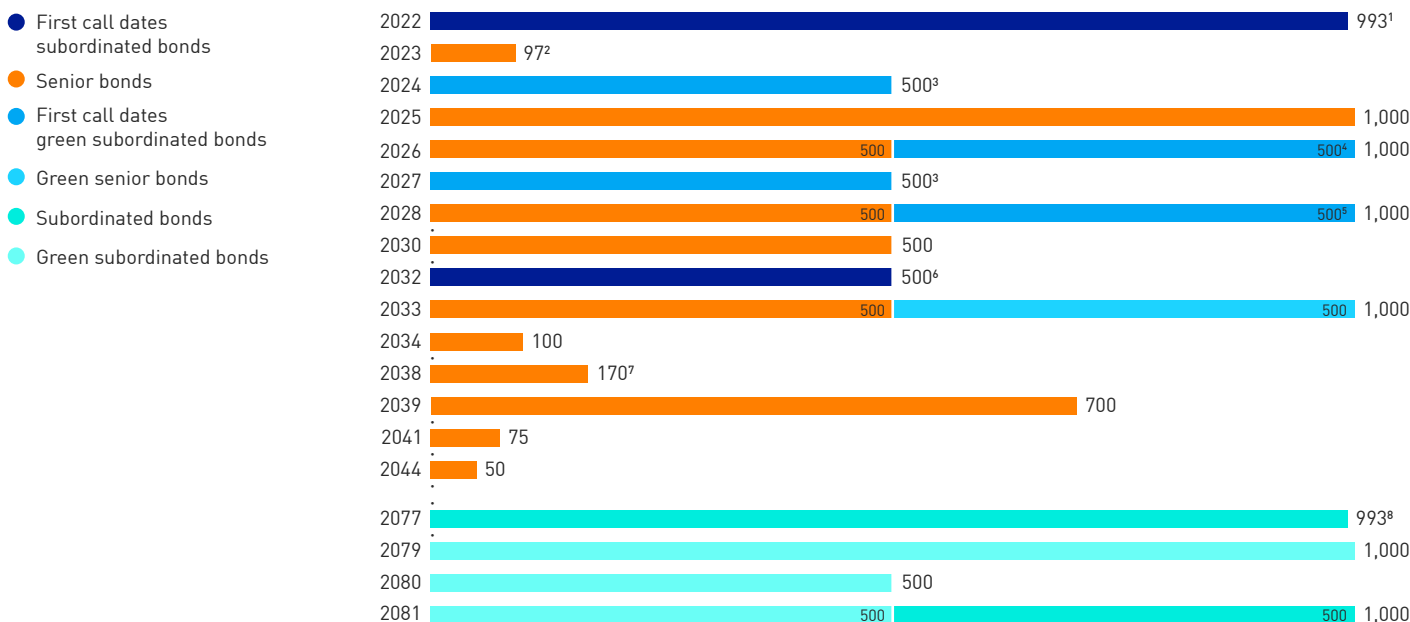
EnBW issued two subordinated bonds at the end of August, one of which was a green bond. The bonds each have a volume of €500 million and a term of 60 years. The proceeds from the green subordinated bond will be exclusively used to finance climate-friendly projects in the area of offshore wind, onshore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

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

On 5 December 2021, we issued a call notification for the subordinated bonds that were issued in September 2016. The euro subordinated bond with a volume of €725 million and the US dollar subordinate bond with a volume of US\$300 million were redeemed at the earliest possible date on 5 January 2022 in accordance with their terms at their principal amounts plus interest accrued.

EnBW thus has a well-balanced maturity profile.

Maturity profile of EnBW bonds in € million



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

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

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

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

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

6 First call date: subordinated bond maturing in 2081.

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

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

Asset liability management model

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

The aim is to cover the Group's pension and nuclear provisions within an economically feasible period of time by means of appropriate financial assets. We ensure this using our cash flow-based asset liability management model. For this purpose, we determine the effects on the cash flow statement, income statement and balance sheet over the next 30 years. Alongside the anticipated return on financial assets, actuarial reports on pension provisions and sector-specific appraisals by external experts on costs for nuclear decommissioning and disposal are taken into account. The aim of this model is to limit the impact the utilization of the pension and nuclear obligations may have on the operating business to €300 million (plus an inflation supplement) a year by taking funds from the financial assets. In the 2021 financial year, the impact on the cash flow from operating activities was €360 million. As soon as the provisions are fully covered by the financial assets, no further funds will be taken from the cash flow from operating activities as part of the model. This model also allows simulations of various alternative scenarios.

