November 2024

EnBW Factbook 2024

Overview

EnBW group – a key player in the energy transition

Sustainable Generation Infrastructure

- Wind
- Solar
- Hydropower
- Trading
- Thermal
- District heating
- Gas
- (Pumped) Storage

System Critical Infrastructure

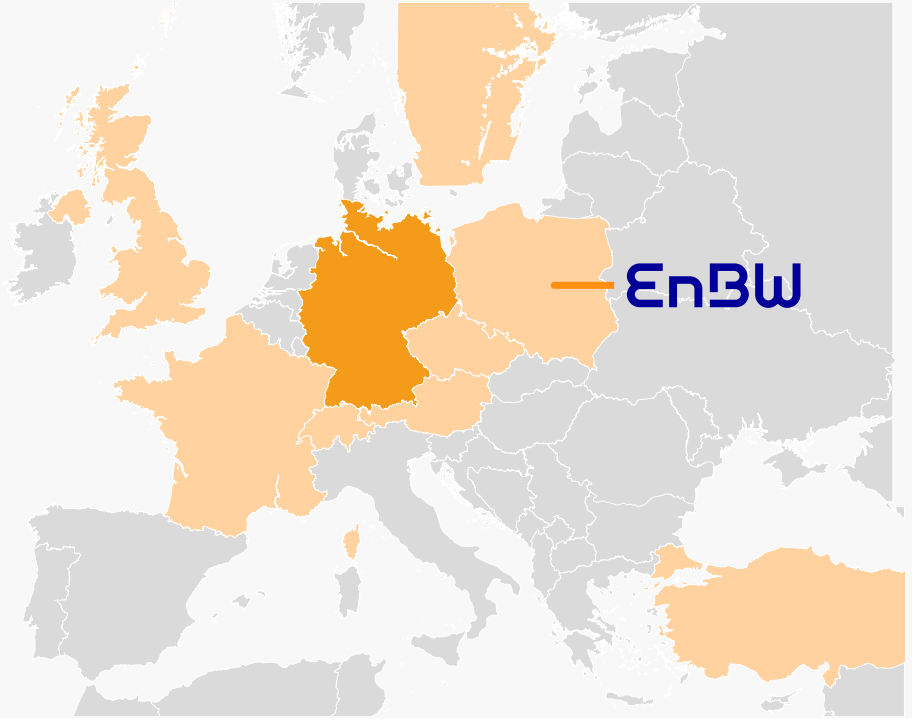
- Transmission electricity/gas
- Distribution electricity/gas
- Water supply

Smart Infrastructure for Customers

- B2C/B2B sales electricity/gas
- E-mobility
- Home battery system
- Broadband

Regional footprint in our core market Germany and beyond

- Austria, Czech Republic, Denmark, France, Poland, Sweden, Switzerland, Türkiye, United Kingdom



See our main shareholdings in EnBW Integrated Annual Report 2023 (page 23-24) and the full list of shareholdings on pages 270 - 287.

EnBW at a glance[1]

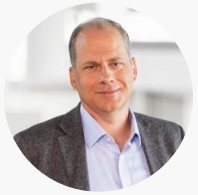
Well-balanced integrated business model	**>12** GW generation capacity	**179k** km power & gas grids	**~5,500** fast-charging points[2]	**5.5** m B2C & B2B customers
Well-positioned utility with robust financial performance	**103** years energy services	**28,630** employees	**A-, Baa1** credit ratings (S&P and Moody's)	**€6.4** bn adj. EBITDA 2023
Strong ESG focus on energy transition	**~90%** taxonomy-aligned capex	**>55%** Renewable installed capacity[2]	**AA, A-** ESG ratings[3] (MSCI, CDP)	**2035** climate neutrality

[1] As of 31 December 2023. I [2] As of June 2024. I [3] November 2024.

Management team with many years of utility sector and financial expertise

Board of Management[1] (as of September 2024)

- Responsible for Group management and strategy
- Represents the company legally



Dr. Georg Stamatelopoulos
Chairman
25 years industry experience
Joined EnBW in 2010

Thomas Kusterer
Finance, Deputy Chairman
20 years industry experience
Joined EnBW in 2004

Colette Rückert-Hennen
Human Resources
10 years industry experience
Joined EnBW in 2019

Dirk Güsewell
System Critical Infrastructure and Sales[2]
25 years industry experience
Joined EnBW in 1999

Peter Heydecker
Sustainable Generation Infrastructure
30 years industry experience
Joined EnBW in 2017

Supervisory Board

- Consists of 20 experienced, diverse and independent members and is composed of an equal number of shareholder and employee representatives
- Appoints members of Board of Management and sets their remuneration
- Acts as a monitoring and advisory body

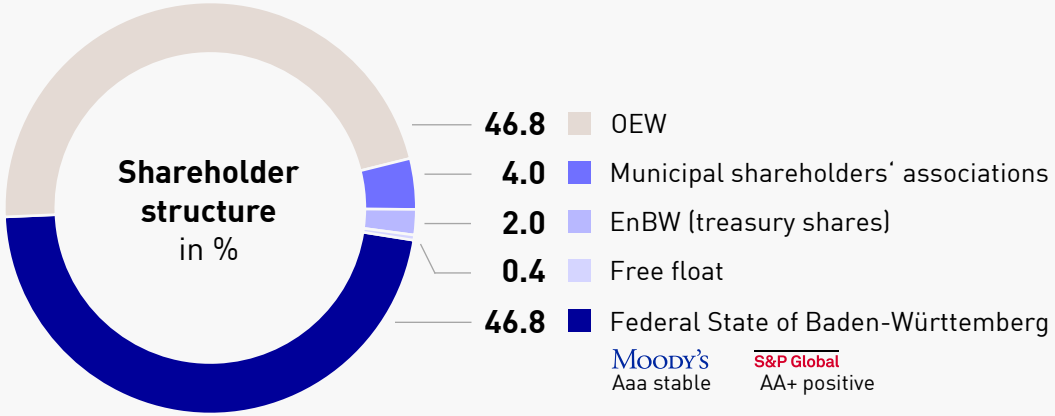
Lutz Feldmann
Chairman of the Supervisory Board
Joined Board in 2015

[1] For the respective responsibilities see our 6M 2024 report (page 5) in addition to the press release on a reassignment of responsibilities taking effect on 1 September 2024. I [2] Sales includes the segment Smart Infrastructure for Customers.

Stable and mostly public shareholder structure supports our strategy in the long-term

Government-related shareholder structure

>93% held by two largest shareholders:
The state of Baden-Württemberg (3rd largest German state and one of the most prosperous regions in Europe) and **OEW** (an association of districts)



- Shareholder structure without significant changes since 2011

Share indicators

€1.50/share
dividend FY23

~271 m
shares outstanding

~€18.6 bn
market capitalization[1]

May not add up due to rounding. I [1] As of 8 November 2024 (share price: €67.40).

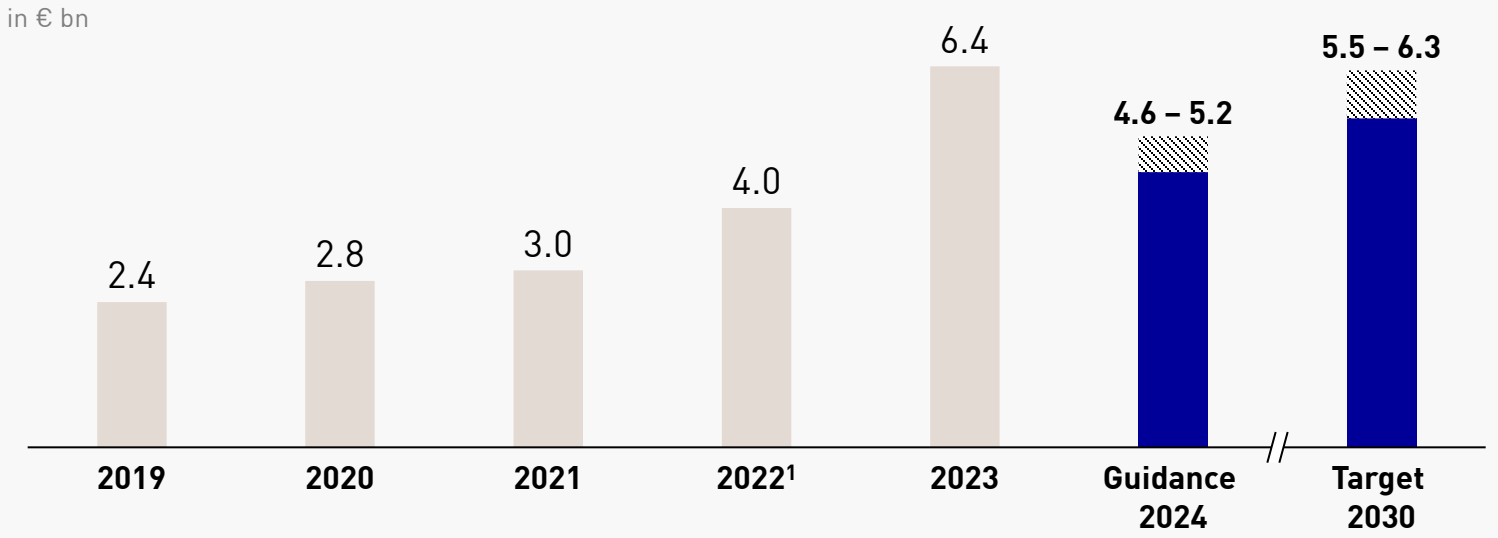
Share price information of EnBW stock | EnBW website

Sustained strong earnings performance supports the achievement of the strategic target by 2030

FY 2023

- Revenues: **€44.4 bn**
- Adj. EBITDA: **€6.4 bn**
- Retained cash flow: **€4.8 bn**
- Gross investments: **€4.9 bn**
- Net debt: **€11.7 bn**
- Credit ratings: **A-** (S&P)
  Baa1 (Moody's)

Adj. EBITDA development (2019-2023) with guidance 2024 and target 2030



Robust delivery despite

- Uncertainty in commodity markets (2022)
- Power price volatility (2023)
- Decline in European power prices (2024)

[1] Restated figures.

Guidance 2024 confirmed

in € bn

Group

4.6 – 5.2
2023: 6.4[1]

	FY 2023	Guidance 2024	
Sustainable Generation Infrastructure	4.6	**2.6 - 3.1**	• Lower energy prices due to normalized market environment • Capacity growth in renewables
System Critical Infrastructure	1.8	**1.9 - 2.2**	• Higher earnings from grids as a result of increased investments
Smart Infrastructure for Customers	0.2	**0.25 - 0.35**	• No repetition of negative one-offs 2023 • Restructuring of the product portfolio at a subsidiary

[1] Incl. Other/consolidation with -€0.3 bn (-5%).

Highlights 2024 year-to-date

January

€0.5 bn green hybrid issued

March

Construction start 80 MW solar park

June

>1 GW awarded in wind auctions

July

>5,000 fast-charging points

September

Winning bids for 7 solar parks totaling 184 MW

February

1.5 GW H_2-ready power plants under construction

May

Construction start offshore HeDreiht

June

55% share of renewables installed capacity

July

Green Financing Framework (Update)

September

MSCI Upgrade to AA (Leader)

March

Construction start 250 km natural gas/H_2 pipeline

May

Coal-based capacity reduced by ~1 GW

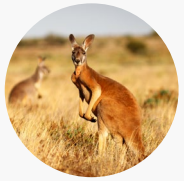
July

Participation in national H_2 network

July

€1.2 bn green dual tranche bond issued

October



A$1 bn green Australian-first dual tranche bond launched

With our integrated setup we focus on energy infrastructure, renewables and smart products for our customers

Strategy 2025

Focus on the infrastructure aspects of existing energy-related business fields

Development of a balanced and diversified business portfolio along the entire value chain

- Sustainable Generation Infrastructure
- System Critical Infrastructure
- Smart Infrastructure for Customers

Benefits

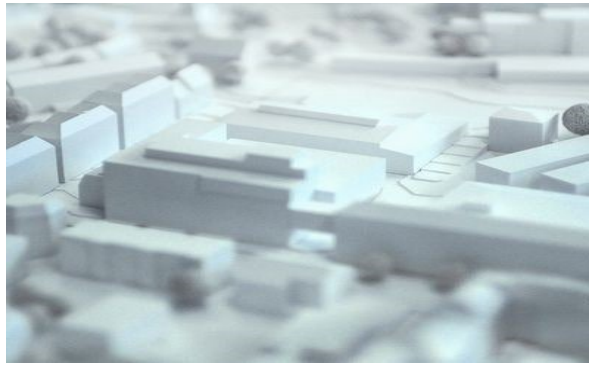
- Integrated strategy along the entire energy value chain
- Demonstrated resilience to adverse market developments
- Quick adaptation to political and social changes
- Investments in energy transition protect us against crises
- Reduced import dependency, improved cost structures, climate protection
- Commitment to continue this path

Outlook 2030

Update of the 2025 strategy with an outlook to the period up to 2030:

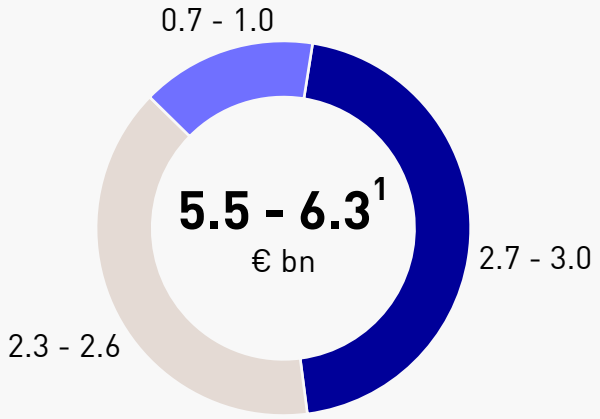
- Rigorously push forward the **expansion of the energy infrastructure**
- **Roll-out** of renewable energies and grid infrastructure
- Development of **smart products and services** for our customers that support the energy transition at home and on the move



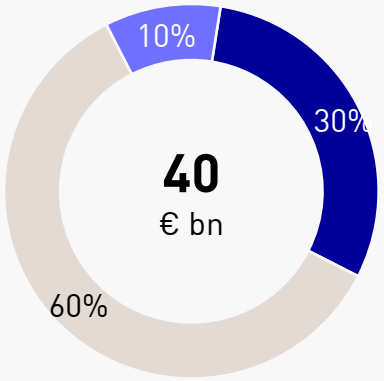

Outlook 2030: Integrated portfolio with profitable growth while building sustainable future

Adj. EBITDA target 2030



≥70%
low-risk earnings share
(adj. EBITDA in Grids and Renewables)

Gross investments 2024-30



≥85%
taxonomy-aligned capex

Net investments[2] 2024-30: €22 bn

Sustainable Generation Infrastructure | System Critical Infrastructure | Smart Infrastructure for Customers

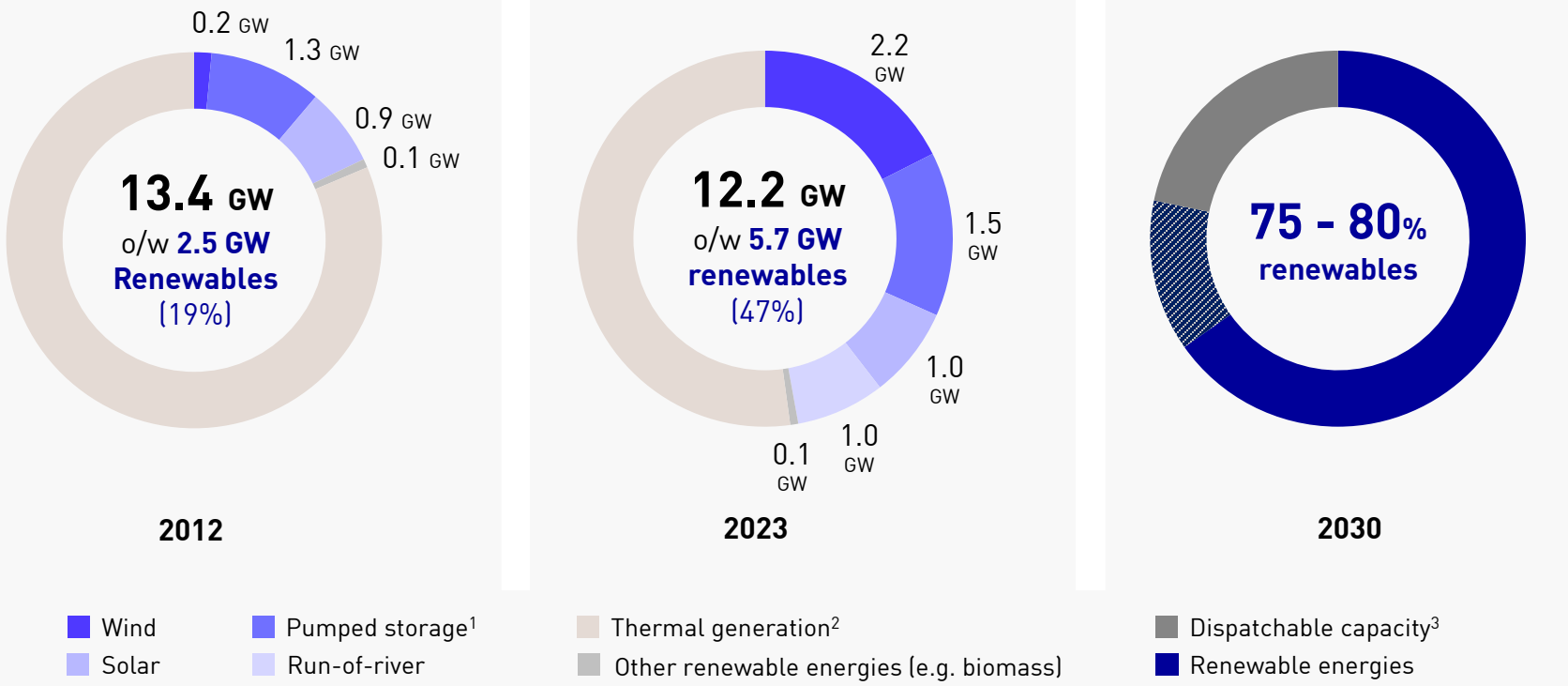
Environmental targets 2030

- Expansion of renewable energies from ~6 GW (2023) to 10 - 11.5 GW
- Reduction of CO_2 intensity from 347 g/kWh (2023) to 90 – 110 g/kWh

[1] Incl. Other/consolidation. | [2] Net investments = Gross investments – share of CAPEX covered by third parties under partnership model.

EnBW is fundamentally transforming its generation portfolio towards climate neutrality by 2035

Transformation of the EnBW generation portfolio



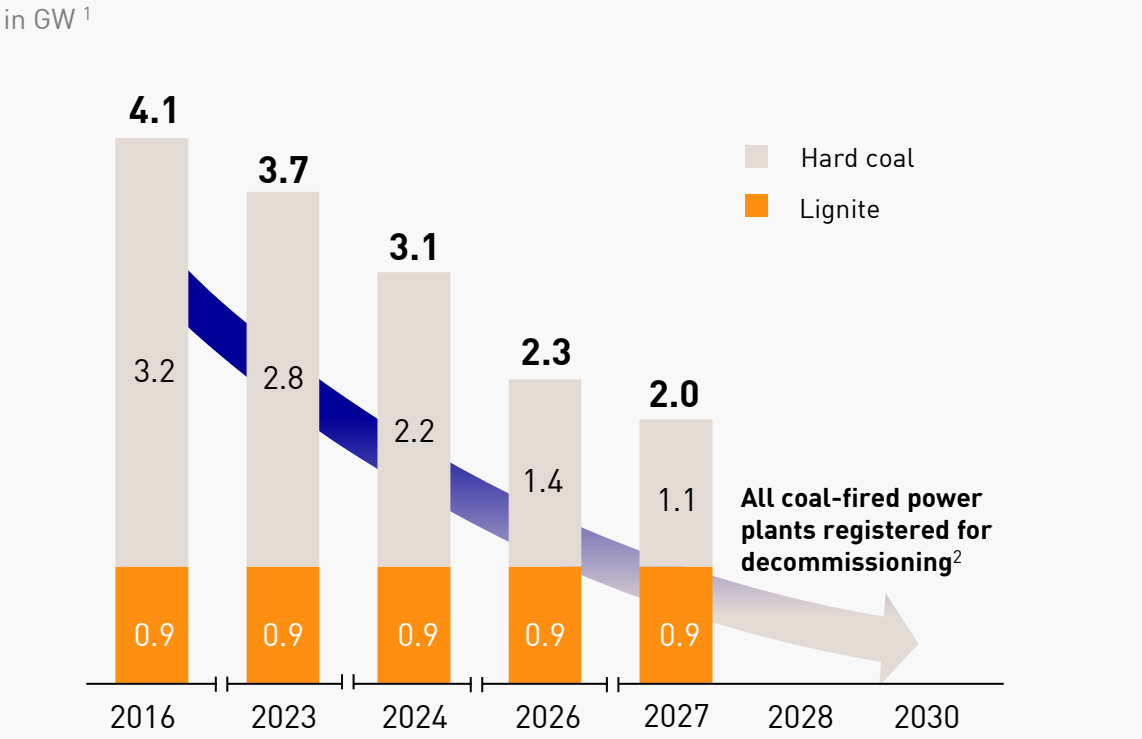
Major developments

- Significant expansion of the portfolio
- **Renewable** portfolio increases to **10 – 11.5 GW** by 2030
- Thermal generation will be coal-free in 2028 and **gas-based**
- Switch to climate-neutral **hydrogen** as soon as available
- **Almost zero emissions** subsequently achieved in the power plant portfolio

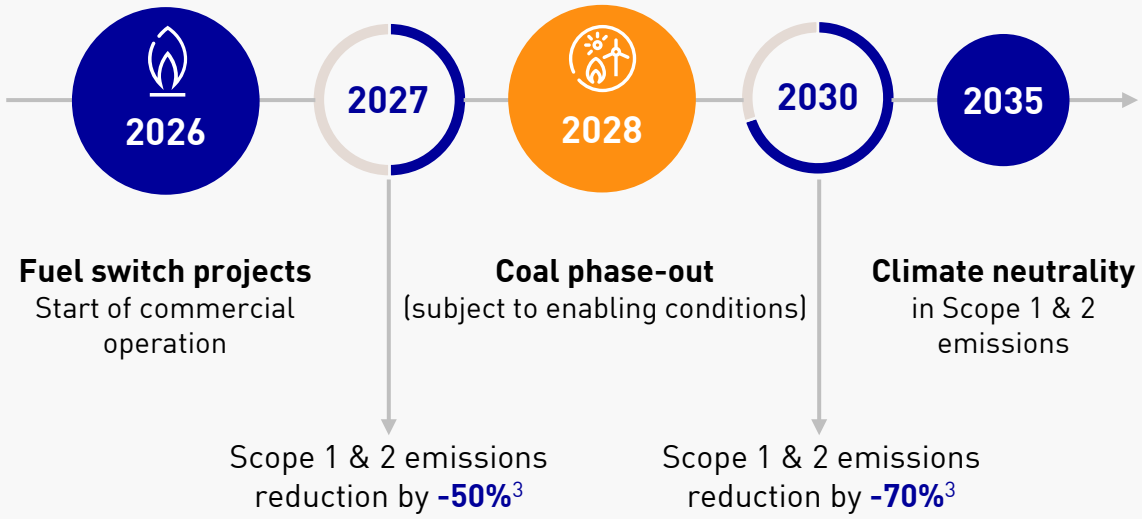
[1] Pumped storage with natural flow of water. | [2] Thermal power plants: Coal, gas, pumped storage without natural flow of water. | [3] Thermal dispatchable capacity: Pumped storage with and without natural flow of water; gas-based thermal power plants.

EnBW keeps pushing the energy transition forward

Early coal phase-out by 2028 in line with our SBTi targets, way ahead of German legal framework



Well on track with our climate neutrality roadmap



Clear decarbonization path aligned to Paris Agreement (1.5°C pathway) for our own emissions validated by SBTi

[1] As of end of the year; excl. activities in which we own minority shareholdings without operational control and PPAs. | [2] Provided the energy transition progress allows a coal phase-out by 2028. | [3] Compared to the base year 2018.

EnBW contributes to UN Sustainable Development Goals

EnBW's integrated business model specifically contributes to SDGs 7, 9, 11 and 13

SDG 7
Affordable and clean energy

- Expansion of renewable energies (RE)
- Climate-friendly products (e.g., green electricity)

KPI: installed output of RE, Customer Satisfaction Index

SDG 9
Industry, innovation and infrastructure

- Expansion and operation of electricity/gas grids
- Innovative energy transition technologies (hydrogen, floating wind)

KPI: System Average Interruption Duration Index (SAIDI)[1] electricity, gas

SDG 11
Sustainable cities and communities

- Expansion of fast-charging infrastructure for e-mobility
- Expansion of broadband infrastructure

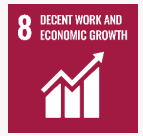
KPI: number of EnBW fast-charging points in Germany

SDG 13
Climate action

- **SBTi validation in Scope 1, 2 and 3**
- Climate neutral by 2035 (Scope 1 and 2)
- Biodiversity at EnBW sites

KPI: CO_2 intensity (generation), CO_2 emissions

Other important SDGs at EnBW



[1] SAIDI: All unscheduled interruptions to supply at our distribution grid operators for electricity and gas that last more than three minutes for the end consumer.

ESG highlights

Environmental	**> 30% emissions reduction** Scope 1 and 2 from 2018 to 2023	**Accelerated coal exit 2028** 10 years before Germany's official target	**Long-term Net Zero target** in preparation
Social	**97% of procurement volume** covered by EnBW Supplier Code of Conduct signed by suppliers	**Pursuing a just transition** Fair and responsible treatment & guarantees for ~1,400 employees	**Top Apprenticeship Employer** 3,257 apprentices, (working) students and interns
Governance	**Up to 50% ESG-linked long-term incentives** of Board of Management remuneration	**100% independence** of shareholder representatives on Supervisory Board	**60% ESG expertise** in Supervisory Board

Check for more:

ESG ratings

ESG Factbook

Climate Transition Plan

Integrated Annual Report 2023

EnBW with high level of sustainability ambitions 1/2

Driving the energy transition forward		2022	2023	Targets
Carbon footprint reduction				
Scope 1	in million t CO_2eq/change in %	17.5	10.9/-34%[1]	2027: -50%; 2030: -70%; 2035: -83%
Scope 2	in million t CO_2eq/change in %	0.5	0.4/-56%[1]	
Scope 3	in million t CO_2eq	37.7	26.6/-30%[1]	2035: -43%
CO_2 intensity reduction	in g/kWh[1]	491	347	2024: 290 – 350; 2025: 380 - 440; 2030: 90 - 110
Low level of coal-based revenues	in %	<5	4	Zero after coal exit in 2028
Expansion of renewable energies (RE)	Share of RE generation capacity in %	42	47	2025: >50%; 2030: 75 – 80%
Promoting diversity & occupational safety				
Female managers across all management positions	in %	20	21	2030: 30%
LTIF overall		4.1	3.7	2030: ⩽3.3
Corporate governance				
Women on the Supervisory Board	in %	35	35	Fulfilment of a minimum gender quota of 30%

[1] Compared to base year 2018.

EnBW with high level of sustainability ambitions 2/2

Alignment	EnBW's action	Status
Net Zero target	In preparation	Publication of target expected in 2025
Independency of supervisory board members	Meeting independence criteria defined in the German Stock Corporation Act and the DCGK Declaration of Corporate Government Source: EnBW Integrated Annual Report 2023, page 165	✓
Sustainability-linked remuneration	2 to max. 4 ESG KPIs included in LTI (30% to 50%) Source: Corporate Governance | EnBW, Remuneration system for members of the Board of Management EnBW AG as of 2024, page 7	✓
Taxonomy-aligned expanded CAPEX	On highest level with focus on energy transition (2023: 87%; target 2024 - 2030: ≥85%)	✓
Lobbying for Paris Climate Agreement	EnBW committed to Climate Protection Act also through its involvement in industry and sector associations. Dialogue with politicians and energy and commercial companies	✓
Task Force on Climate-related Financial Disclosures (TCFD)	Implementations of TCFD recommendations already since 2017. Index: TCFD Source: EnBW Integrated Annual Report 2023, page 146	✓

Note: For EnBW's Principle Adverse Impacts disclosure see: ESG Factbook 2024, pages 29 + 30.

Financial KPIs

in € m	6M 2024	FY 2023	FY 2022
Adj. EBITDA	**2,588**	6,365	3,967
% low-risk (renewables & grid) earnings	**68%**	45%	55%
Sustainable Generation Infrastructure	**1,451**	4,648[1]	2,616
Renewables Energies	596	1,746[1]	1,107
Thermal Generation and Trading	855	2,901[1]	1,509
System Critical Infrastructure	**1,157**	1,772	1,058
Smart Infrastructure for Customers	**173**	240	498
Other/consolidation	**-192**	-294	-205
Adj. D&A	-832	-1,686	-1,615
Adj. EBIT	1,756	4,679	2,352
Adj. Group net profit (attrib. to shareholders)	**927**	2,780	1,413
Gross investments	**2,480**	4,903	3,154
Net investments	2,160	2,740	2,768
FFO	1,610	5,503	3,727
Retained cash flow	**880**	4,832	3,217
Net debt	**12,585**	11,703	10,847
Debt repayment potential[2]		41%	30%
DPS (€)/dividend payout ratio (%)		1.50/15%	1.10/31%

[1] Restated 2023 figures due to pumped storage reallocation from Thermal Generation to Renewables Energies. | [2] Retained cash flow/net debt.

Overview

Business activities/segments

Sustainable Generation Infrastructure

- Power generation:
  wind, solar, hydro, pumped storage, gas, coal
- District heating
- Gas storage
- Energy trading

Adj. EBITDA: €4,648 m
Employees: 7,563

System Critical Infrastructure

- Transmission grid for electricity and gas
- Distribution grid for electricity and gas
- Water supply

Adj. EBITDA: €1,772 m
Employees: 11,635

Smart Infrastructure for Customers

- Sales of electricity and gas
- E-mobility
- Home battery storage
- Broadband

Adj. EBITDA: €240 m
Employees: 5,711

As of 31 December 2023.

Sustainable Generation Infrastructure: Diversified provider of reliable energy backed by trading

Renewable Energies

In operation 2023

- Renewable installed capacity: **5.7 GW**
- Of which: 1 GW offshore wind, 1.2 GW onshore wind, 1 GW solar and 2.5 GW pumped storage and hydro
- Renewables share in generation output: **48% (12.7 TWh)**

Targets 2030

- Share of generation capacity 75 - 80%
- Renewable Energies 10 – 11.5 GW

Climate neutral gases

- Hydrogen from the mid-2030s expected
- Exclusive offtake rights for green ammonia

Thermal Generation

In operation 2023

- Thermal installed capacity: **6.5 GW**[1]
- Of which: 4.3 GW coal & lignite[2], 1.2 GW gas and 1 GW other incl. pumped storage
- Thermal share of generation output: **52% (13.9 TWh)**
- Coal-based revenues: 4%
- 1.7 GW reserve system-critical power plants[3]

Targets

- 1.5 GW H_2-ready fuel switch gas power plants 2025/2026
- Coal phase-out 2028
- Climate neutrality 2035

Energy Trading

Hedging

- Risk mitigating hedging strategy focused on reducing the earnings impact from price fluctuations
- Sales contracts closed on back-to-back basis
- Hedge levels[3]
  2024: fully hedged
  2025: >90%, **2026**: 50 – 80%, **2027**: <40%

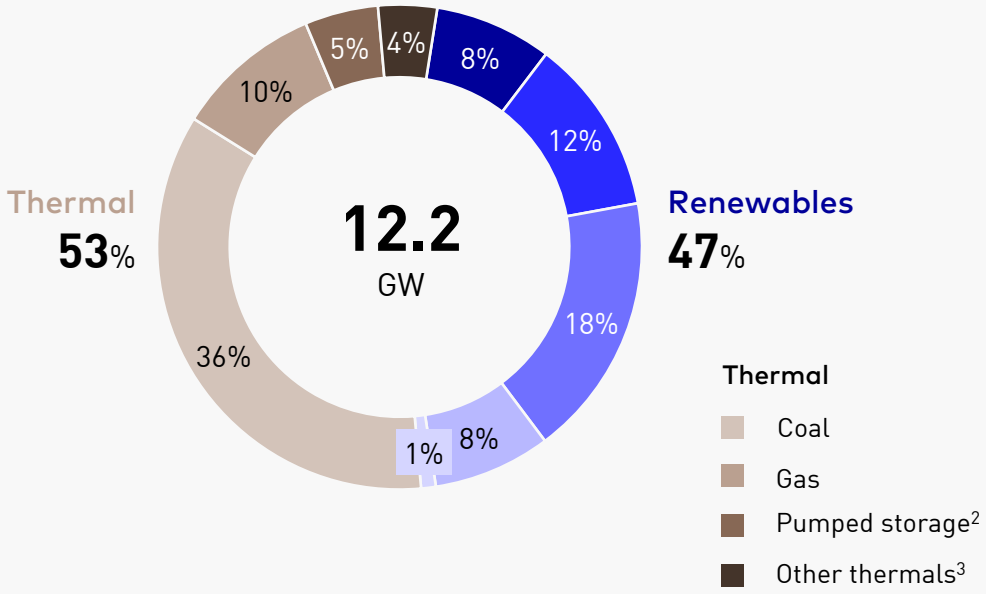
Further activities

- PPAs, direct marketing, guarantees of origin
- LNG/hydrogen/ammonia

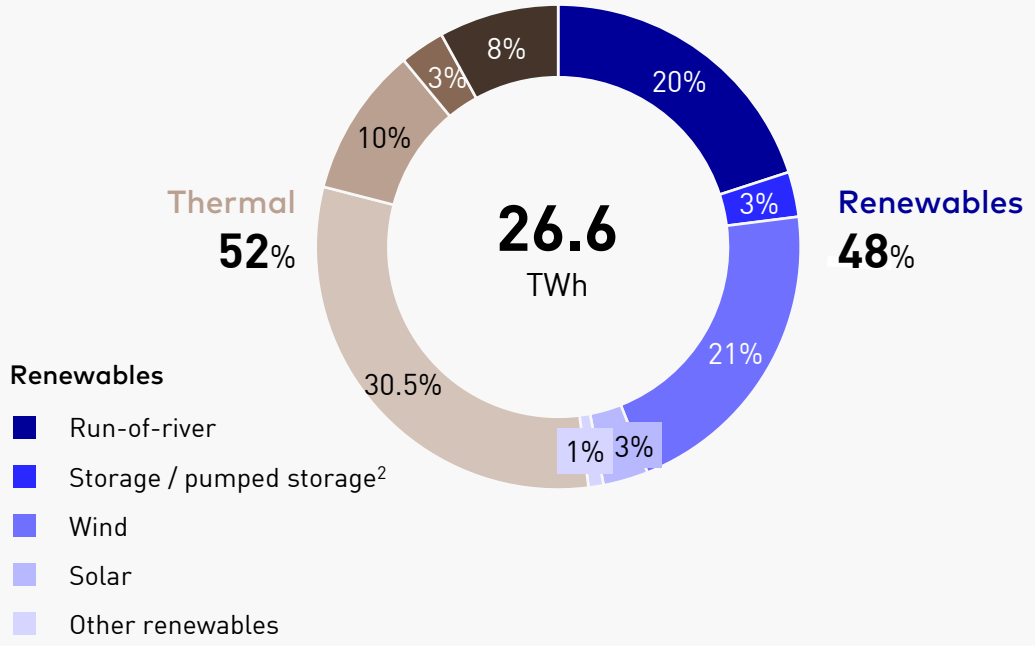
[1] Incl. 545 MW pumped storage reallocated to renewables in January 2024. I [2] Incl. activities in which we own minority shareholdings without operational control and PPAs. I [3] Not included in EnBW's generation portfolio. I [4] As of 30 September 2024.

Sustainable Generation Infrastructure: Installed capacity and power generation

Installed generation capacity 2023



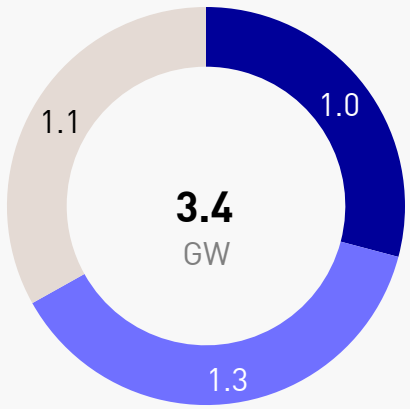
Power generation 2023[1]



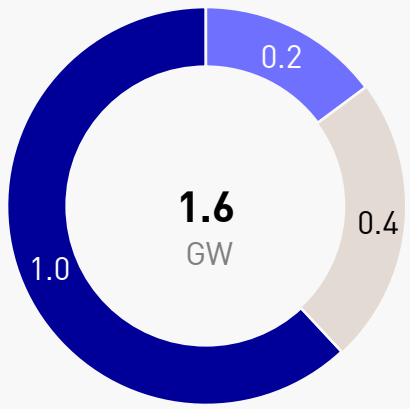
[1] Incl. electricity from generation assets partly owned by EnBW that can be deployed at our discretion on the basis of long-term procurement contracts. | [2] Renewables storage/pumped storage (using natural flow of water) and pumped storage (not using natural flow of water). Pumped storage without natural water flow reallocated to Renewables in January 2024. | [3] Incl. nuclear until 15 April 2023 (2 TWh).

Sustainable Generation Infrastructure: Wind and solar portfolio

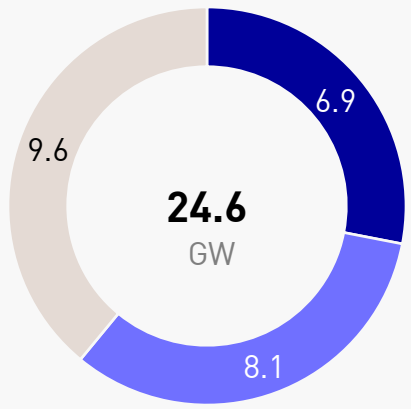
Installed capacity[1]
in MW



Under construction[2]
in MW



Secured pipeline[3]
in MW

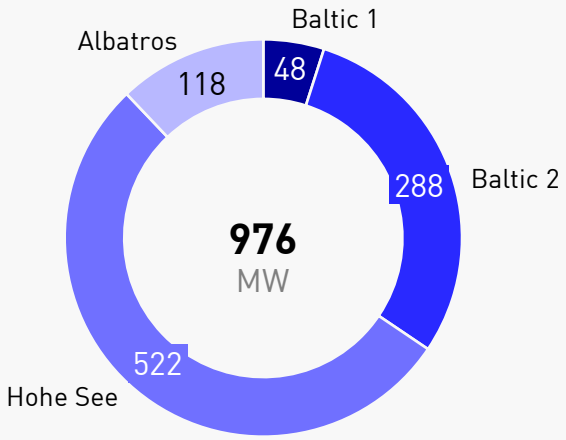


Offshore Onshore Solar

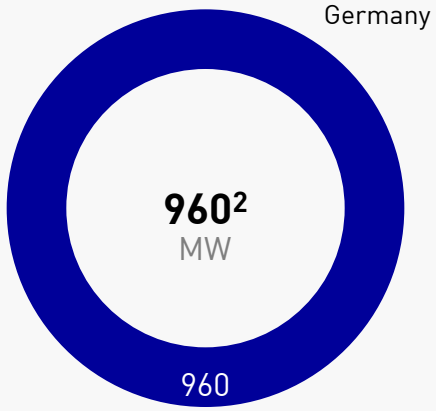
As of 30 June 2024. | [1] As of 30 September 2024. | [2] Approx. 90% Germany. | [3] Projects at an early stage: ~2.8 GW onshore wind and ~4.3 GW solar; project development: ~4.3 GW onshore wind and ~3.4 GW solar.

Sustainable Generation Infrastructure: Offshore wind portfolio and development

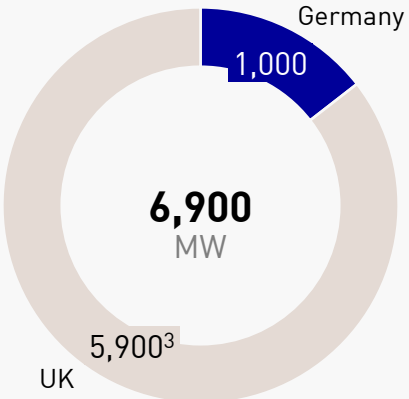
Installed offshore wind capacity[1]
in MW



Under construction
in MW



Secured pipeline
in MW



Total installed capacity as of 30 June 2024. I [1] All wind farms in the German North and Baltic Sea. EnBW's share 50.1%. I [2] EnBW's share 50.1%. I [3] EnBW's share 50%. Cooperation with bp.