As of 31 December 2021, the dedicated financial assets [?] for pension and nuclear provisions totaled €6,477.2 million (previous year: €6,220.3 million). Alongside the dedicated financial assets, there are plan assets to cover certain pension obligations with a market value of €869.9 million as of 31 December 2021 (previous year: €949.9 million).

We strive to reach the defined investment targets with minimum risk. We also further optimized the risk/return profile of the financial assets in 2021. The main part of the dedicated financial assets is distributed as investments across nine asset classes. The financial assets are bundled in two master funds with the following investment targets:

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

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

Net debt

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

Net debt

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

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

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

3 Less the market value of the plan assets (excluding the surplus cover from benefit entitlements) of €869.9 million (31/12/2020: €949.9 million).

4 Includes equity investments held as financial assets.

Investment analysis

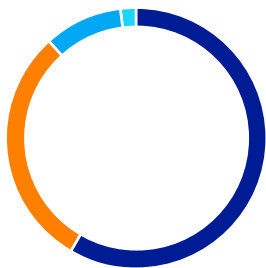
Net cash investment

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

1 Excluding investments held as financial assets.

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

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

Investment by segment
in %

- 58.6 System Critical Infrastructure (2020: 55.7)
- 29.8 Sustainable Generation Infrastructure (2020: 28.5)
- 9.8 Smart Infrastructure (2020: 9.8)
- 1.8 Other (2020: 6.0)

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

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

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

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

Investments in Sustainable Generation Infrastructure

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

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

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

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

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

We also take climate goals into account in our investment decisions. For this purpose, we have adapted our investment guidelines: Significant investment projects now undergo additional steps to evaluate their sustainability. This additional information flows into the approval processes carried out by the investment committee and Board of Management (p. 47f.⁷).

Liquidity analysis

Condensed cash flow statement

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

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

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

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

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

Retained cash flow

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

Funds from operations (FFO) [?] were higher than the level in the previous year, which was mainly due to the higher EBITDA [?] and higher interest and dividends received. The additions to the provisions for onerous contracts for electricity procurement agreements also had a positive effect on FFO. This was offset to some extent by higher non-cash-relevant income. Despite the higher dividends paid, the increased FFO led to an increase in retained cash flow [?]. The retained cash flow is an expression of the internal financing capability [?] of EnBW and reflects the funds that are available to the company

for investment – after all stakeholder claims have been settled – without the need to raise additional debt.

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Debt repayment potential

in € million	2021	2020	Change in %
Retained cash flow	1,783.8	1,638.5	8.9
Net debt	8,786.1	14,406.5	-39.0
Adjusted net debt ¹	(10,351.3)	(13,777.2)	-24.9
Debt repayment potential in %	20.3	11.4	-
Adjusted debt repayment potential in % ¹	(17.2)	(11.9)	-

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

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

Net assets

Condensed balance sheet

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

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

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

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

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ROCE and value added

The cost of capital before tax represents the minimum return on average capital employed [?] (calculated on the basis of the respective quarterly figures for the reporting year and the year-end figure for the previous year). Positive value is added when the return on capital employed (ROCE [?]) exceeds the cost of capital. The cost of capital is determined based on the weighted average cost of equity and debt together. The value of equity is based here on a market valuation and thus deviates from the value recognized in the balance sheet. The cost of equity is based on the return of a risk-free investment and a company-specific risk premium. The latter is calculated as the difference between a risk-free investment and the return for the overall market, weighted with a company-specific business field risk. The terms according to which the EnBW Group can raise long-term debt are used to determine the cost of debt.

Value added by segment 2021

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

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

Value added for 2020 by segment ¹

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

¹ The figures for the previous year have been restated.

² Amended adjusted investment result of €41.6 million, adjusted for taxes (investment result/0.706 - investment result; with 0.706 = 1 - tax rate 29.4%).