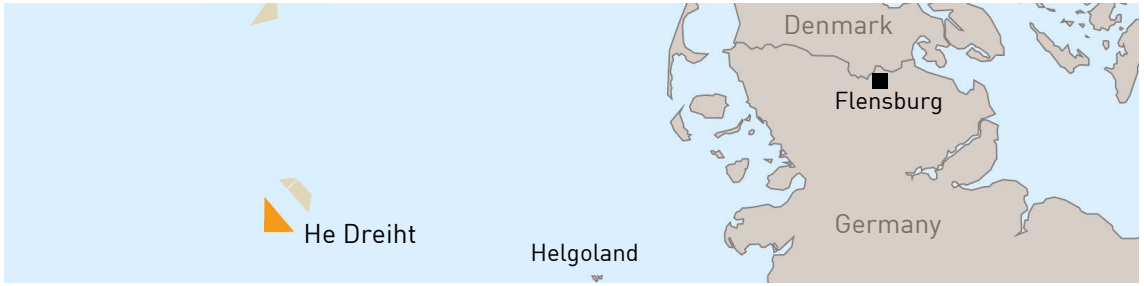
Sustainable Generation Infrastructure: Offshore wind in Germany – portfolio and pipeline

	① Baltic 1	② Baltic 2	③ Hohe See	④ Albatros	⑤ He Dreiht	⑥ Dreekant
Type of turbine	21 x Siemens 2.3 MW	80 x Siemens 3.6 MW	71 x Siemens 7.35 MW	16 x Siemens 7.35 MW	64 x Vestas 15 MW	n/a
Total capacity in MW	48.3	288	521.9	117.6	960[1]	1,000
Shareholders	50.3% EnBW; 49.7% 19 municipal utilities	50.1% EnBW 49.9% PGGM[2] & ÄVWL	50.1% EnBW 49.9% Enbridge Inc./CPPIB	50.1% EnBW 49.9% Enbridge Inc./CPPIB	50.1% EnBW 49.9% Allianz Capital Partners, AIP, Norges Bank Investment Management	100% EnBW
Commissioning	Apr 2011	Sep 2015	Oct 2019	Jan 2020	Dec 2025 (planned)	2031/2032 (planned)
Feed-in system	EEG 2009	EEG 2014	EEG 2014	EEG 2014	-	-

As of 30 June 2024. I [1] Installed capacity 960 MW, grid connection 900 MW. I [2] PGGM sold its stake to Vårgrønn (Closing pending).

Sustainable Generation Infrastructure: Offshore wind in Germany

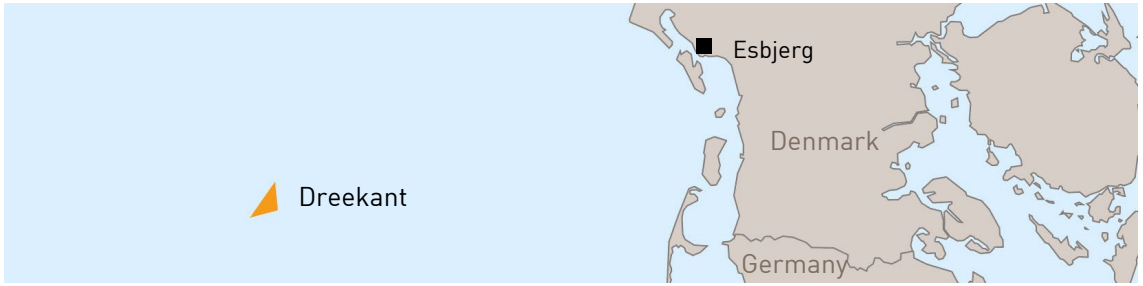
He Dreiht (under construction)



Location	Germany, German Bight (North Sea)
Capacity	960 MW (grid connection 900 MW)
Foundation	Bottom-fixed monopiles
Type of turbine	64 x Vestas 15 MW (incl. capacity optimization)
Commissioning	Dec 2025 (planned)
Shareholders	50.1% EnBW; 49.9% consortium of Allianz Capital Partners, AIP and Norges Bank Investment Management

- Installation of foundations (monopiles incl. transition pieces) completed in summer 2024
- Fabrication of inner array cables finalized; fabrication of turbine components ongoing
- Installation of inner array cables and turbines scheduled in 2025
- >50% capacity secured via PPAs; without EEG support
- He Dreiht was rated for the first time according to the GRESB[1] real estate ESG-rating and received a high score for the pre-operational phase

Dreekant (site secured)



Location	Germany, 140 km off the island of Sylt (North Sea)
Capacity	1 GW
Foundation	Bottom-fixed monopiles
Type of turbine	n/a
Commissioning	2031/32 (planned)
Shareholders	100% EnBW

- Secured in the 2024 German auction for centrally not pre-investigated sites
- Development activities started regarding approval procedure, supply chain and procurement and engineering, with FID anticipated in 2028
- Geophysical site investigation already finalized one month post-award; geotechnical investigation in preparation
- Without EEG support; PPAs will be used

[1] Global Real Estate Sustainability Benchmark.

Sustainable Generation Infrastructure: Offshore wind in UK - development

Mona and Morgan (under development)

Location	UK, 30 km off the coast of Britain (Irish Sea)
Capacity	3 GW (leases)
Area	~300 km² Morgan & ~500 km² Mona
Water depth	35 m
Commissioning	2029/30 (planned)
Remuneration	CfD, PPA and/or merchant offtake in 55 years operation time
Shareholders	50% EnBW & 50% bp

- Wind farms are under development; grid connection agreements signed and development consent applications accepted
- Tendering for all key components including reservation of long lead items ongoing

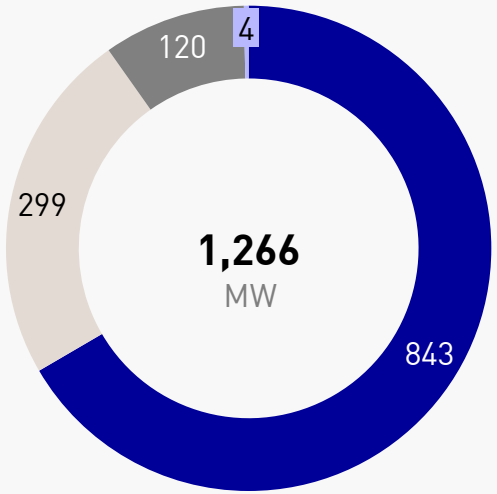
Morven (under development)

Location	UK, 60 km off the east coast of Scotland
Capacity	~2.9 GW
Area	~860 km²
Water depth	65 - 75 m
Commissioning	2035, depending on grid connection
Remuneration	CfD, PPA and/or merchant offtake in 55 years operation time
Shareholders	50% EnBW & 50% bp

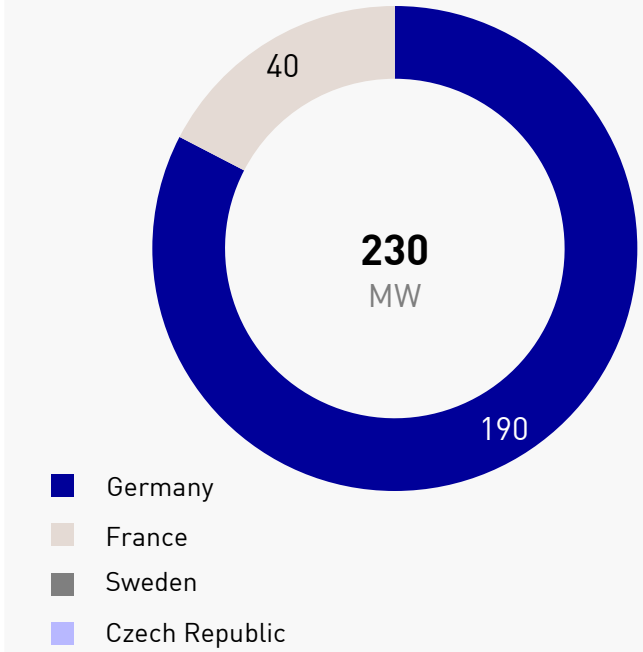
- Various development activities ongoing regarding grid connection, approval, supply chain and engineering
- Actively pursuing cooperation with regional ports, suppliers and authorities to support localization commitments

Sustainable Generation Infrastructure: Onshore wind portfolio and development

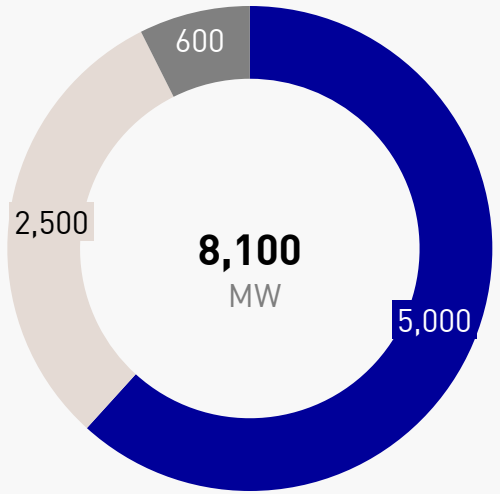
Installed onshore wind capacity[1]
in MW



Under construction
in MW



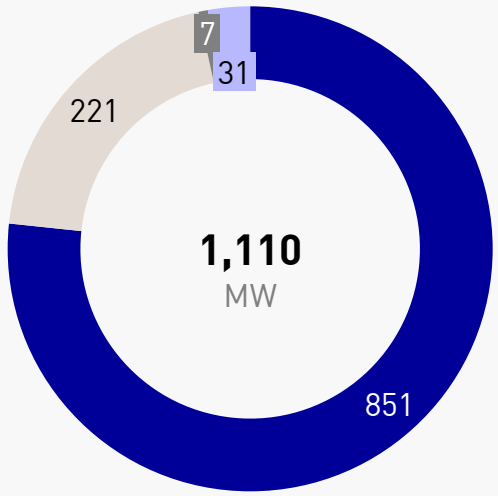
Secured pipeline
in MW



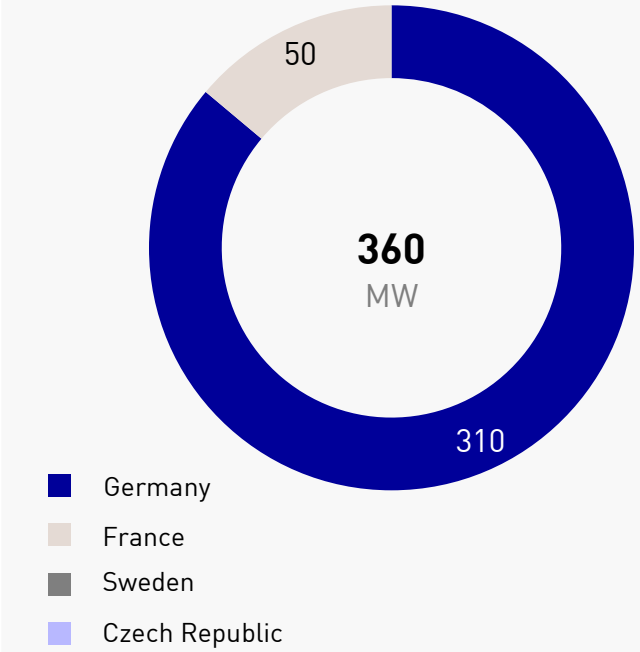
As of 30 June 2024. I [1] As of 30 September 2024.

Sustainable Generation Infrastructure: Solar portfolio and development

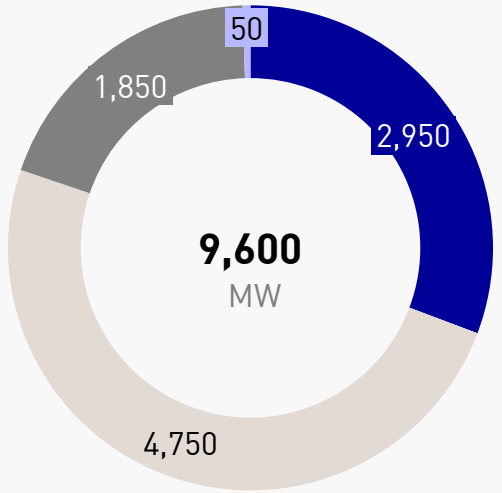
Installed solar capacity[1]
in MW



Under construction
in MW



Secured pipeline
in MW



As of 30 June 2024. I [1] As of 30 September 2024.

Sustainable Generation Infrastructure: Hydropower plants

Run-of-river
in MW

	EnBW share in MW
Rhine power plants	527
Neckar, Donau, Murg, Nagold, Enz, Glatt, Jagst, Kocher, Argen	160
Iller power plants	48
EnAlpin (CH)	247


Lauffen (Neckar)

Pumped storage
in MW

	EnBW share in MW
Schluchsee power plants	870
Vorarlberger Illwerke	1,059
Glems	90
Rudolf Fettweis plant Forbach	43


Glems

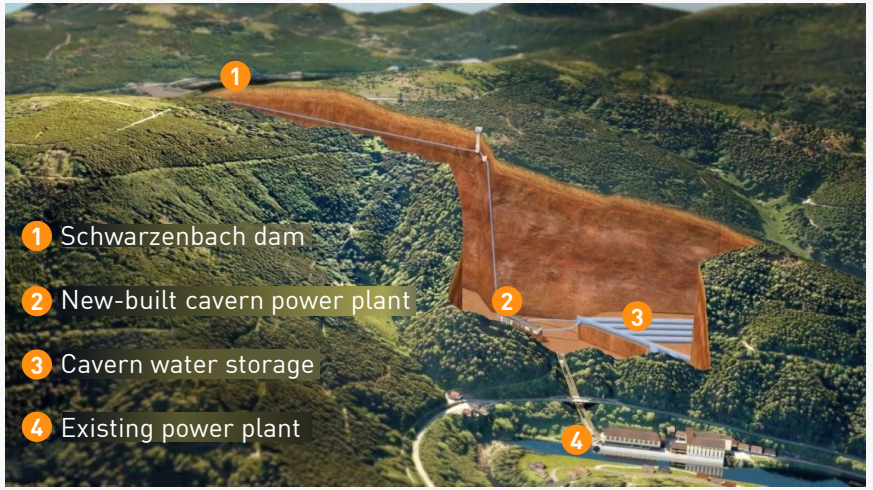
As of 31 December 2023.

Sustainable Generation Infrastructure: Hydropower plants

Germany's biggest run-of-river power plant Iffezheim

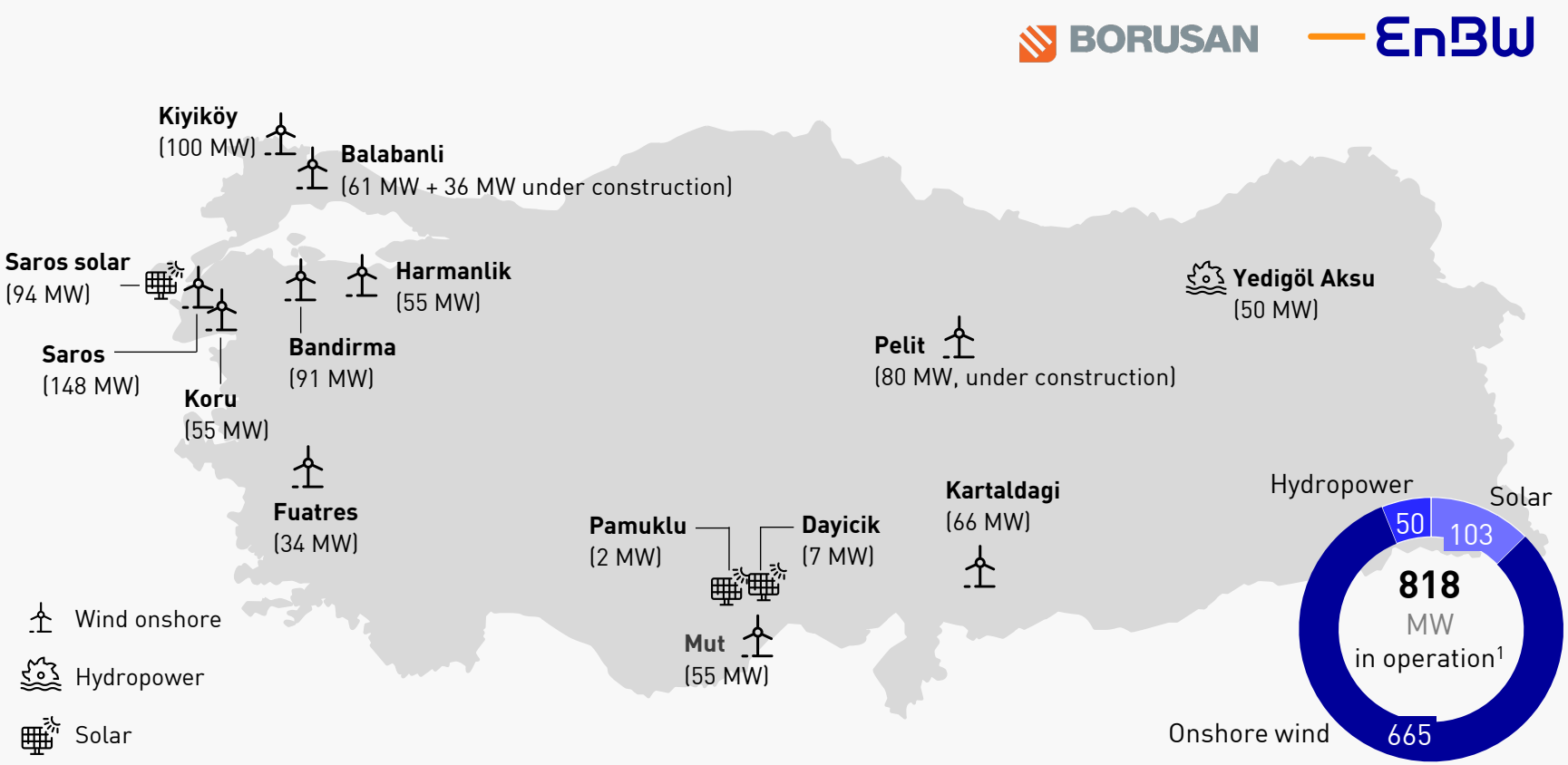
- 5 large Kaplan turbines with a total output of 148 MW
- Supplies around 250,000 households with CO_2-free energy
- In operation since 2013
- The plant is integrated into nature with fish ladders and a naturally designed bank area

Expansion of pumped storage power plant Forbach



- Expansion of the existing pumped storage power plant in Forbach (68 MW)
- With the introduction of the new plant the power output will increase to 77 MW and the electricity production by 10%
- Quickly available power in the event of grid fluctuations thanks to 57 MW pump turbine
- Larger reservoirs allow 7 hours of nonstop power generation
- Currently under construction; COD 2027

Sustainable Generation Infrastructure: Borusan EnBW Enerji – our joint venture in Türkiye



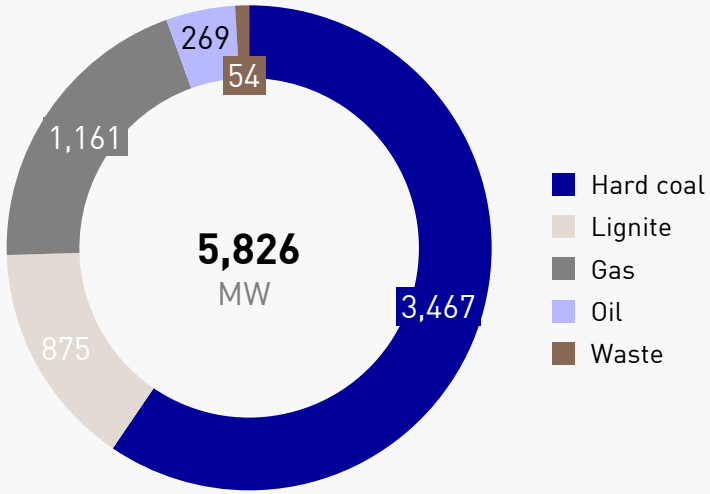
Borusan EnBW Enerji:

- 50/50 joint venture between EnBW and Borusan
- Based in Istanbul (Türkiye), founded in 2009
- One of the leading operators of onshore wind farms in Türkiye
- >800 MW of generation capacity in operation, >100 MW under construction
- For eligible renewable assets, USD-indexed equivalent remuneration

As of 30 June 2024. I [1] Installed capacity not consolidated.

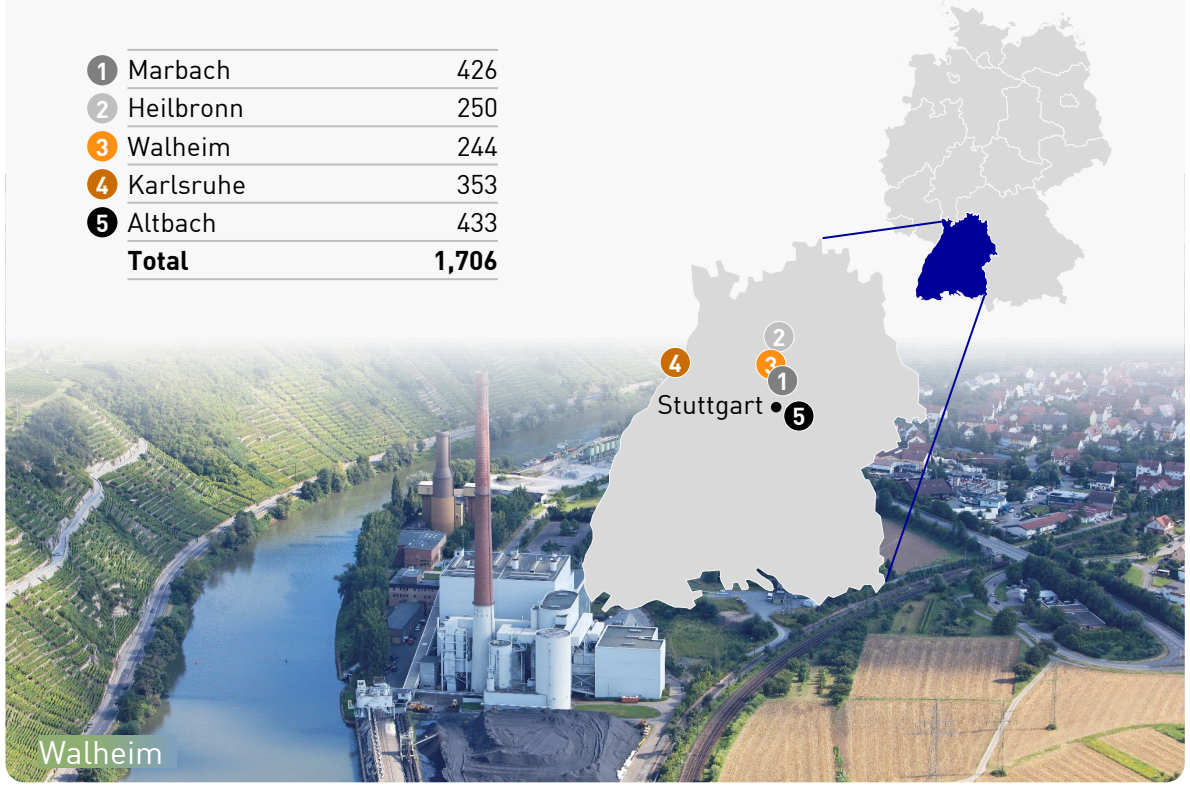
Sustainable Generation Infrastructure: Thermal power plants in Germany

Conventional power plants[1]
in MW



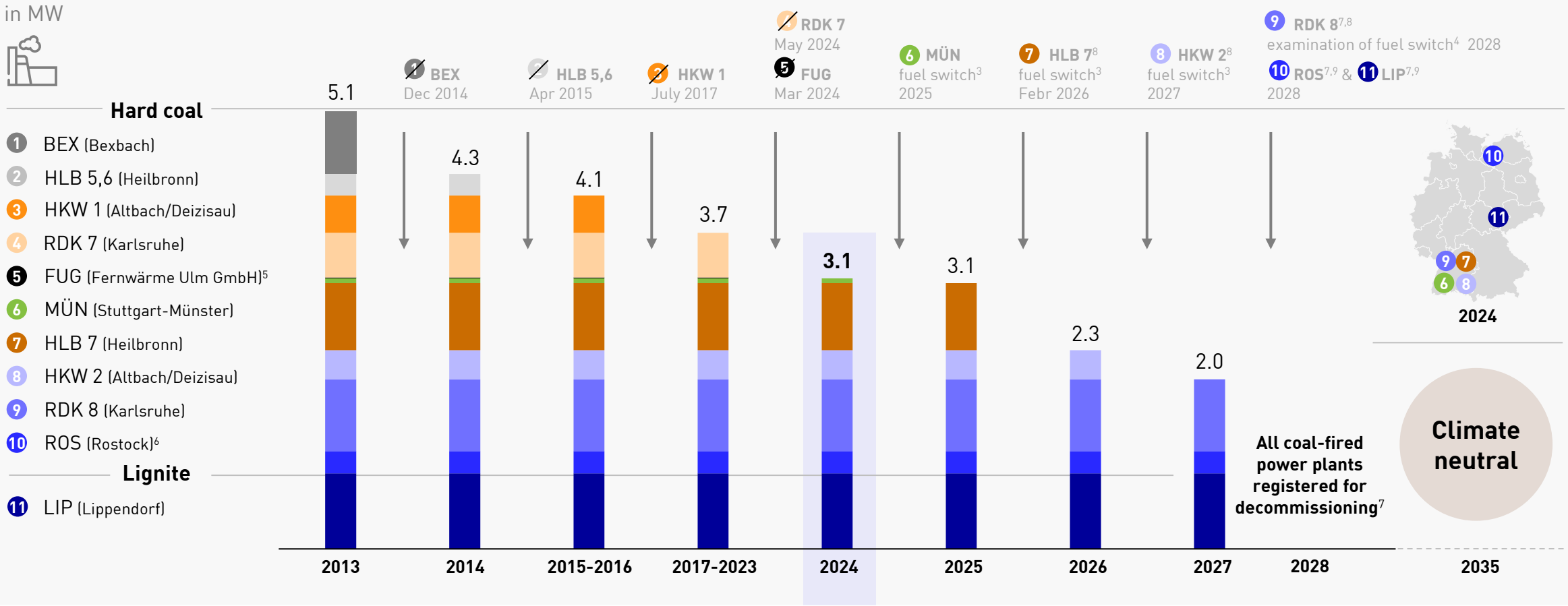
Grid reserve power plants[2]
in MW

1	Marbach	426
2	Heilbronn	250
3	Walheim	244
4	Karlsruhe	353
5	Altbach	433
	Total	**1,706**



As of 31 December 2023; includes activities in which we own minority shareholdings without operational control and PPAs. I [1] RDK 7 in Karlsruhe (517 MW) and GKM 8 in Mannheim (120 MW) were transferred into grid reserve in H1 2024. RDK 7 into the grid reserve of EnBW AG, GKM 8 into the grid reserve of Grosskraftwerk Mannheim AG. I [2] Continued temporary operation (in total 9 units) due to system relevance for redispatch interventions on behalf of the TSO.

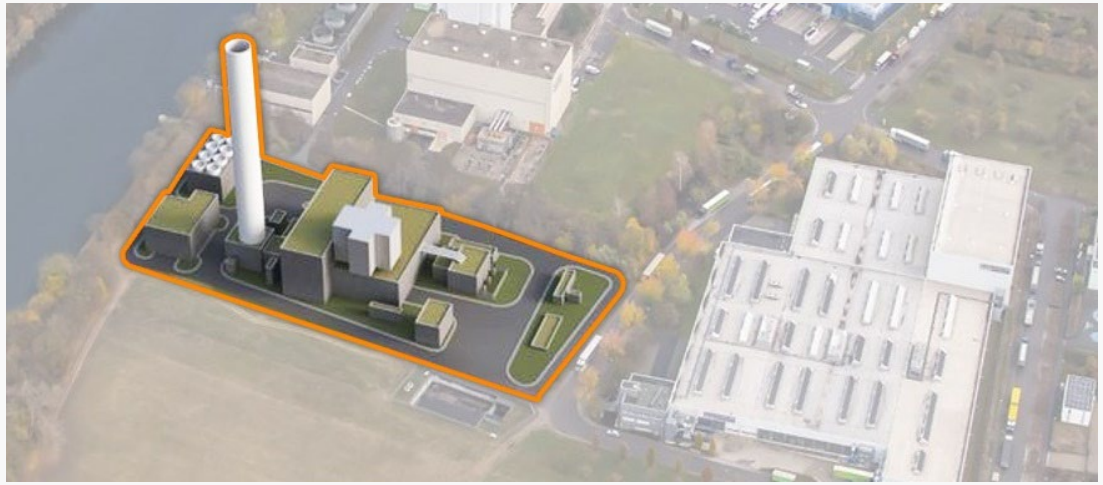
EnBW follows a clear and transparent schedule to phase out coal by 2028[1,2]



[1] As of end of the year. | [2] Excl. minority share (GKM) and PPAs (Buschhaus, Duisburg-Walsum). | [3] Fuel switch from coal to natural gas, and later (mid-2030s) to climate neutral gases e.g. green hydrogen. | [4] Examination of options to switch to climate-neutral dispatchable generation (fuel switch to climate-neutral gases e.g. green hydrogen). | [5] Fernwärme Ulm GmbH: Joint asset of EnBW (50%) and Stadtwerke Ulm/Neu-Ulm GmbH (50%). | [6] Rostock: Joint power plant of EnBW (50,38%) and Rheinenergie (49,62%). | [7] Provided the energy transition progress allows a coal phase-out by 2028. | [8] Market decommissioning as planned, transfer to grid reserve (RDK 8 expected). | [9] In co-operation with a utility partner.

Sustainable Generation Infrastructure: New-build project Marbach – for security of supply

New grid stabilization gas power plant

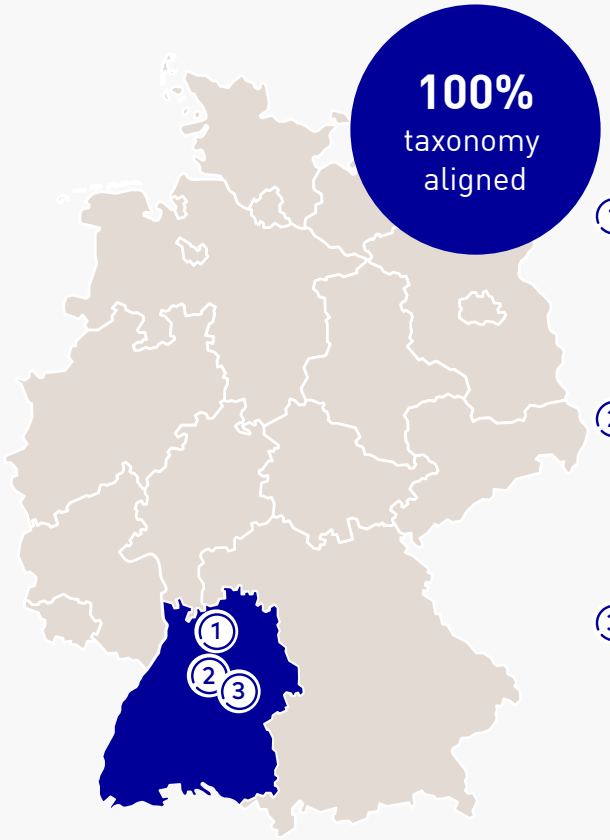


- 300 MW gas turbine power plant at existing EnBW site Marbach
- Will only be started up in the event of a power shortage in the transmission grid, on behalf of the Transmission System Operator
- Can feed 300 MW of power into the grid within 30 minutes and will help to maintain security of supply in Southern Germany
- In operation since end of Q3 2024

Large-scale battery storage

- Cobalt-free battery storage with a total capacity of 100 MWh at existing EnBW's site Marbach
- EnBW's largest battery storage project contributes to security of supply and energy supply in southern Germany
- Construction start expected for H1 2025
- COD 2025/26

Sustainable Generation Infrastructure: New-build projects – H_2-ready flexible gas power plants



1. **H_2-ready gas power plant, 675 MW (CCGT)**
   Expected COD: end of 2026

2. **Gas turbine plant, 124 MW (OCGT)**
   First fire in October 2024
   Expected COD: 2025

3. **H_2-ready gas power plant, 665 MW (CCGT)**
   Expected COD: end of 2026

3 major fuel switch projects from coal to natural gas to climate neutral gases reduce CO_2 from dispatchable generation significantly

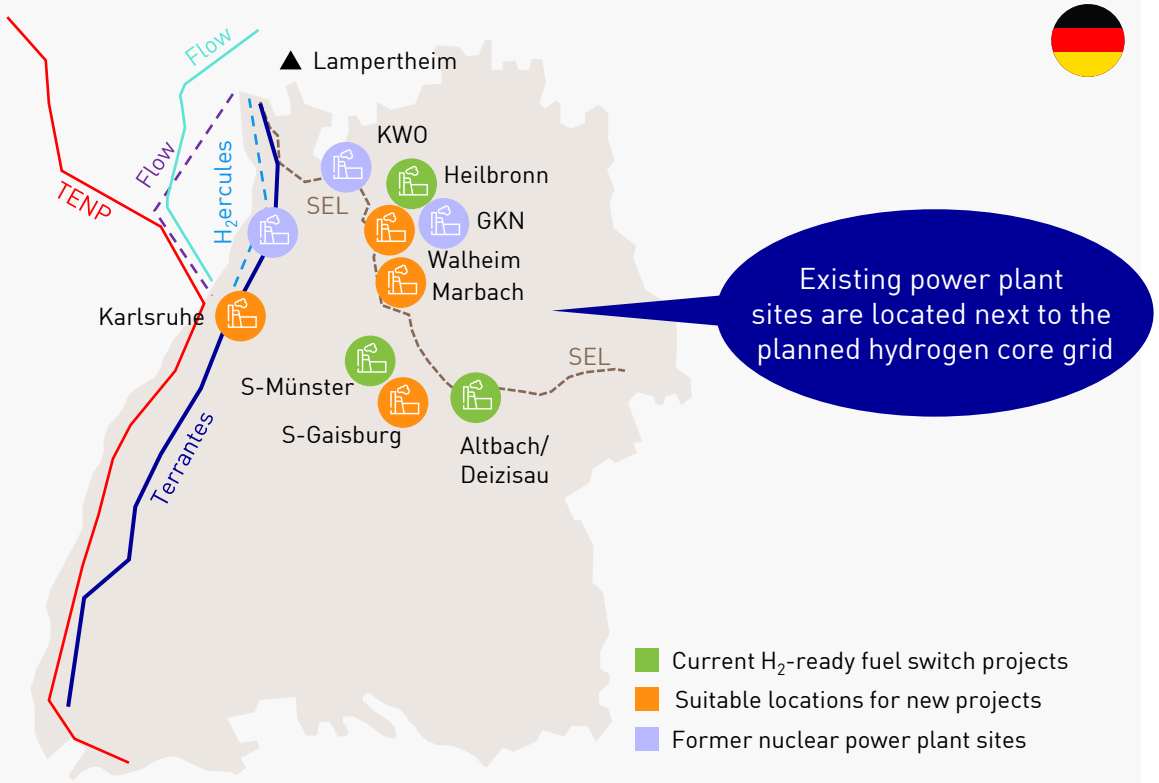
- Final Investment Decision in March 2022
- All 3 projects under construction
- Switch to natural gas reduces carbon emissions immediately by up to 55%
- Dispatchable H_2-ready gas power plants pave the way to exit coal
- Support heat energy transition; located on sites with district heating or industrial heat requirement
- Profitable due to heat supply and contributing to security of supply
- Operation with climate-neutral gases expected from the mid-2030s

Sustainable Generation Infrastructure: New-build projects - German Power Plant Strategy

New H_2-ready CCGT and OCGT in South Germany

- In 2024, Germany's government announced a **tender program for 10 GW of new gas power plants, 5 GW of them H_2-ready.** First tenders are foreseen in **2025**.
- Power plants must convert their operation to hydrogen 8 years after commissioning.
- **EnBW in an excellent position** for the planned tenders:
  - Due to the location in southwest Germany and the existing and future grid infrastructure
  - Opportunities for up to 4 projects at existing power plant sites brings savings on capex and makes EnBW an attractive partner for technology suppliers.
- Project development for initial power plants already started in order to take part in the first tender in 2025. In total, EnBW is planning up to four new projects with a total capacity of **2 - 2.5 GW**.

EnBW's plan for new projects under the German Power Plant Strategy	
Number of plants/sites	Up to 4
Total capacity installed	2 - 2.5 GW
Type of plants	CCGT and/or OCGT
Fuel	Natural gas/from 2035-2040 hydrogen
Location	Established power plant sites in Baden-Württemberg



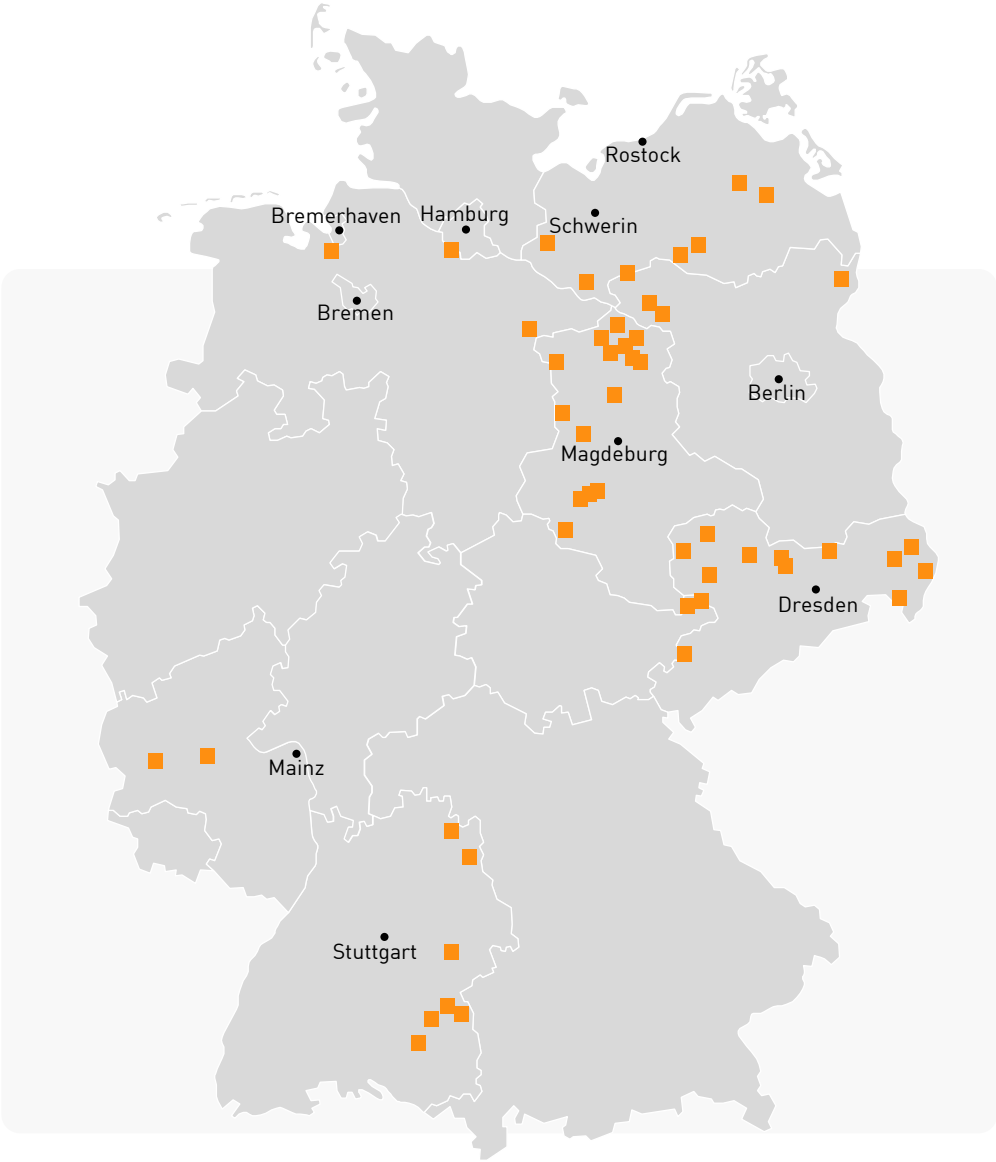
Sustainable Generation Infrastructure: Boosting biogas production