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

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

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

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

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

Performance indicators relevant to remuneration

The performance indicators relevant to remuneration are derived as follows:

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

[Online ↗](#)

EBT relevant to remuneration

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

Funds from operations (FFO) relevant to remuneration

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

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

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

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

ROA (return on assets) relevant to remuneration

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

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

Customers and society goal dimension

Reputation

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

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

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

Reputation Index

Reputation is measured using the key performance indicator Reputation Index using a standardized survey that is carried out by an external market research institute. It is measured in accordance with the requirements of the EnBW Group standard for market research and surveys ([p. 46](#)).

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Key performance indicator

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

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

More details on reputational risks can be found in the “Report on opportunities and risks” on [p. 132](#).

Customer proximity

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

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

Online [↗](#)

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

Customer Satisfaction Index

Our customers are the central focus of our philosophy and actions. We aim to build long-term relationships with our customers by offering an intelligent combination of products and services, developing new product worlds, communicating transparently and delivering the highest-quality service possible. Maintaining a high level of customer satisfaction is key. The Customer Satisfaction Index is compiled for EnBW and Yello from customer surveys carried out by an external provider (p. 46⁷).

TOP

Key performance indicator

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

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

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

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

Selected activities

Green electricity has now become the standard in the product portfolio of EnBW and Yello. The proportion of the electricity supplied to new customers by EnBW and Yello that was accounted for by green energy increased from 83% in 2020 to 96% in 2021. 39% of the total customer base for both brands is now supplied with green electricity (excluding the provision of basic and reserve supplies). In comparison to the sale of conventional electricity and taking compensation measures into account, Yello and EnBW were thus able to save around 370,000 t of CO₂ emissions in 2021.

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

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

You can find further information and videos about our **advertising campaign** here.

[Online ↗](#)

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

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

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

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

In the area of **contracting**, we provide industry, the real estate sector and public clients with a sustainable and efficient energy infrastructure implemented directly at the customer’s site. We create customized energy concepts for the provision of energy either with no CO₂ emissions or with only low emissions. For example, we started work on restructuring the entire cooling, heating, steam and electricity supplies for a large German food company in 2021. After implementing our concept, we expect that the CO₂ emissions generated in the provision of energy and media will be sustainably reduced by 35%. An important component of our long-term contracting agreements is the ongoing monitoring and optimization of plant operation. We develop applications and business processes as part of our digitalization approach that automatically collect, link and evaluate data from the plant.

Our company views itself as an experienced and capable **partner for local authorities and public utilities**. We have invested in many local authority companies across the whole of Baden-Württemberg and play an active role in networks for the exchange of information between our participating

interests and other public utilities. We currently support numerous local authorities and public utilities using the customer-specific products and services we have developed for them. The basis for our local authority business are five product clusters, which were developed in 2020: smart mobility, networked infrastructure, innovative communities, sustainable energy and reliable security systems. In this context, we are continuously working on strategic approaches and potential new business fields. In 2021, we focused intensively on the area of **sustainable energy** and defined corresponding strategic initiatives. The main themes were heating system planning, climate protection consulting and local authority energy management. In addition, we have also been providing roadmaps for the renovation of local authority properties since 2021. Using our **digital school services**, we help local authorities to upgrade their schools to the latest technological standards and provide them with the necessary infrastructure to make digital learning possible for all of their students. Based on the experience we gained from our long-standing involvement with 116 schools in Stuttgart, we are currently trialing our services in the towns of Munderkingen and Sindelfingen.

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

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

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

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

Supply reliability

As an energy company and in cooperation with our distribution grid companies, we are tasked with guaranteeing a secure and reliable supply of electricity and gas to our customers. We face additional challenges both now and in the future due to the increasing amount of decentralized generation, with volatile feed-ins as a result of changing weather conditions, and the electrification of road traffic. We are preparing our distribution grids so that they can handle this decentralized energy world. Therefore, we are expanding the existing conventional infrastructure with smart grid technologies [?] so that we can better monitor and manage the generation, distribution and storage of energy.

Our grid companies are responsible for the secure and reliable operation of the distribution grids. The processes are managed by the respective grid control center, which is also responsible for coordinating any work to rectify faults in the grid in the respective region. As part of the investment and maintenance programs, our grid companies maintain the grids and expand them according to demand. The overall annual budget for the realization of all investment and maintenance measures is approved by the Board of Management of the EnBW Group. The measures are carried out over one or multiple years and are realized independently by our grid companies. Some of the investment budget is used for the gradual expansion of smart grids. The increasing use of smart grid technology helps us to avoid or delay expensive investment in conventional grids. Besides the reliability and security of supply, the efficiency of the measures is also taken into account when making investment decisions. This is because grid investment also has an influence on the network user charges that make up part of the electricity price paid by customers.

SAIDI

We record all unscheduled interruptions to supply at our distribution grid operators for gas and electricity. This data flows into the "System Average Interruption Duration Index" (SAIDI). It states the average duration of supply interruptions per end consumer in minutes per year [\[p. 46⁷\]](#).

TOP

Key performance indicator

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

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

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

At our gas distribution grid operators, the average duration of unplanned supply interruptions per end consumer (SAIDI Gas) was below 1 min./a in the 2021 financial year, as in the previous year.

Environment goal dimension

Our Group environmental targets – which are integrated into the EnBW 2025 Group strategy – relate to the expansion of renewable energies and to making our contribution to climate protection. These targets are measured using the key performance indicators “installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE” and CO₂ intensity. Our Group environmental goals are supplemented by activities and targets for the implementation of environmental themes in the EnBW sustainability program [p. 41 ff.⁷]. Alongside EnBW AG, the main subsidiaries dealing with environmental issues include ED, SWD and Netze BW. These and other subsidiaries have an environmental management system certified according to DIN EN ISO 14001 or validated according to EMAS, as does EnBW AG. This creates the prerequisites for ensuring that environmental requirements are systematically and continuously taken into account. It is used to manage the required guidelines and regulations, define and monitor environmental targets and establish the necessary testing processes. The consistent implementation and further development of the environmental management system ensures that any material negative impacts on the environment can be avoided as well as possible. Risks generally exist in the area of environmental protection due to the operation of power generation plants and transmission facilities and the possible consequences for air, water, soil and nature. We counter these risks using organizational and procedural measures to reduce their impact, as well as through emergency planning and hazard prevention measures.

Expansion of renewable energies

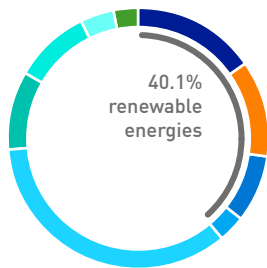
Installed output of renewable energies (RE) and the share of the generation capacity accounted for by RE

TOP

Key performance indicator

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

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

Installed output
in %

15.7	Wind (2020: 15.4)
11.9	Pumped storage (with natural flow of water) (2020: 12.1)
7.9	Run-of-river (2020: 8.1)
4.6	Other renewable energies (2020: 3.4)
34.1	Brown and hard coal (2020: 34.8)
9.6	Nuclear power (2020: 9.8)
9.2	Gas (2020: 9.3)
4.3	Pumped storage (2020: 4.4)
2.7	Other thermal power plants (2020: 2.8)

Breakdown of the generation portfolio ¹ (as of 31/12)

Electrical output ² in MW	2021	2020
Renewable Energies	5,100	4,865
Run-of-river power plants	1,007	1,007
Storage/pumped storage power plants using the natural flow of water ²	1,517	1,507
Onshore wind	1,016	951
Offshore wind	976	976
Other renewable energies	584	424
Thermal power plants ³	7,622	7,621
Brown coal	875	875
Hard coal	3,467	3,467
Gas	1,166	1,165
Other thermal power plants	346	346
Pumped storage power plants that do not use the natural flow of water ²	545	545
Nuclear power plants	1,223	1,223
Installed output ⁴	12,722	12,486
of which renewable in %	40.1	39.0
of which low CO ₂ in % ⁵	13.4	13.7

¹ The generation portfolio includes long-term procurement agreements and generation from partly owned power plants.

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

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

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

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

Own generation ^{1,2,3} by primary energy source

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

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

² The figures for the previous year have been restated.