Sustainable production of biogas, biomethane and bio-LNG

- Strong growth in biogas plant portfolio from 10 MW rated thermal input in 2017 to 218 MW in 2023; further growth planned
- Options for site development and reuse safeguard plant asset value when subsidies expire, increasingly with upgrading of biogas to biomethane and future prospects for the CO_2 from the biogas installation to be used in industry
- EnBW to become market leader in biogas production in Germany

- Biogas and biomethane plant operators: BALANCE Erneuerbare Energien, Erdgas Südwest, EnBW

- Investment in and further development of plant design proposals (BALANCE Erneuerbare Energien)
- Conventional biogas to electricity generation, such as combined heat and power
- Sale of proprietary biomethane quantities
- New markets: production of bio-LNG near Fulda by liquefying biomethane from the gas grid. Target market: Fuel for transport sector



Sustainable Generation Infrastructure: Energy Trading – risk mitigation and value creation

Diversified activities and managing market risks

Buying and selling electricity and gas on wholesale markets from intraday to 10+ years

- Interface between generation & markets
- Fuel procurement (incl. emissions) and logistics
- Hedging and dispatching of EnBW assets

Origination activities for electricity and gas

to substitute conventional generation assets by contracts

- LNG trading activities
- Renewables PPA business (e.g. intermediary for production and demand)
- Decarbonized molecules, e.g. ammonia

Active in various markets

- Targeted internationalization: Central Western Europe, Nordics and beyond
- Multinational and highly talented teams in Germany, United Kingdom, Switzerland and Norway

Supporting the energy transition and decarbonization

Partner for project developers and investors in managing market risks

- Tailored power purchase agreements for merchant renewables assets

Offering carbon free electricity to corporates to reach their sustainability targets

- Corporate PPA and Power Sales Agreements based on renewable projects enable companies (large, medium or small) to realize their sustainability strategies and decarbonization efforts

Direct marketing

- Marketing of renewable energy assets during and after their support period with various pricing models as market premium model, spot or fixed prices including battery marketing

Management of merchant risks in own renewables capacity

- EnBW concludes PPAs for PV and offshore wind projects (e.g. He Dreiht)
- Industry leading companies as offtakers:
  Bosch, Covestro, Deutsche Bahn, Evonik, Fraport, PASM (Deutsche Telekom), Saarstahl, Salzgitter

Smart and digital

- Enhancement of automated trading and improved forecasting

Sustainable Generation Infrastructure: Energy Trading – securing generation capacity at an early stage via corporate PPAs

Examples of corporate PPAs from the offshore wind farm He Dreiht

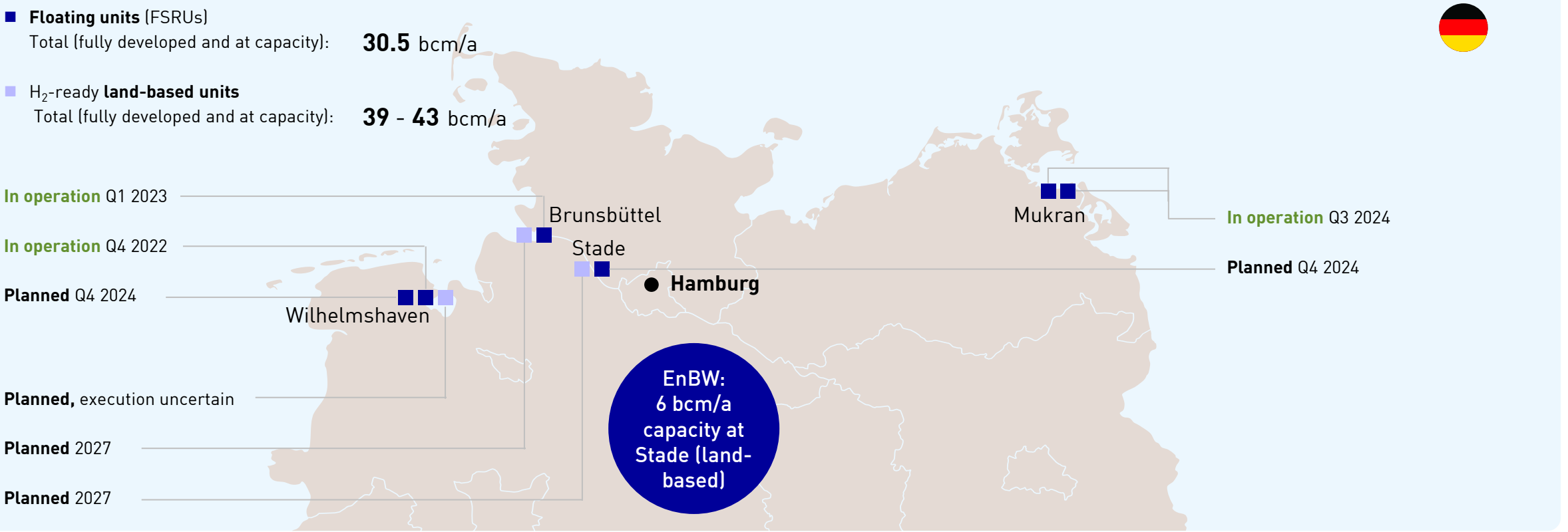
(15 years)

- Bosch: 50 MW
- Deutsche Bahn: 20 MW
- Evonik: 150 MW
- Fraport: 85 MW
- PASM (Deutsche Telekom): 100 MW
- Saarstahl: 50 MW
- Salzgitter: 50 MW

Significant amount of He Dreiht's volume already secured via PPAs

Sustainable Generation Infrastructure: Status of floating and land-based storage regasification units in Germany

Floating units (FSRUs) replace 55 - 60% of Russian gas imports – H_2-ready land-based terminals replace FSRUs



Source: Terminal Operators.

Business activities/segments

Sustainable Generation Infrastructure

- Power generation – wind, solar, hydro, pumped storage, gas, coal
- District heating
- Gas storage
- Energy trading

Adj. EBITDA: €4,648 m
Employees: 7,563

System Critical Infrastructure

- Transmission grid for electricity and gas
- Distribution grid for electricity and gas
- Water supply

Adj. EBITDA: €1,772 m
Employees: 11,635

Smart Infrastructure for Customers

- Sales of electricity and gas
- E-mobility
- Home battery storage
- Broadband

Adj. EBITDA: €240 m
Employees: 5,711

As of 31 December 2023.

System Critical Infrastructure:
Our electricity and gas grid business at a glance

EnBW
Factbook 2024

Overview	**~180,000** km electricity & gas grids	**3** TSO players	**12** DSO players	**~780** electricity & gas concessions of Netze BW (DSO)
Financials & ESG	**€1.8** bn adj. EBITDA	**~40-45%** adj. EBITDA share (2024e)	**11,635** employees	**German Sustainability Award 2024** for Netze BW (DSO)
Highlight projects	**SuedLink** key electricity HVDC transmission line	**Ultranet** new electricity HVDC transmission line	**Hydrogen core network** national transport infrastructure	**Grid booster** large battery-based storage system

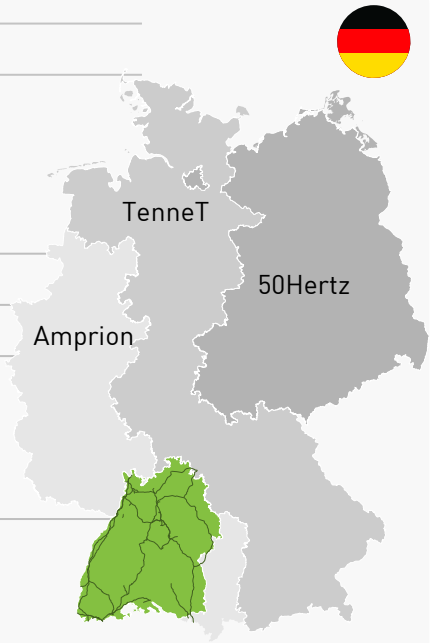
As of 31 December 2023.

System Critical Infrastructure: Electricity grids

EnBW
Factbook 2024

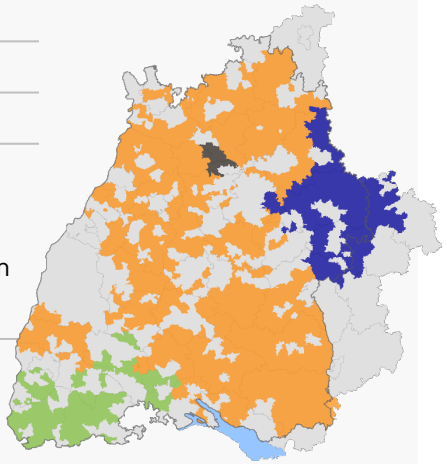
Electricity transmission grids[1]

Operators #	1
Operators	Transnet BW[2]
Efficiency[3]	100%
Market share	8% transmission grid length in Germany
Grid length	3,000 km • Extra-high voltage 380 kV: 2,200 km • Extra-high voltage 220 kV: 800 km
Highlight projects	• SuedLink 2 x 2 GW, ~700 km • ULTRANET 2 GW, ~340 km



Electricity distribution grids[1]

Operators #	6
Operators	**Germany** Netze BW Netzgesellschaft Düsseldorf Netze ODR NHF netze naturenergie netze **Czech Republic**: PRE
Efficiency[3]	92 - 97%
Market share	6% distribution grid length in Germany
Grid length	145,100 km • High voltage 110 kV: 8,500 km • Medium voltage 30/20/10 kV: 44,200 km • Low voltage 0.4 kV: 92,400 km
Highlight projects	• Smart grid and e-mobility projects • High & medium voltage substations



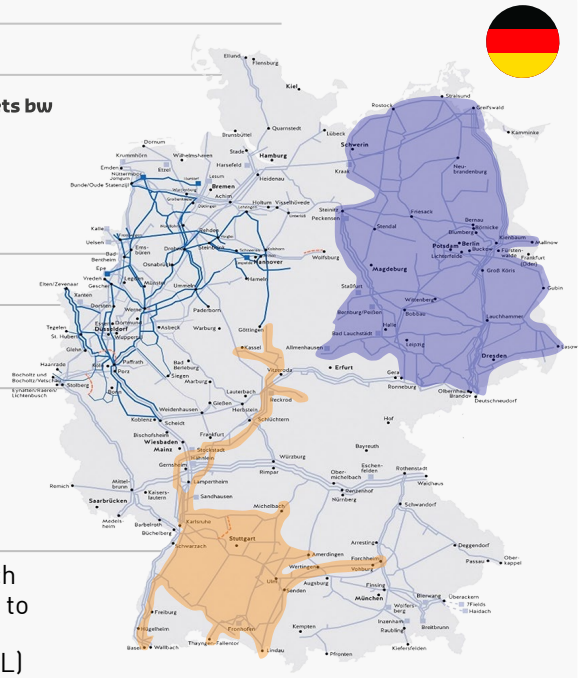
[1] Fully consolidated. | [2] TransnetBW: 50.1% EnBW; 49.9% KfW and consortium (Südwest Konsortium Holding) led by SV SparkassenVersicherung. | [3] Efficiency score (Recognized operational cost in relation to the respective supply task, specified by the Federal Network Agency) as of August 2024.

System Critical Infrastructure: Gas grids

EnBW
Factbook 2024

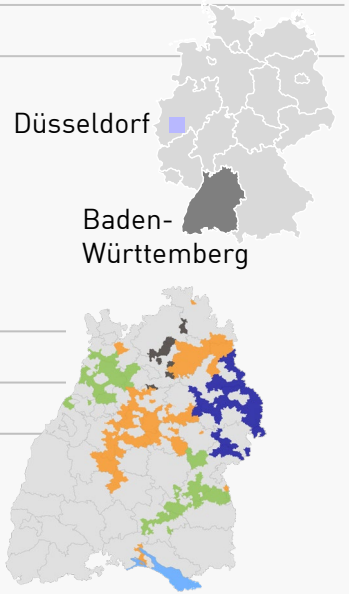
Gas transmission grids[1]

Operators #	2
Operators	Terranets bw terranets bw Ontras ONTRAS
Efficiency[2]	100%
Market share	24% transmission grid length in Germany
Grid length	High pressure: 9,800 km
Highlight project	Connection of the FuelSwitch project Altbach power plant to the new gas transmission pipeline of terranets bw (SEL)



Gas distribution grids[1]

Operators #	6
Operators	**Germany** Netze BW Netze BW Netzgesellschaft Düsseldorf Netzgesellschaft Düsseldorf mbH Netze ODR Netze ODR NHF netze NHF netze Netze SüdWest **Poland** GEN GEN
Efficiency[2]	82 - 100%
Market share	3% distribution grid length in Germany
Grid length	21,100 km • High pressure: 2,600 km • Medium pressure: 13,300 km • Low pressure: 5,200 km
Highlight project	Project Öhringen hydrogen island: The gas heating system at the site is operated volatile with a natural gas-hydrogen mixture. Subsequently, the system will be operated with 100% H_2

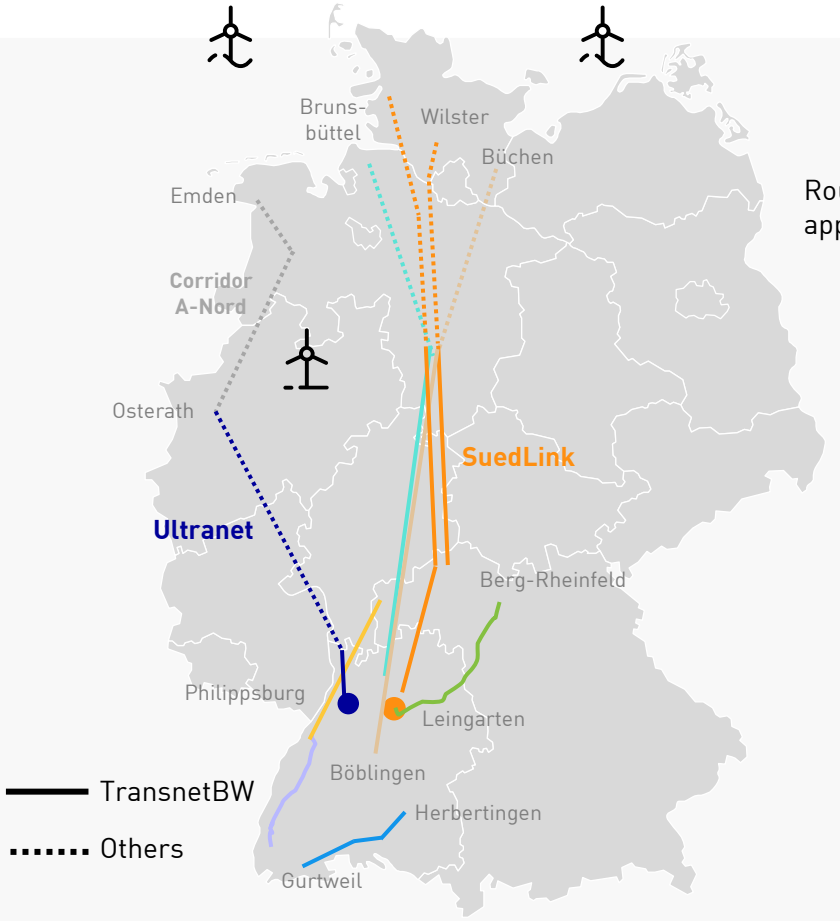


[1] Fully consolidated. I [2] Efficiency score (Recognized operational cost in relation to the respective supply task, specified by the Federal Network Agency) as of August 2024.

System Critical Infrastructure: Expansion of electricity transmission grids to ensure security of supply

	Projects	Grid length total	Grid length TransnetBW	Scheduled
AC[4] grid reinforcement	**Rhine river area in Baden**		~121 km	2029
	North Baden-Württemberg		~82 km	2031
	North-east Baden-Württemberg		~99 km	2026
	Hochrhein		~140 km	2032
DC[4] grid expansion	**SuedLink[1]** 2x2 GW	~700 km	~450 km	2028
	Ultranet[2] 2 GW	341 km	~42 km	2026
	NordWestLink[3] 2 GW	~600 km	~440 km	earliest 2037
	SuedWestLink[3] 2x2GW	~730 km	~526 km	earliest 2037

TRANSNET BW



Source: BNetzA, EnBW, Net Development Plan (NEP 2037/2045 (2023). I [1] In cooperation with TenneT. I [2] In cooperation with Amprion. I [3] In cooperation with TenneT and 50Hertz. I [4] AC and DC: alternating current and direct current.

System Critical Infrastructure: New-build project - SuedLink

Key facts

- 2 x 2 GW
- Length: ~700 km, ~450 km TransnetBW's responsibility
- Joint project by: TransnetBW and TenneT
- Scheduled completion: End of 2028
- Voltage level (DC): ±525 kV
- 100% underground cable connection
- Major subprojects: Laying the cables through a mine near Heilbronn, tunneling under the river Elbe

Construction:

- Of TransnetBW's section, ~100 km of 450 km currently under construction or approved for construction

SuedLink - one of the largest German infrastructure projects for energy transition

Project complexity

- 6 states, 39 counties, 50,000 land parcels and 10,000 owners
- 20 freeways, 30 railroad lines, 60 water bodies
- Handball-sized diameter cable weighing 41 kg/m

Regulatory

- >8,000 transport permits
- 700 events, 19,000 planning-relevant comments, >30,000 processed objections
- >14,000 standards, laws and regulations

TransnetBW
TenneT

Details about SuedLink

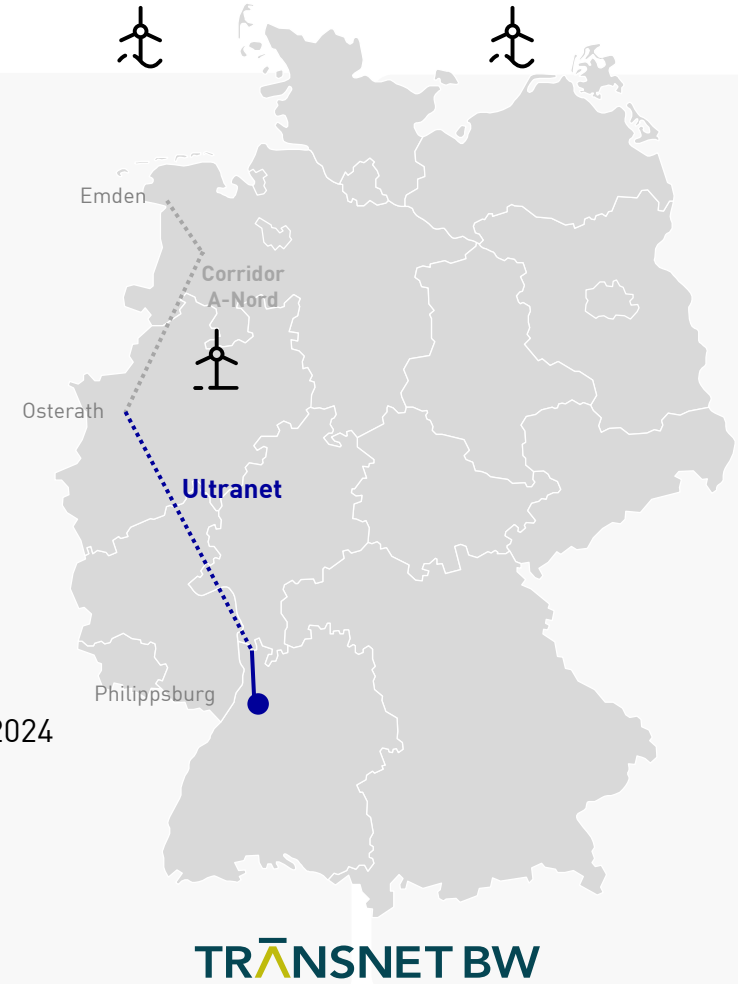
System Critical Infrastructure: New-build project - Ultranet

Key facts

- 2 GW
- Length: ~340 km, ~42 km TransnetBW's responsibility
- Joint project by: TransnetBW and Amprion
- Scheduled completion: End of 2026
- Voltage level (DC): ±380 kV
- 100% overhead power line: mainly extension to hybrid system with AC and DC lines

Construction:

- Transmission towers: 19 completed, 17 started (in total, Ultranet needs to build 98 new towers and add new circuits in 69 cases)
- Converters: DC converters in Philippsburg: COD since 2024
- Cables: 50% installed so far



Project complexity of TransnetBW's section B1

- Additional hang-up rope to existing transmission system: ~21 km
- Replacement of overhead line systems: ~16 km
- New construction: ~5 km

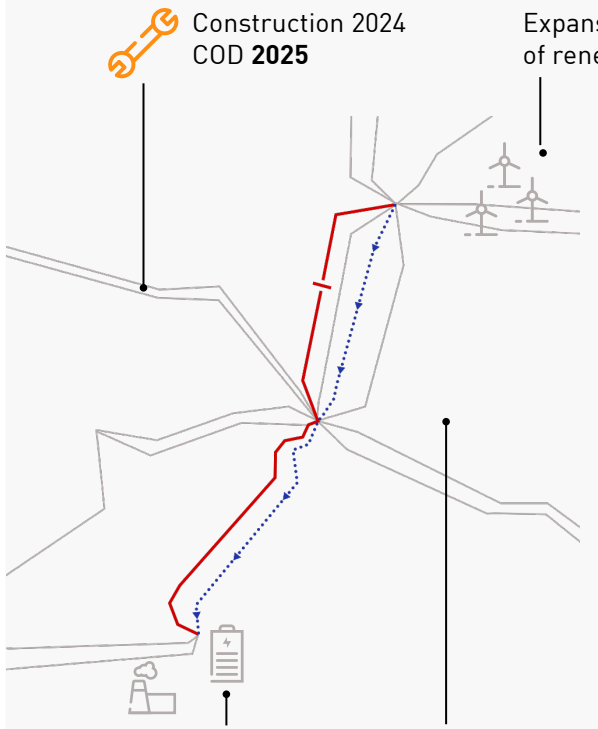
Details about Ultranet

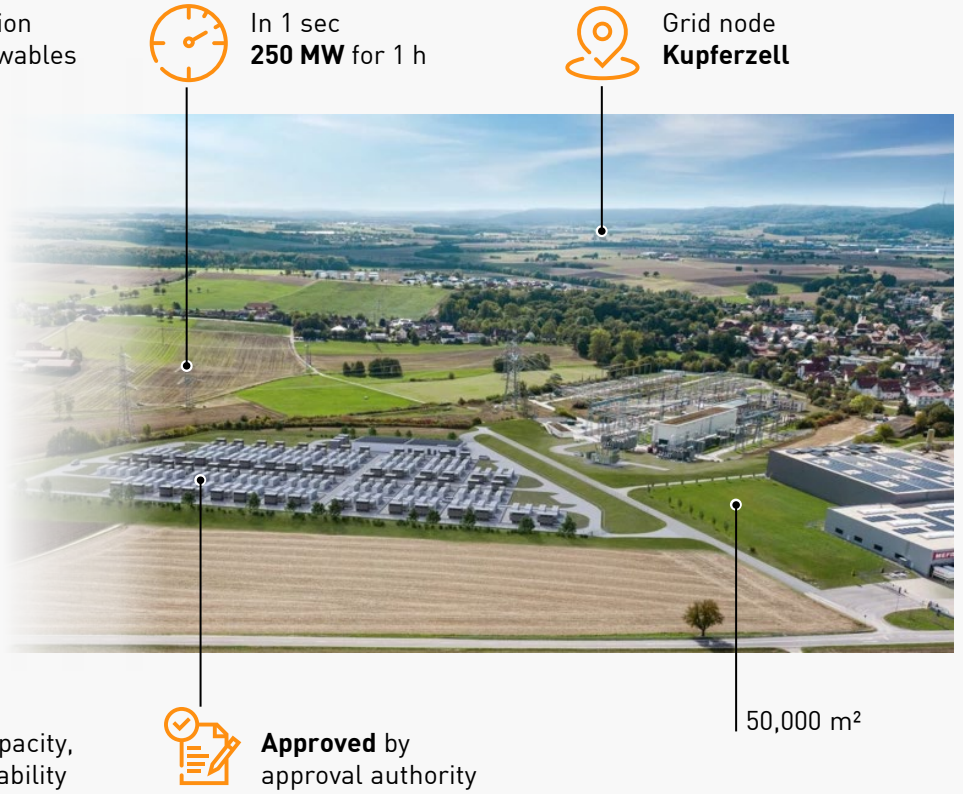
System Critical Infrastructure:
New-build project: Grid booster for transmission grid

Grid booster Kupferzell – one of the world's largest battery storage systems

TRANSNET BW

- **Innovative concept**
  250 MW fed into grid node for up to 1 hour with a response time of less than 1 second; also integrated with an offshore wind farm
- **Safety buffer**
  In the event of a failure in the grid, the booster feeds the grid
- Even in a passive state, the grid booster makes a decisive contribution to increasing the transmission capacities of the existing lines while maintaining the same level of security
- **Key advantage**
  Less expensive redispatching required





Details about grid booster

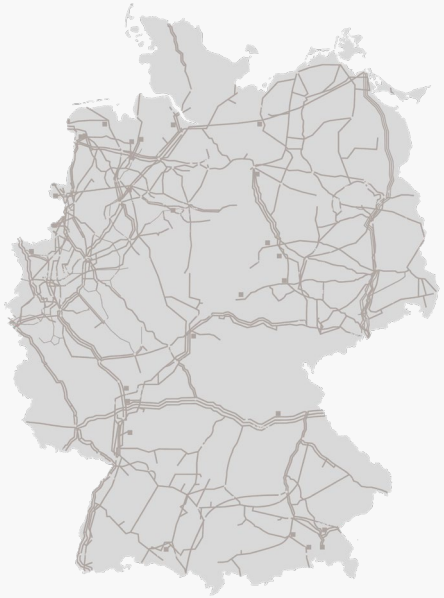
System Critical Infrastructure: H_2 core network as starting infrastructure in Germany

H_2 core network 2032 – based on joint application in summer 2024

- Development of a national transport infrastructure as the basis for the ramp-up of the H_2 market
- Initial H_2 core network with approximately 9,700 km of pipeline to be developed by long-distance gas grid operators
- About 60% converted pipeline and about €20 bn invest in total
- Completion by 2032 (optional extension to 2037)
- H_2 core network is the initial stage; further expansion in line with specific customer needs
- Financing framework still needs improvement
- EnBW to initially contribute around €1 bn to development and expansion of the national H_2 core network

terranets bw

Baden-Württemberg to be connected from the start by conversion of South German natural gas pipeline (SEL). Other possible projects include terranets bw's Donau-Lake Constance and Illertal pipeline



ONTRAS

Leipzig region to be connected with the central German chemicals triangle, the industrial centres in Saxony-Anhalt and Lower Saxony, the Berlin region and the Meissen industrial arc

Other possible projects include a connection south of Berlin via Eisenhüttenstadt to Poland and on to the Lausitz region, south of Rostock to Glasewitz and other connecting pipelines

Note: terranets bw and ONTRAS are cross-regional gas transmission system operators.

System Critical Infrastructure: Distribution grid – new technology & digitalization projects - illustrative for Netze BW

Highlight projects

90 high voltage projects >€5 m/project

- 2 high voltage substations (380 kV/110 kV) as joint projects between Transnet BW and Netze BW → completion in 2025 and 2026
- High & medium voltage substations:
  - Substation Burladingen → Innovative, eco-efficient, digital and unique
  - Substation Kleinhirschbach & Tomerdingen → new modular system for accelerated construction
- High voltage line reinforcement and construction
  → 5 projects

Research projects

Netze BW

- Drones, e.g. for inspections
- Curative network management, overhead line monitoring and weather-dependent operation
- Flexible grid management
- Climate-resilient planning
- Network laboratory for realistic testing of automated coordination of flexibilities in low voltage
- New materials and techniques to improve the capacity of high-voltage equipment
- 3D Building Information Modeling to improve efficiency in building high voltage infrastructure

System Critical Infrastructure: Integration of renewables and e-mobility in distribution grids

Challenges and activities

Challenges of the distribution grids in Baden-Württemberg

- Widespread use of solar
- High expansion targets for wind power
- Growing prevalence of electric cars and electric heating systems

Smart technologies (e.g. controllable distribution substations) potentially reduce the extent of grid expansion

EnBW has a thorough understanding of the grid business

- EnBW and its predecessor companies have been active in the grid business for more than 100 years
- Security of supply is EnBWs highest priority – which is why we employ modern and tested technologies and maintain an extensive network of service centers

In addition to the expansion of distribution grids, EnBW is investigating smart distribution grids together with partners in several "grid laboratories"

EnBW grid laboratories and grid innovations

E-mobility

- **Integration of e-mobility in** apartment buildings in urban areas and in family homes in suburban/in rural areas → **3 projects**
- **Intelligent home-charging:** Remote controlled charging at home → **4 projects**

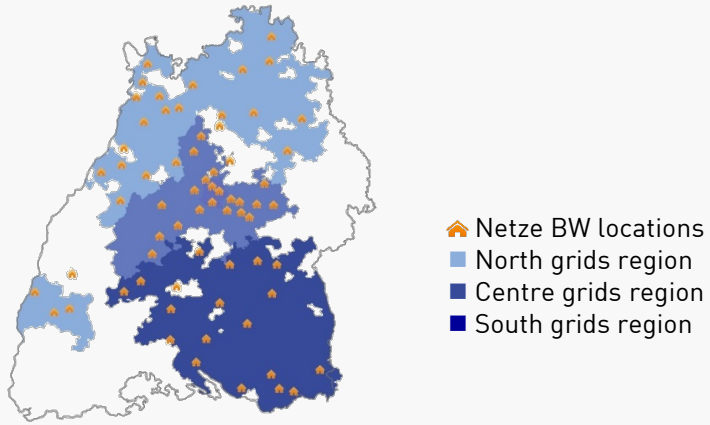
Smart grids and others

- **Sonderbuch**
  Interactive smart grids demonstrator
- **Freiamt – flexQgrid**
  The grid as distributed power plant; implementation of grids traffic light
- **Hydrogen-Island Öhringen**
  Renewable energies stored as hydrogen in the natural gas grids

System Critical Infrastructure: Local authorities and municipal utilities

Concessions (Netze BW)

- ~650 electricity concessions
- ~130 gas concessions
- 2.36 m electricity customers
- 247,500 gas customers



Shareholdings in municipal utilities

- Alongside our own activities, our shareholdings in local services are a key pillar of our regional business. We place great importance on close teamwork and **long-term and durable partnerships with municipal shareholders**
- ~100 shareholdings, numerous network providers and municipal utilities
- ~€4.8 bn revenue[1]

Local sale and distribution

- Products and services serving >1,400 municipalities across the core region and beyond
- Close collaboration with municipal and district councils to deliver tailored smart infrastructure solutions
- >€300 m order value 2024

Our product portfolio

- Mobility & traffic solutions
- Energy & heating solutions
- Digital services
- Safety & reliability

As of 30 June 2024. I [1] Excluding ESW, NaturEnergie, EnBW ODR, ZEAG.

Business activities/segments

Sustainable Generation Infrastructure

- Power generation – wind, solar, hydro, pumped storage, gas, coal
- District heating
- Gas storage
- Energy trading

Adj. EBITDA: €4,648 m
Employees: 7,563

System Critical Infrastructure

- Transmission grid for electricity and gas
- Distribution grid for electricity and gas
- Water supply

Adj. EBITDA: €1,772 m
Employees: 11,635

Smart Infrastructure for Customers

- Sales of electricity and gas
- E-mobility
- Home battery storage
- Broadband

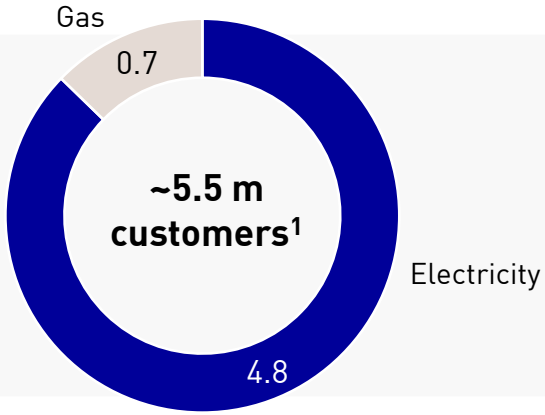
Adj. EBITDA: €240 m
Employees: 5,711

As of 31 December 2023.

Smart Infrastructure for Customers: Sustainable engagement for our customers

Activities & key facts

- **Sale** of electricity and gas
- **E-mobility**
- **Home energy solutions** with storage and solar
- **Broadband**/telecommunications



- **Adj. EBITDA** 2023: €240 m
- **Investments** 2023: €400 m, mainly in e-mobility
- **Employees**: 5,711

E-mobility

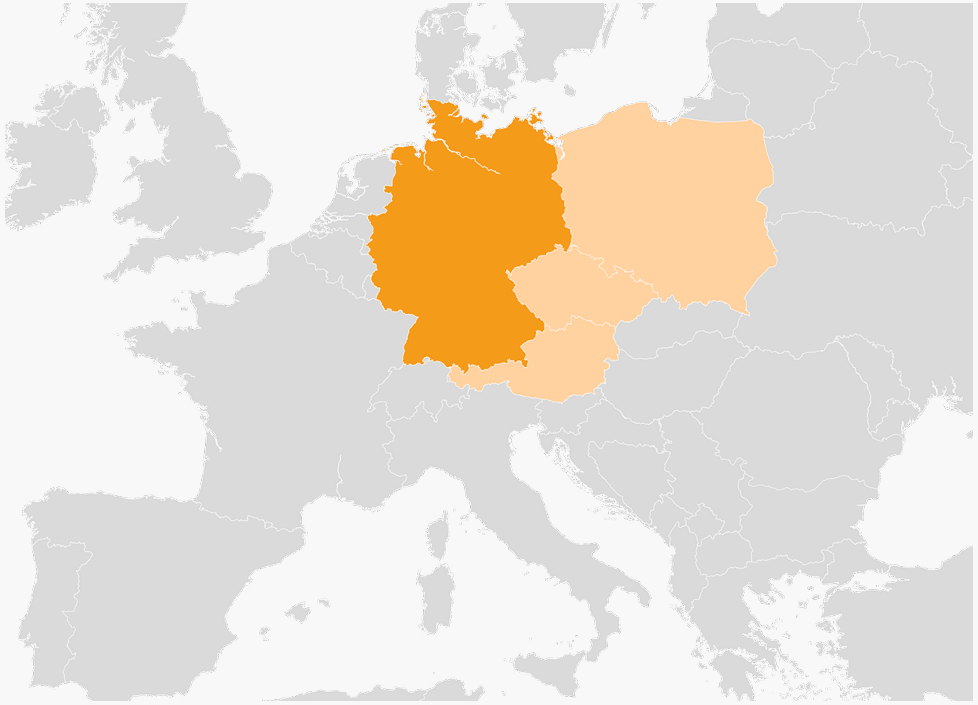
- EnBW is a **leading charge point operator** and **e-mobility provider** in Germany
- Largest fast-charging network in Germany with **~5,500** fast-charging points (own infrastructure)[2] with a target to reach >20,000 points by 2030
- Access to **>700,000** charging points in **17** European countries (roaming)
- EnBW mobility+ app downloaded >2.7 m time

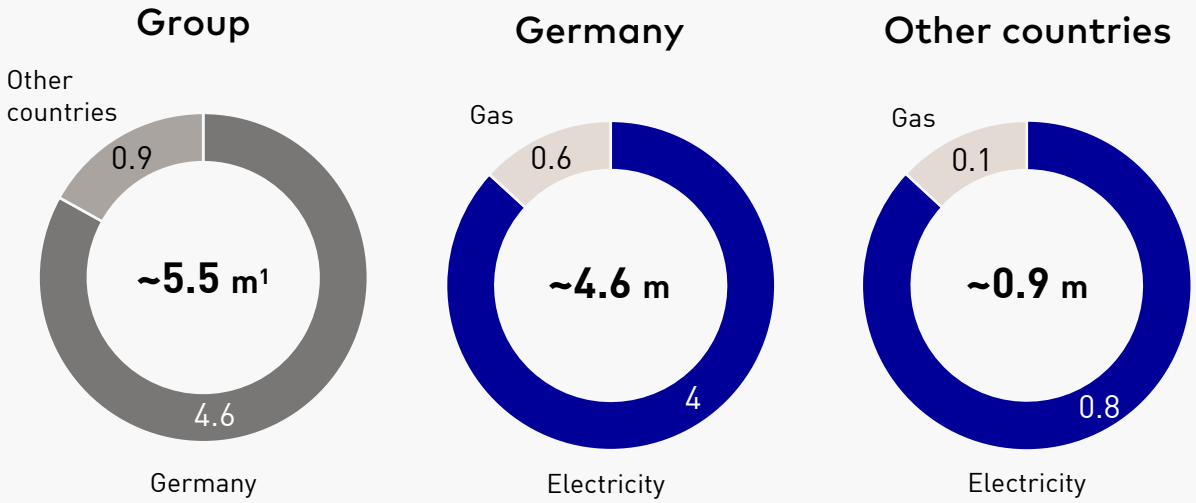
[1] Of which 5.4 m B2C and 0.1 m B2B customers; 0.9 m customers outside Germany; without customers in the areas of water, district heating, e-mobility and infrastructure energy services. | [2] As of November 2024.

Smart Infrastructure for Customers: Our customer base

Regional footprint in our core market Germany and beyond

- Germany (core market), Czech Republic, Austria, Poland

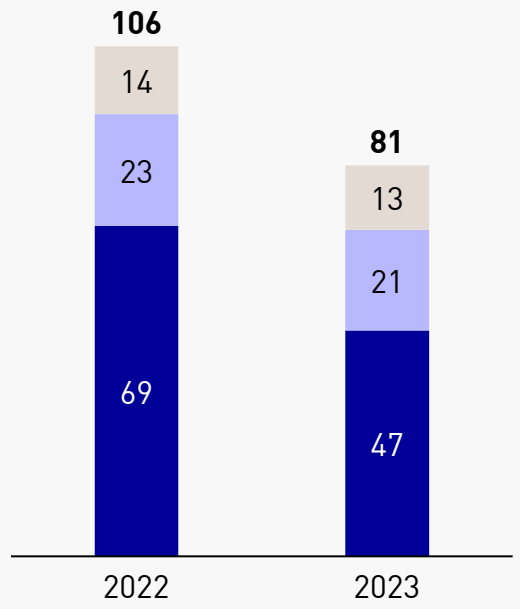




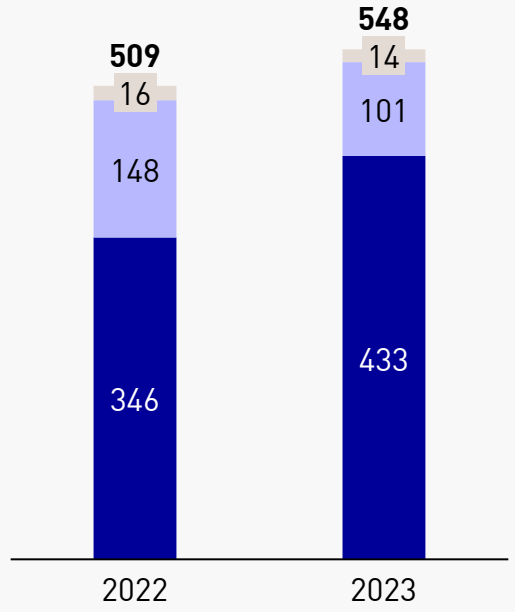
[1] Of which 5.4 m B2C customers and 0.1 m B2B customers.