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

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

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

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

CO₂ intensity/climate protection

CO₂ intensity

TOP

Key performance indicator

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

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

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

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

Carbon footprint of EnBW

Carbon footprint

in thousand t CO₂eq/in %

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

1 Includes the CO₂ emissions for electricity generation from redispatch and reserve power plant deployment.

2 CO₂ emissions from electricity generation excluding redispatch and reserve power plant deployment.

3 The figures for the previous year have been restated.

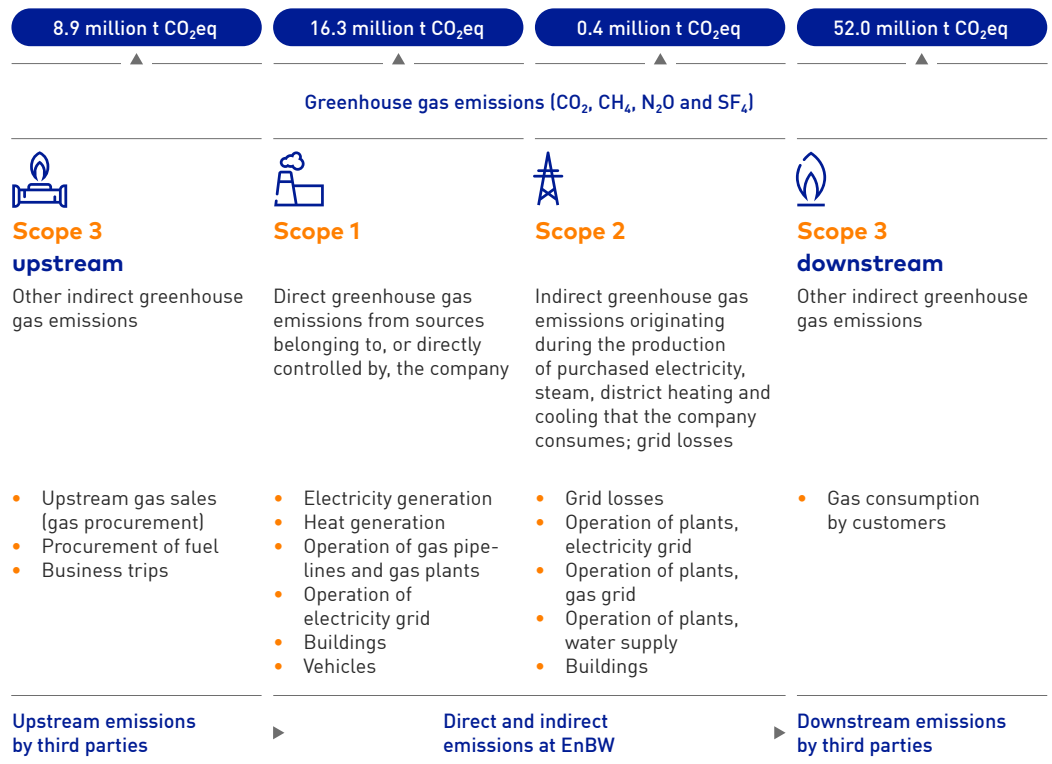
4 Includes non-automotive fuel consumption (e.g., emergency generators).

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

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

Direct CO₂ emissions are determined mainly by the deployment of power plants. In 2021, lower wind yields and market-driven developments, especially in the gas sector, primarily led to higher electricity generation at our fossil fuel-fired power plants and thus to an increase in direct CO₂ emissions from 9.5 million t CO₂eq in 2020 to 16.3 million t CO₂eq in 2021. Netze BW acquired certificates of origin for sufficient quantities of green electricity in 2021 to cover its procurement of electricity to compensate for grid losses and thus permanently withdrew these certificates from the market. As a result, the Scope 2 emissions of Netze BW related to the procurement of electricity to compensate for grid losses fell to zero. This resulted in a fall in the Scope 2 CO₂ emissions⁵ at EnBW from 0.77 million t CO₂eq to 0.44 million t CO₂eq. Scope 3 CO₂ emissions are mainly influenced by the gas consumption of our customers and thus by gas sales in the B2C and B2B sectors. The Scope 3 emissions increased in the 2021 financial year in comparison to the previous year. This was primarily due to higher gas sales compared to 2020. Due to updated avoidance factors from the German Environment Agency and an increase in biogas activities, CO₂ emissions avoided rose from 8.9 million t CO₂eq to 9.8 million t CO₂eq.