Smart Infrastructure for Customers: Electricity and gas sales volumes

Electricity sales volumes
in bn kWh



Gas sales volumes
in bn kWh



Retail and commercial customers (B2C)
Business and industrial customers (B2B)
Trading

Smart Infrastructure for Customers: Services for a sustainable & connected future

Smart home solutions for our customers

- **Integrated, networked** solutions for the energy market of the future incl. e-mobility and home storage **for private households**
- Specialist and **in the top league of home storage** in Germany

Leader in e-mobility

20%
DC market share in Germany[1]

~5,500
fast-charging points in Germany

2.8m x
downloads of EnBW's e-mob app

- **Largest fast-charging network in Germany**
- Multiple awards as **Germany's top e-mobility provider and charge point operator** with the leading e-mobility app

Fiber broadband and services

~92,000 customers
incl. 13,400 industrial

~24,000 km
fiber optic cable

~463,000,000 GB
transported data volume

- One of the **largest fiber backbone networks** in southern Germany[1]
- Serves **increasing data transport needs**

Energy-related services for Utilities

~80 commercial clients

~3 m contracts
under management

~€120 m revenue

- Energy-related **Software as a Service** (SaaS) and Business Process Outsourcing **to utilities** across Germany
- Standardization, cost optimization and metering-related services

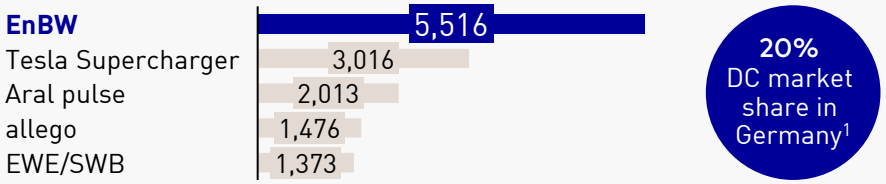
[1] Serves >40% of municipalities in Baden-Württemberg.

Smart Infrastructure for Customers: E-mobility

- **Market leader** with the largest and fastest-growing network
- Focused on the most lucrative EV charging segment: **DC fast-charging**
- Attractive for site hosts, with superior customer experience through **premium hardware and in-house software** and strong consumer brand recognition with **EnBW HyperNetwork**
- **Experienced leadership team** with a proven track record
- **EBITDA break-even** expected in 2024; annual invest ~€200 m

Germany's largest fast-charging network

DC charging points



20% DC market share in Germany[1]

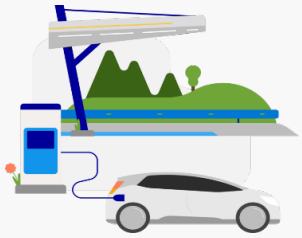
~5,500 (today) and **>20,000** (by 2030) fast-charging points **in Germany**

>700,000 charging points in **17** **European** countries within **EnBW HyperNetwork**

97% area coverage of EnBW fast chargers **within a 50 km radius**

>2.8 m downloads of EnBW mobility+ app

100% **green** electricity at EnBW charging stations



As of November 2024. I [1] Share by number of Combined Charging System for charging points, min. 50 kW, Germany.

Smart Infrastructure for Customers: E-mobility market leader (CPO & EMP) in Germany

Charge Point Operator (CPO)

Handles B2B relations with EMPs and is responsible for building, operating and servicing charging stations

Awarded Germany's Best CPO & EMP

Prime locations with high utilization stand-alone or with partners

Urban	**Retail**	**Long distance**
Fast to very fast charging in the city	Fast, convenient charging while shopping/eating	Very fast range extension on motorways/main roads

- Optimal customer experience through **central, high-utilization locations**
- **Rapid densification** with low follow-up costs
- **Nationwide** technical management
- **24/7 service** and 1st level support by phone & on-site
- **Partner network** to ensure response times

Electric Mobility Provider (EMP)

EMP provides customers access to CPO charging networks through contracts and authorization methods (e.g. charging card, app) for EV charging.

Best e-mobility app with >2.8 million downloads

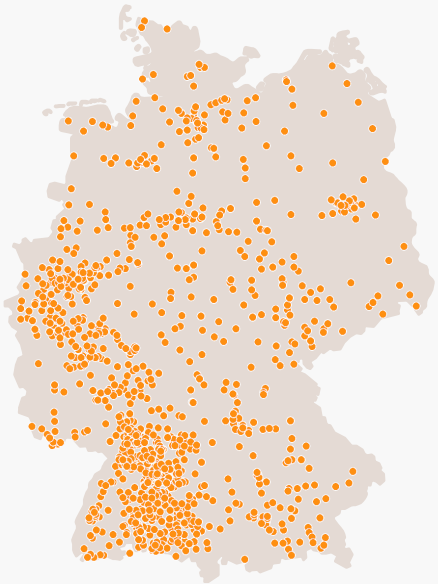
- **>700,000** charging points
- In **17 European** countries

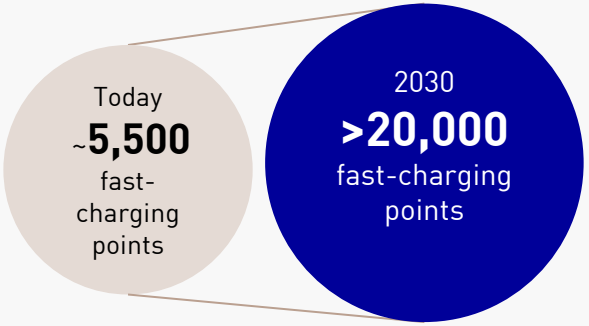
Parallel development of EMP and CPO increases competitiveness through synergies.
Fast charging (DC/HPC) offers the highest economic potential with recurring revenues and high energy throughput.

Smart Infrastructure for Customers:
E-mobility - actively expanding fast-charging infrastructure

Germany's largest fast-charging network

- **97%** of area coverage (EnBW fast chargers within a **50 km** radius) and **79%** within a **30 km** radius





Pipeline

- ~2,000 fast-charging locations
  11,000 secured until 2026

Our high-quality partners (illustrative):

REWE, dm, hagebau, toom, Shell, OMV, HELLWEG, TANK & RAST GRUPPE, euronics

Smart Infrastructure for Customers: Development of biomethane business

Biomethane market development

- Biomethane opens up additional applications for rapid decarbonization in the transport and buildings sector
- Due to the ambitious climate protection targets for 2030 and 2045, demand for biomethane for power and heat generation and transport sector will increase strongly in the coming years
- Our subsidiaries support companies in switching to sustainable energy supplies with biomethane, bio-SNG and bio-LNG
  - Transport, mass balancing and supply of renewable gases
  - Trading for biomethane GHG quota and in future bio-LNG in transport sector
- Expansion of non-subzidised business (Germany) and internationalization by cross-border procuremer and marketing activities
  - Some member states of the EU that have not yet established a biomethane market are the implementation of a biomethane quota


Source: BDEW

Innovative solutions:
Our R&D projects for the green future

~€40 m R&D expenditures in renewables, hydrogen, storage and e-mobility projects in 2023

Offshore wind

Pilot projects facilitating offshore wind expansion

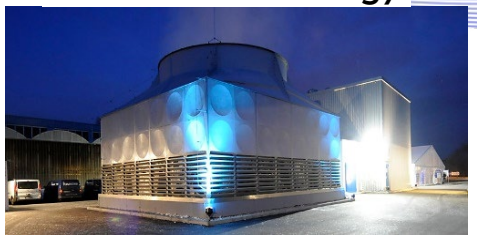
- New concepts for floating offshore wind turbines
- Transportation drones for easier servicing and maintenance
- Advanced environmental assessment for offshore installations

Solar

More electricity by using the power of the sun

- New photovoltaic cell design with higher cell efficiency at lower manufacturing cost than today's mainstream
- Inverters able to feed solar power directly into railroad power grids

Geothermal energy



Heat and electricity from deep geothermal energy

- Enabling sustainable district heating
- Extracting domestic lithium for car batteries from thermal water in geothermal facilities

Green hydrogen

Hydrogen from renewable energy sources

- Living lab H_2-Wyhlen: production of green hydrogen and meanwhile the second power-to-gas facility under construction owned by naturenergie
- Energy park Bad Lauchstädt: Piloting the entire value chain from production, transport and storage of green hydrogen
- H_2Mare project aims to produce hydrogen offshore

E-mobility

Clean transport for customers

- Dynamic wireless charging both when stationary and while driving (cars and trucks)

Hydrogen strategy: Existing natural gas business as springboard for H_2 transformation

Natural gas business as springboard

H_2 transformation and positioning

Natural gas business as springboard		H_2 transformation and positioning
No existing assets in natural gas production	Production	Development and implementation of a project pipeline to acquire know-how and market insight
LNG contracts with more than 2.5m t per year in future in the global trading portfolio	Trading	First mover and establishment as midstream player by developing routes, customer relationships and partnerships
Second largest transportation network in Germany with 9,800 km	Transportation network	Actively involved with >700 km in H_2 core network via our TSO subsidiaries terranets BW and ONTRAS
15% market share of cavern storage in Germany	Storage	Leverage good market position to increase value and develop H_2 storage portfolio (focus on repurposing)
Third largest distribution network in Germany with 21,200 km	Distribution network	Pilot projects and preparation for H_2 conversion, dependent among other things on local district heat plans
1.2 GW gas-fired power plants throughout Germany	Power plants	Leading role in carbon-neutral power generation (e.g. 1.5 GW H_2-ready fuel-switch CCGT under construction)

Hydrogen: Our activities

1 H_2 Whylen Real-World Lab

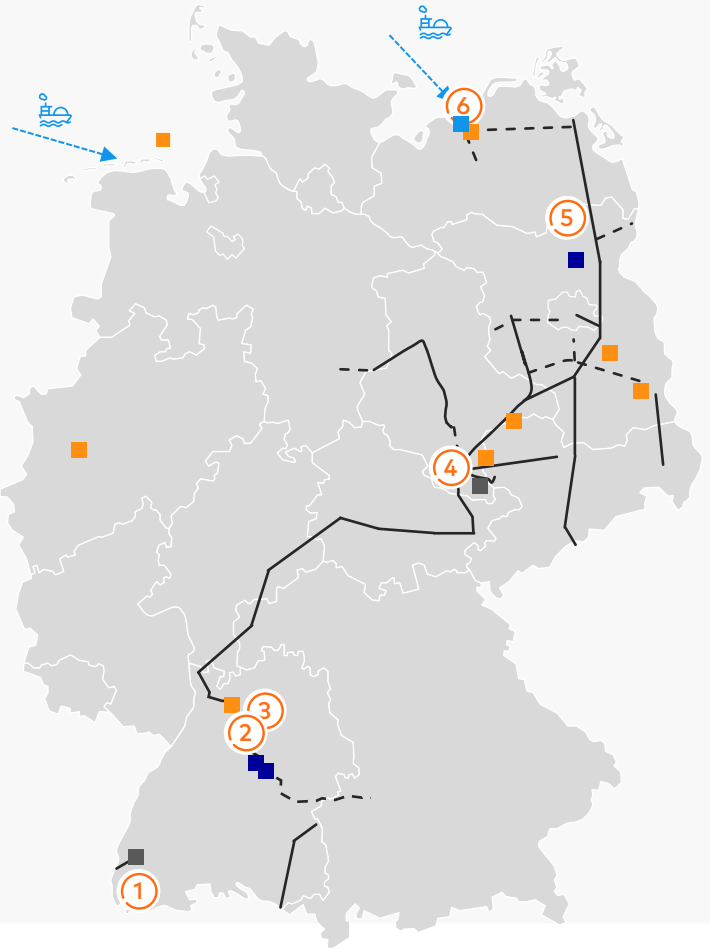
- Production of green hydrogen from run-of-river hydropower
- Generating capacity: 6 MW_{el}
- Planned start-up: 2025 (1 MW_{el} already on stream)
- Currently under construction

2 Fuel-switch power plants

- Conversion of three coal-fired heat and power plants to natural gas and subsequently hydrogen
- Total output 1,500 MW_{el}, 829 MW_{th}
- Planned start-up: COD 2025/26, conversion to H_2 by 2035 at the latest

3 Öhringen Hydrogen Island

- Up to 30% hydrogen blended into gas grid for heat supply
- Supply of operating site plus 26 households
- Operating buildings supplied from 2021
- Follow-up project, which focuses on the conversion up to 100% hydrogen at the Öhringen facility



4 Energy Park Bad Lauchstädt

- Integrated project along hydrogen value chain in project consortium (uniper, Terrawatt, DBI)
- Hydrogen produced used in industry
- Electrolyzer generating capacity: 30 MW
- Wind farm, electrolyzer and pipeline planned to start operating in 2025

5 Flow – making hydrogen happen

- Conversion of natural gas pipelines and construction of additional hydrogen pipelines for total of 1,100 km (Lubmin/Rostock - Baden-Württemberg) from 2025
- Project partners: ONTRAS and terranets bw together with Gascade

6 Rostock hydrogen port

- Production of green hydrogen
- Consortium project (Port of Rostock, Rheinenergie, RWE, EnBW)
- Generating capacity: 100 MW
- Electrolyzer planned to start operating from 2027

As of September 2024.

Grids | Generation | Import & trading | Fuel switch plant

Hydrogen:
Innovative solutions in the energy park Bad Lauchstädt

Future-oriented energy and hydrogen economy project highlights:

- **Project period**: 2021-26
- **Project volume**: €210 m of all partners and €34 m state subsidy
- Researching green H_2 technology and bringing it to market maturity
- Successful integration of various energy sectors at national level
- Intelligent production of green hydrogen from wind power, its storage, transport, marketing and utilization
- First time test on an industrial scale in central Germany
- Consortium of experienced partners with proven expertise

1 Generation	2 Storage	3 Transport	4 Marketing	5 Utilization
Wind farm 40 MW	Cavern 50 million m³	Conversion of a natural gas pipeline	Development, analysis & optimization of possible business models	Chemical industry
Electrolyzer 30 MW				Mobility

Details about energy park

EnBW Group: NTRAS, VNG Gasspeicher, VNG Handel & Vertrieb

Others: DVGW, DBI GTI, TERRAWATT, uniper, ENERGIEPARK BAD LAUCHSTÄDT

Overview

Sustainability embedded consistently across all relevant levels of our business model towards climate neutrality

Green financing products and instruments

€7.8 bn
Green bonds[1]

>85%
taxonomy-aligned **CAPEX**

100%
taxonomy-aligned Green Financing **Framework**

€2 bn
ESG-linked **syndicated credit line** and €100 m green **promissory note**

Zero
coal-related growth investment or funding activities

All
funding flows in line with pathway towards **climate neutrality**

ESG-focused processes and governance

Sustainability
Investment Committee with clear guidelines towards climate neutrality

ESG reporting
through **integrated** annual report, ESG Factbook and Climate Transition Plan

Green criteria
in **procurement** processes

ESG due dilligence
in **supply chain** focusing on human rights

Guidelines
for **environmental impact assessments** for solar and wind

ESG principles
in financial **asset management** with multiple ESG awards

[1] Cumulative issuance; as of 20 November 2024.

Diversified funding strategy

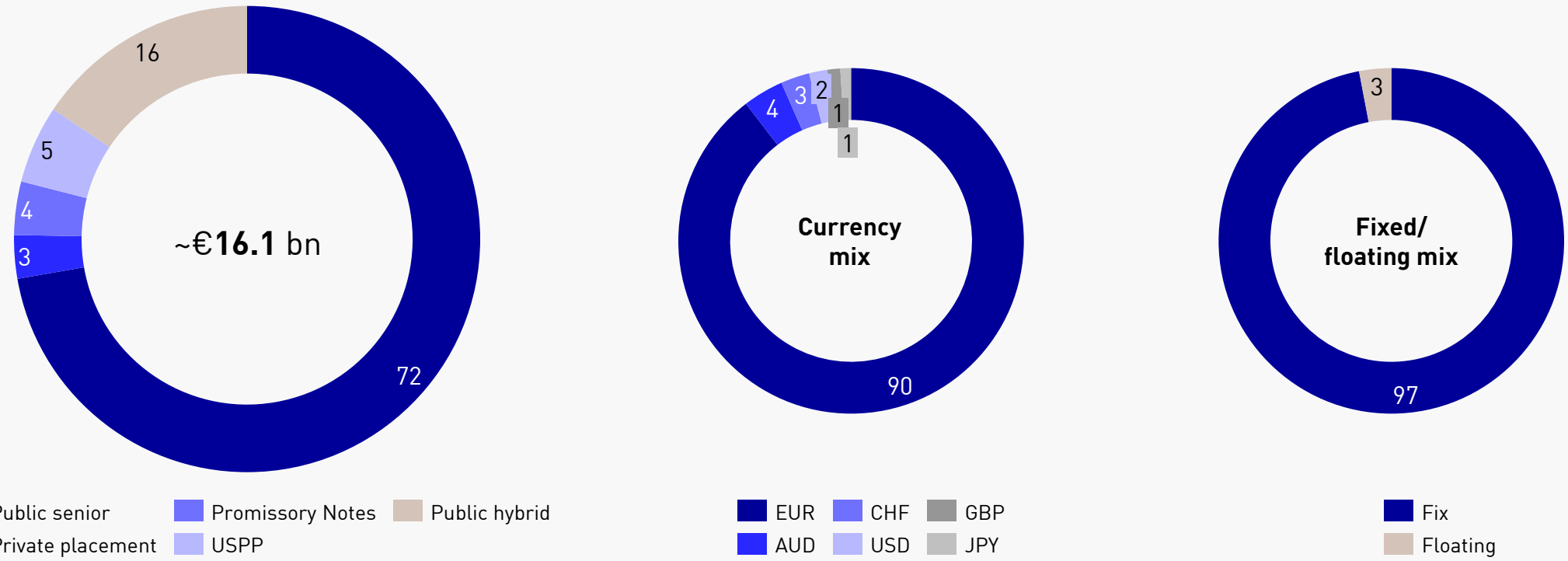
Funding volumes	€**2.5** - **3** bn p.a. on average	• Refinancing of maturing liabilities • Funding of corporate growth
Tenors	up to **30** years	• EnBW's assets are typically characterized by long life cycles • Decision based on market demand, maturity profile & interest levels
Green financing	Cumulative total issuance of €**7.8** bn[1]	• First green bond issued in 2018 • Target 2030: At least 85% of all new issues to be sustainable • Green Financing Framework use of proceeds 100% environmentally sustainable
Currencies	**EUR**, **CHF**, **USD**, **AUD**, **GBP** & **JPY** outstanding	• Main focus EUR but also AUD, CHF, GBP, JPY & USD • Flexible use of cross-currency opportunities
Diversification	... in **instruments**, **currencies** & **markets**	• Bonds, promissory notes, USPP • Exploring new markets and broadening investor base • Public offerings & private placements

[1] As of 20 November 2024.

Prepared to scale up in diversification

Capital market debt

in %



As of 20 November 2024.