Emissions (Scope 1, 2 and 3)



Energy consumption

Energy consumption

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

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

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

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

4 The figure for the previous year has been restated.

Total final energy consumption includes the consumption of final energy for our business activities. It does not include conversion losses during energy generation or grid losses. Total final energy consumption is mostly influenced by pump energy as well as the company's own consumption requirements and the operating consumption of the power plants. As a result of the lower use of pump energy and the reduction in the company's own consumption at the thermal power plants, total final energy consumption fell by around 2.1% in comparison to the previous year from 2,799 GWh to 2,741 GWh.

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

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

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

[Online ↗](#)

Current selected activities

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

Sustainable real estate management: We aim to reduce **CO₂ emissions** in our real estate portfolio. EnBW Real Estate GmbH, the subsidiary responsible for most of the real estate activities of EnBW AG, has been set the target of reducing the **specific energy consumption** of existing buildings by 10% by 2025 and by 20% by 2030, based on the reference year of 2018. By 2021, we achieved a reduction of 4.6% at the representative reference sites. The portfolio managed by EnBW Real Estate GmbH comprises around 100 properties with approximately 260 buildings and a net floor space of about 650,000 m². An important measure for achieving this target has been, for example, the switch to green electricity and biogas in the building portfolio since 2021. In the area of **building automation and digitalization**, we have upgraded our concepts to reduce CO₂ emissions to include aspects related to gray energy in the construction sector (following the cradle-to-cradle [?] principle), life cycle assessments and the use of sustainable raw materials. In addition, we are developing measures to preserve **biodiversity** at the properties. Our basic goal is to create **working worlds** for the people who work in the buildings that are **healthy, future proof and also boost their performance**. A large photovoltaic power plant with an output of almost 300 kWp has been installed on a roof at SWD. Most of the electricity generated will be used at the site, while the rest will be fed into the electricity grid.

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

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

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

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

[Online ↗](#)

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

[Online ↗](#)

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

[Online ↗](#)

Conservation of biological diversity: We are aware of our shared responsibility to the environment and want to help protect species. As part of the **blooming transformer station** project, Netze BW has been using the uncultivated areas around transformer stations to promote biodiversity since 2019. The aim is to create natural flower meadows at every transformer station that will become home to a large number of different species that are usually found in the natural environment at the respective sites. As a result, we will be actively making a contribution to the proliferation of flower pollinating insects such as wild bees and butterflies. Furthermore, Netze BW is also examining its **bird protection** measures across the whole electricity grid. In sensitive areas where there is a risk to large birds, markings will be added to the electricity transmission lines in cooperation with nature conservation associations. If it is economically feasible, future planning processes for the routes covered by transmission lines will also examine whether it is possible to avoid sensitive areas, especially bird sanctuaries and migration corridors. SWD is promoting **biodiversity** at its hydropower plants using targeted management and care measures adapted to the local habitat. To protect and support the population of peregrine falcons, SWD has also been installing artificial nesting aids at a height of around 100 m for several years in those urban environments where pairs of peregrine falcons search for suitable nesting sites.

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

Alongside the key performance indicators in the environment goal dimension, other environmental targets are defined in the EnBW sustainability program (p. 41 ff. [↗](#)). We utilize a broad range of additional environmental performance indicators for measuring, managing and reporting on the other results of our environmentally relevant activities. Selected activities and performance indicators are described in this section. Further **environmental performance indicators** can be found in our "Multi-year overview" (p. 289 [↗](#)) and on our website.

Employees goal dimension

The further development of our corporate strategy in the period up to 2025 (p. 40 ff. [↗]) will place new demands on our HR policy. In future, the strategy will focus on growth, infrastructure, selective internationalization and new business also outside of the energy sector. Using our HR strategy 2025 “People as the main focus,” we want to give the people at EnBW and our company itself the opportunity for growth, development, a future and thus success. The key tasks of HR are recruiting employees for the company, managing their development and accompanying them through the transformation, encouraging loyalty to the company among employees and maintaining and fostering their motivation, satisfaction and employability.

Employee engagement

People Engagement Index (PEI)

Since November 2020, we have been using a redesigned employee survey (EnMAB) to measure the People Engagement Index (PEI) as a new key performance indicator. The PEI allows us to draw conclusions not only on the satisfaction of employees, but also on how motivated and engaged they are in their work at EnBW (p. 47 [↗]).

TOP

Key performance indicator

	2021	2020	Change in %	Forecast 2021
People Engagement Index (PEI) ¹	82	83	-1.2	> 77

¹ Variations in the group of consolidated companies (all companies with more than 100 employees are considered [except ITOs]). Companies that were fully consolidated for the first time in the fourth quarter of 2021 were not included in the employee surveys for the PEI.

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

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

HR strategy 2025

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

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

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

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

Selected activities in our six themes

People-centered transformation: We consider ourselves to be the shapers of a people-centered transformation and are placing the main focus on people and their needs. To support employees as well as possible in the transformation process, we are further developing, for example, the employee survey and establishing the transformation circle – the first community for all colleagues who are pushing forward the themes of transformation.

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

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

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

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

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

We have been offering a multistage **career integration program** to refugees and migrants since 2016, in which 59 people are currently serving a technical apprenticeship. Ten apprentices completed their training as either an industrial mechanic, electronics technician or plant mechanic in early 2021 and were awarded with mostly permanent contracts. We will continue this program over the next few years – both as a social initiative and also increasingly as an additional tool for recruiting young talent.

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

Proportion of female managers at EnBW AG

in %	2021	2020
First level below the Board of Management	7.7	8.7
Second level below the Board of Management	21.3	14.5

The Board of Management has set the goal of further increasing the proportion of female managers at both management levels below the Board of Management in the period from 1 January 2021 to 31 December 2025. At both the first level (top management) and second level (upper management), the proportion of female managers should increase to at least 20%. These targets were not yet achieved in the reporting period at the top management level. Although there were the same number of women in top management, the proportion of female managers changed from 8.7% in the previous year to 7.7% in the reporting period. In upper management, the proportion of female managers increased from 14.5% in the previous year to 21.3%, which was due to the appointment of more women to these positions. We will continue to develop measures based on the HR strategy to achieve the set targets.

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

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

Other issues

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

EnBW provides a comprehensive range of services to promote the health of its workforce. This includes, among other things, preventative medical services, vaccinations, physiotherapy treatments and psychological counseling. The sickness ratio stood at 4.1% in 2021 and was thus 0.2 percentage points lower than the figure in the previous year.

Other performance indicators

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

[Online ↗](#)

Employees¹

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

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

2 Converted into full-time equivalents.

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

Occupational safety

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

We work continuously on minimizing **danger in the workplace**, which could result in accidents or work-related illnesses, through training and programs of measures. In 2021, 117 managers participated in the training course "Responsibilities and liability with respect to occupational safety" that was organized by the Group occupational safety department.

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

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

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

LTIF

The key performance indicator LTIF is used to measure the number of LTI according to the definition on p. 47⁷. Every Group company included in the LTIF receives an individual target from the Board of Management – the fulfillment of this LTIF target flows into the assessments for the achievement of targets in each case. The companies can also set their own individual targets that go beyond those set by the Board of Management.

TOP

Key performance indicator

	2021	2020	Change in %	Forecast 2021
LTIF for companies controlled by the Group ^{1, 2, 3}	2.3	2.1	9.5	2,0 – 2,2
LTIF overall ^{1, 2}	3.3	3.6	-8.3	3,6 – 3,8

1 LTIF indicates how many LTI occurred per one million working hours performed. Further information on the calculation of this performance indicator can be found on p. 47⁷.

2 Variations in the group of consolidated companies (all companies with more than 100 employees, excluding external agency workers and contractors, are considered). Companies that were fully consolidated for the first time during the 2021 financial year were not included in the calculations for the LTIF performance indicators.

3 Except for companies in the area of waste management.

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

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

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

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

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

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

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

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

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

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

EU taxonomy

The European Commission presented the European Green Deal ⁹ in December 2019. It includes the target of reducing net emissions from greenhouse gases in the European Union to zero by 2050. A key element of the EU Green Deal is the EU taxonomy ⁹, a classification system used to define “environmentally sustainable” business activities. The aim is to use defined requirements to classify economic activities EU-wide with respect to their contribution to six environmental objectives in order to encourage the development of sustainable financing products:

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

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

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

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

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

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

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

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

[Online ↗](#)




Implementation of the EU Taxonomy Regulation in the EnBW Group

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

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

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

Activities examined for the EU Taxonomy Regulation

 Smart Infrastructure for Customers	 System Critical Infrastructure	 Sustainable Generation Infrastructure
<ul style="list-style-type: none"> E-mobility 	<ul style="list-style-type: none"> Electricity distribution grids Electricity transmission grids Water grids Water supply 	<ul style="list-style-type: none"> Onshore wind Offshore wind Solar Run-of-river Biomass Pumped storage

2020

▶

2021

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

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

The following proportions were determined:

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

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

Proportion of taxonomy-aligned adjusted EBITDA in the segments

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

Proportion of taxonomy-aligned expanded capex in the segments

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

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

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

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

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

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

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

Accounting policies

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

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

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

Composition of the capex numerator

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

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

The additions to calculate the denominator can be found in notes 10 (without consideration of the column "Goodwill"), 11, 12 and 14 (column "Investment properties") of the notes to the consolidated financial statements.

To determine the KPI for sustainable **revenue** the net revenue that makes a contribution to the environmental objective of climate change mitigation is divided by the total net revenue for the Group. Further information on net revenue can be found in the section on external revenue on [p. 76](#)⁷ and in note 1 of the notes to the consolidated financial statements.

Composition of the revenue numerator

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

The denominator to determine the KPI for **opex** in the sense of the Taxonomy Regulation comprises the following direct, non-capitalized costs:

- Research and development
- Building renovation measures
- Short-term leases
- Maintenance and repair costs

The numerator equals the part of the opex that is related to assets or activities associated with taxonomy-aligned economic activities. The expenditure included in the denominator covers the expenditure categories presented in the following table. The numerator for calculating the opex KPI is determined as follows:

Composition of the opex numerator

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

¹ Includes building renovation measures.

As well as the KPIs required by the Taxonomy Regulation, we are also voluntarily reporting information on the environmentally sustainable **adjusted EBITDA** and **capex including the proportion for entities accounted for using the equity method** pursuant to IFRS 11 and IAS 28 (**expanded capex**). The sustainable adjusted EBITDA is the proportion of total adjusted EBITDA that makes a contribution to the environmental objective of climate change mitigation ([p. 78](#)⁷). With this KPI, we can create a direct link to our key performance indicator adjusted EBITDA that is relevant for the management of the company. Detailed information on this performance indicator can be found in the section on adjusted EBITDA on [p. 78 f.](#)⁷.

By reporting the expanded capex, we are disclosing all of our sustainable investment, irrespective of whether it is made within the EnBW Group. The numerator for the KPI for expanded capex is determined by taking the capex numerator from the Taxonomy Regulation and expanding it to include additions for entities accounted for using the equity method, whereby sustainable additions from acquisitions and capital increases are taken into account:

Composition of the expanded capex numerator

in € million	2021	2020
Capex numerator according to EU taxonomy	1,826.5	2,008.9
Additions to entities accounted for using the equity method	282.4	27.8
Total	2,108.9	2,036.7

Substantial contribution to the environmental objective of climate change mitigation

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

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

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

No significant harm to the other EU environmental objectives

In the next stage, we examined whether any significant harm was being done to the other five environmental objectives (climate change adaptation, the sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control and the protection and restoration of biodiversity and ecosystems). This predominantly relates to the legal and official regulations in the energy sector that have to be observed in order to receive approval for constructing and operating power plants. Compliance with these energy industry regulations and with any further requirements (such as those related to the circular economy) was analyzed at the superordinate level of the business activities with the aid of the respective specialist departments at EnBW. With respect to the five environmental objectives, the analysis yielded the following results:

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

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

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

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

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

Compliance with minimum safeguards

In the third and final stage, we analyzed the business activities at a Group level with respect to their compliance with the minimum social safeguards for human rights and occupational safety (prequalification process (p. 62 f.⁷), information on occupational safety (p. 107 ff.⁷) and the "Report on opportunities and risks" (p. 128 ff.⁷)).