Flexible access to various funding instruments

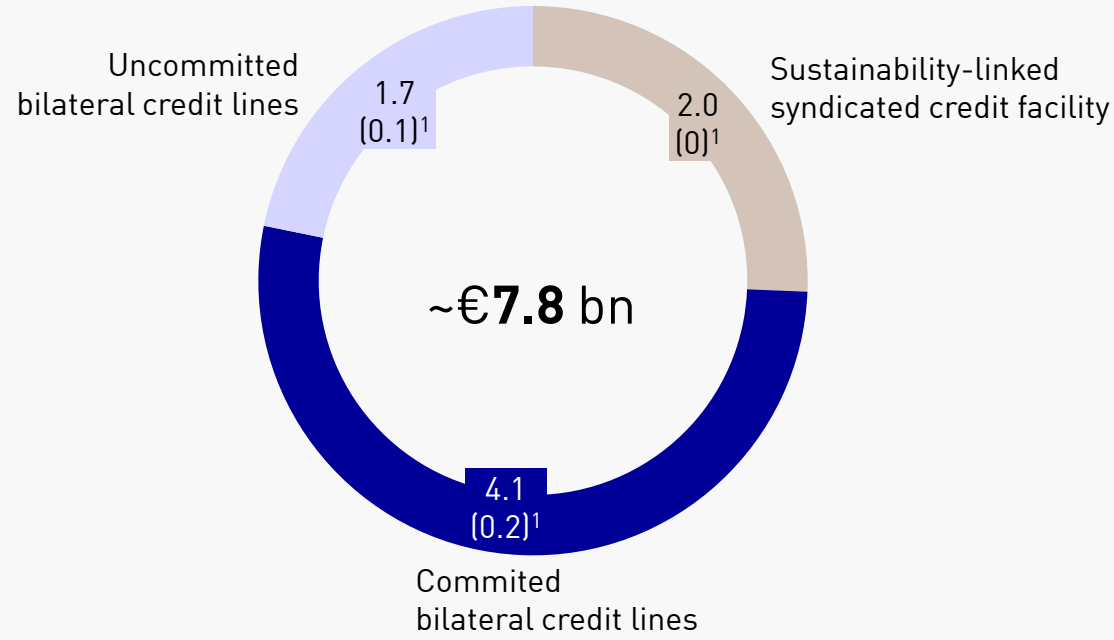
Financing programmes	Volume
Euro Medium Term Notes Programme	€15 bn
Australian Medium Term Notes Programme	unlimited
Commercial Paper Programme	€2 bn
Sustainability-linked syndicated credit line	€2 bn

Other financing sources

Hybrid bonds
Bilateral credit lines (committed & uncommitted)
Promissory notes, USPP
Bank loans and promissory notes of subsidiaries

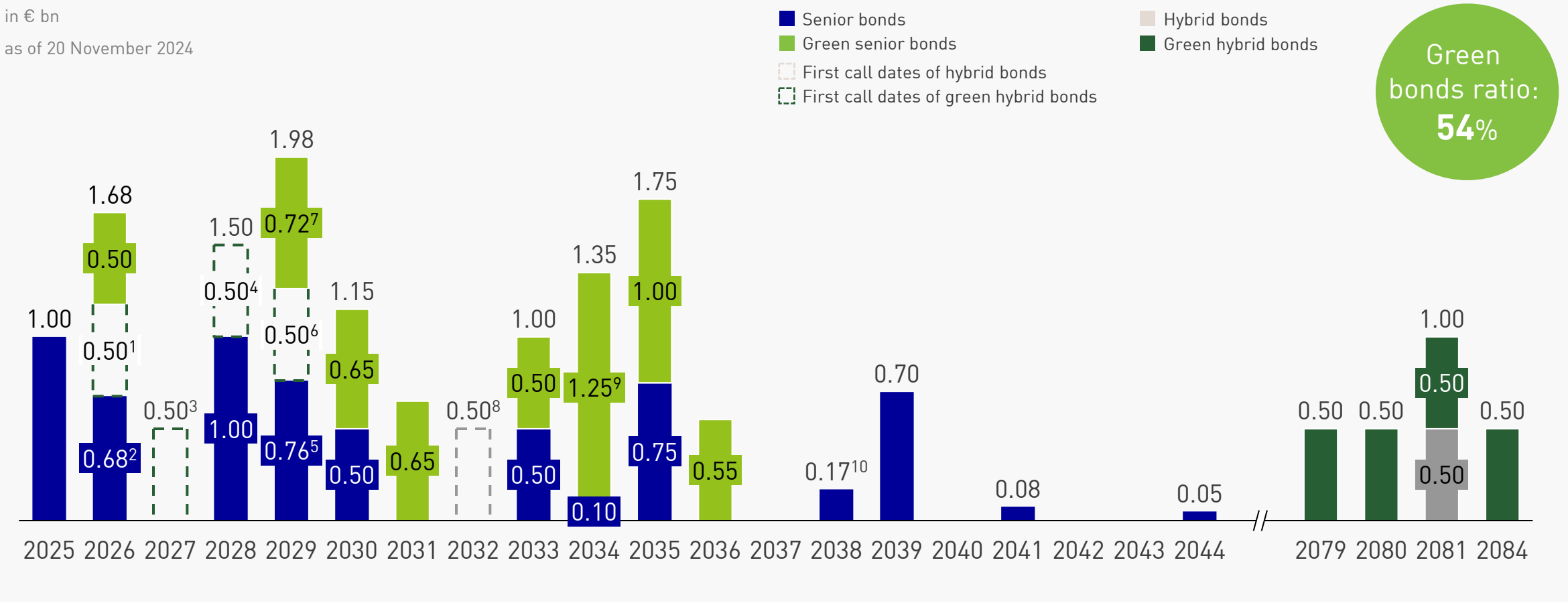
EnBW benefits from strong access to bank funding as additional liquidity source

in €bn



As of 5 November 2024. I [1] Amounts utilized as of 30 September 2024 are shown in brackets.

Maturities of EnBW's bonds



[1] First call date: green hybrid maturing in 2080.
[2] Includes CHF 165 m, converted as of 20 November 2024.
[3] First call date: green hybrid maturing in 2079.
[4] First call date: green hybrid maturing in 2081.
[5] Includes CHF 245 m, converted as of 20 November 2024.
[6] First call date: green hybrid maturing in 2084.
[7] Includes AUD 350 m (swap in € at issuance).
[8] First call date: hybrid maturing in 2081.
[9] Includes AUD 650 m (swap in € at issuance).
[10] JPY 20 bn (swap in € at issuance).

Allocation of eligible green assets to green bonds reflects the value chain of a fully integrated utility

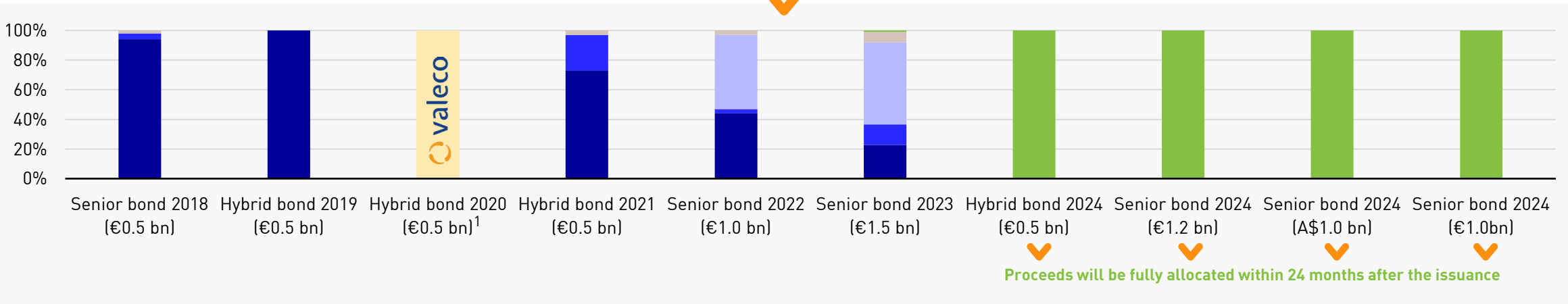
Offshore & onshore wind

Solar

Electricity distribution infrastructure

E-mobility charging infrastructure

Allocation to green bonds

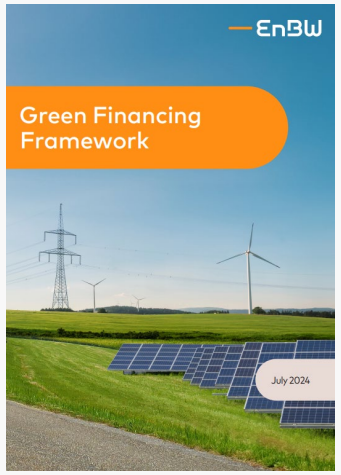


[1] The proceeds were used to refinance the acquisition of French wind and solar company Valeco in 2019.

Green Financing Framework reflects commitment to sustainability, best market practices and regulatory framework

Key facts

- First published in 2018 and most recently updated in 2024
- Alignment with ICMA Green Bond Principles & LMA Green Loan Principles
- Second-party opinion by ISS-Corporate



Use of proceeds

100% taxonomy aligned

Eligible green activity	Project category	Contribution to UN SDGs	EU taxonomy[1]
Renewable energy	• Solar (PV) energy generation	7 AFFORDABLE AND CLEAN ENERGY, 13 CLIMATE ACTION	4.1 Electricity generation using solar photovoltaic technology (NACE: D35.1.1)
	• Offshore/onshore wind energy generation		4.3 Electricity generation from wind power (NACE: D35.1.1)
	• Hydropower energy generation		4.5 Electricity generation from hydropower (NACE: D35.1.1)
	• Electricity distribution & transmission infrastructure	7 AFFORDABLE AND CLEAN ENERGY, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	4.9 Transmission and distribution of electricity (NACE: D.35.1.2, D.35.1.3)
	• Smart meters	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 13 CLIMATE ACTION	7.5. Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings (NACE: D.35.1.3)
Clean transportation	• E-mobility charging infrastructure	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES	6.15 Infrastructure enabling low-carbon road transport and public transport (NACE: D.35.1.2, D.35.1.3, F.42.2.1)

[1] The taxonomy is an EU-wide system for classifying sustainable economic activities.

EnBW continues to standardize sustainability governance

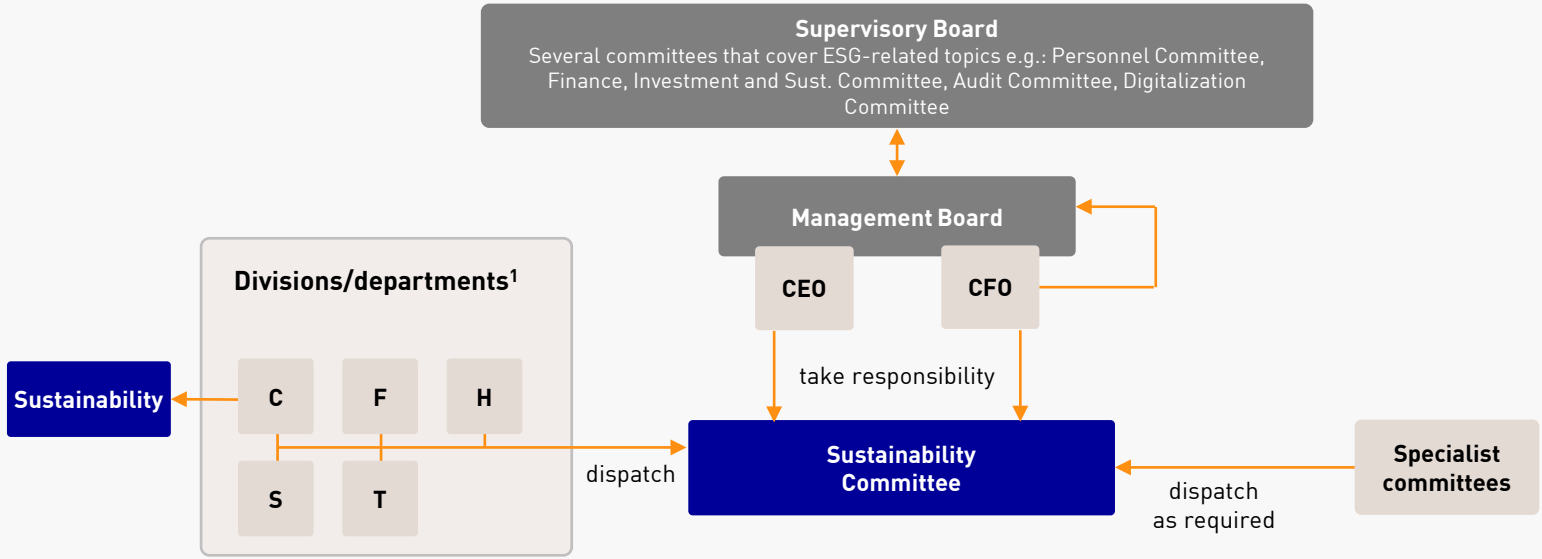
Sustainable corporate governance

- **2035 climate neutrality target** and SBTi CO_2 reduction path guide corporate governance decisions
- **Environmental/climate protection targets and** key figures integrated in company-wide **investment approval process** since 2018. **Sustainability assessment** as **fixed component** for project approval by EnBW included in Investment Committee decisions **in addition to financial and strategic metrics since 2021**
- Combined **Finance, Investment and Sustainability Committee**, responsible for preliminary consultation on investment decisions, **on the Supervisory Board**

Sustainability management | EnBW

Sustainability committee

- **Composition:** Business-unit managers relevant for ESG
- **Mandate:** Performance monitoring of measures and ESG ratings, trend analyses
- **Management:** CEO/CFO, coordination with sustainability department
- **Frequency:** Every six months



[1] Divisions/departments: C = Chief Executive Board; F = Finance; H = HR, Legal, Corp. Real Estate; S = System Critical Infrastructure & Sales; T = Sustainable Generation Infrastructure.

Sustainable supply chain management and procurement

Environmentally and financially viable practices integrated into the entire supply chain lifecycle

97% of procurement volume covered by suppliers who have signed the **EnBW Supplier Code of Conduct**, committing them to human rights, social standards, environmental protection, honesty, fairness and integrity both in their own activities and in their supply chains.

- **Regular supplier risk assessments and monitoring**
- **Independent grievance mechanism** via enhanced compliance reporting processes

€4.5 bn of procurement volume covered by risk analysis

- with **automated risk assessment** for 10,000 suppliers via EcoVadis (~60% of order volume)
- Standardised **supply chain analysis for main components, commodities and source countries**
- **Detailed risk analysis** via EcoVadis for suppliers established for up to **700** A and B suppliers
- **Training** programmes and educational tools & **Human Rights Steering Committee**

Emission reduction

- Sustainable approach by choosing **sustainable suppliers, low-carbon transportation** modes and optimizing routes to minimize emissions
- **Decarbonisation questionnaires** in tenders (in particular in offshore wind)
- Digital **carbon emission tracking tool** via sustainability dashboard with life cycle analysis/carbon footprint of individual activities and products

More information on our sustainable supply chain can be found on our website incl. our Report on German Supply Chain Due Diligence Act 2023 and EnBW Supplier Code of Conduct

EnBW's treasury acting as central liquidity manager

Cashpooling

Efficient cashpooling approach

- Fully automated inhouse bank approach
- Over 100 subsidiaries are connected to the cashpooling
- Centralized cashpooling to optimize financing costs
- Dashboard overview to monitor short term financing limits

Liquidity planning

State-of-the-art liquidity planning

- 12 months rolling time horizon (dashboard)
- Driver based integrated liquidity planning (Controlling & treasury)
- Risk based approach for certain liquidity drivers and scenario analysis

Diversified liquidity sources

Suitable financing instruments

- Risk-bearing capacity of 12 months liquidity planning
- Short term liquidity needs covered by short notice financing products
- Utilisation ratio as KPI (liquidity sources / liquidity needs)

Liquidity risk management

Risk management and resilience measures

- Regular stress testing of liquidity sources established
- Close cooperation and risk assessment with key liquidity drivers
- Financing sequence to consider the availability of financing instruments

Business continuity management

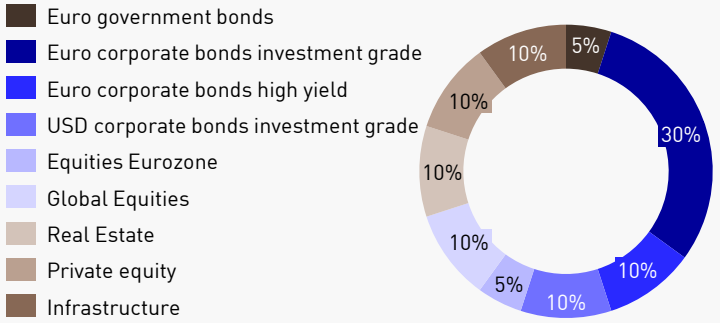
To support operational continuity under all circumstances

- Business impact analyses to identify critical financial processes
- Focus on critical payment obligations
- Backup processes established & tested to manage crisis

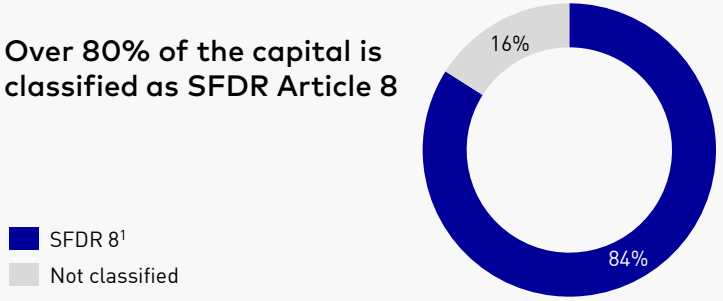
Financial asset management: Providing for group pension and nuclear provisions while meeting ESG criteria

Asset allocation & ESG

Strategic asset allocation

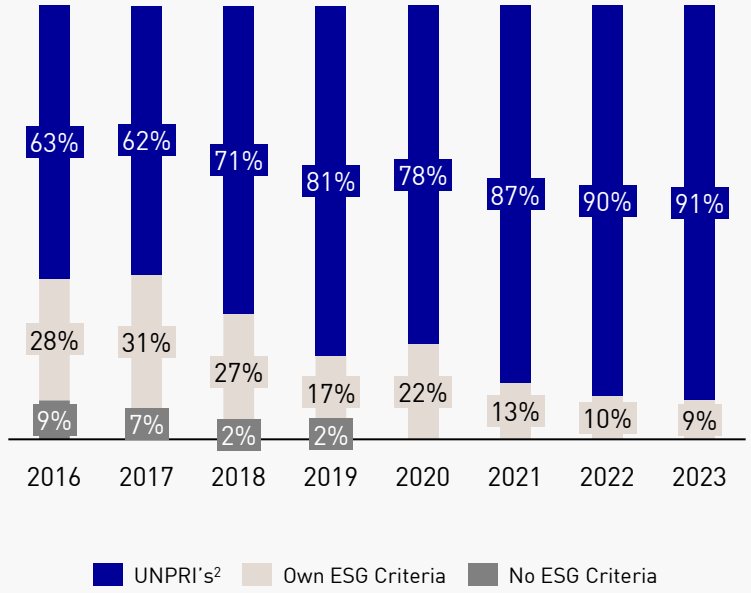


Over 80% of the capital is classified as SFDR Article 8



ESG developments

Rising number of EnBW's asset managers incorporate ESG criteria in their investment decisions



Achievements

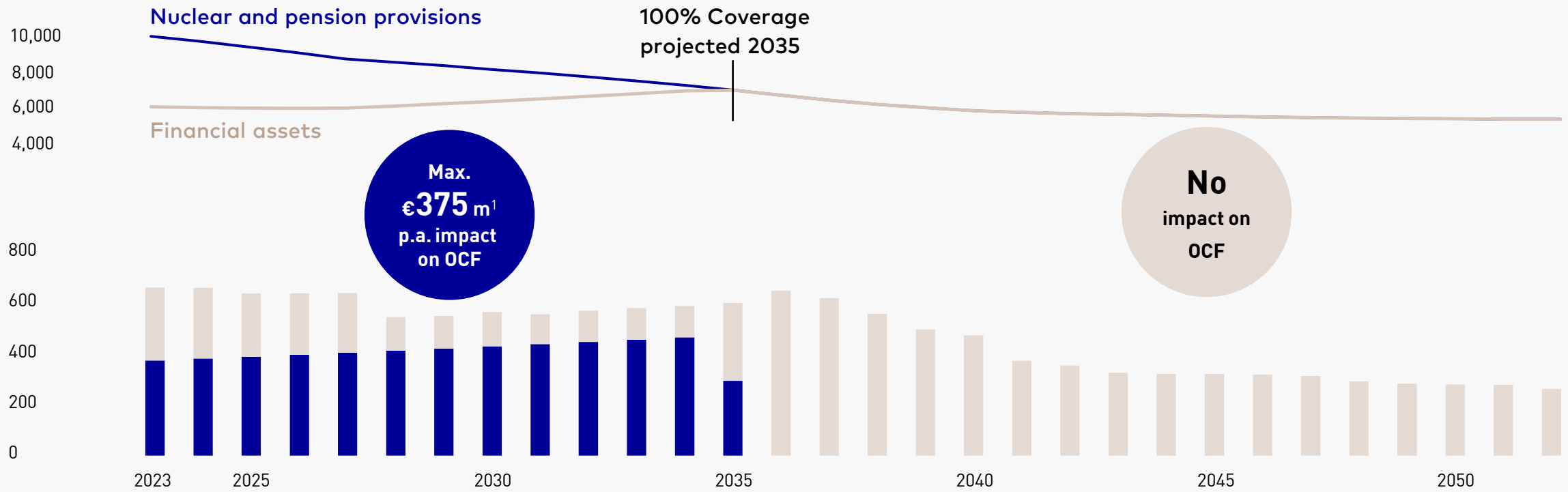
- Laser-focused capital investment to secure the cash flows required for pension payments and the dismantling of nuclear power plants
- To achieve the best possible risk-adjusted return, the capital investments are broadly diversified across different asset classes
- Financial Asset Management has already received several awards e.g. FAZ/dpn winner of the category „sustainable total allocation2023"
- Our sustainability approach, which follows the company philosophy, has been recognized several times as particularly progressive
- The use of AI-based tools ensures stable processes and helps to further improve investment results

[1] SFDR:The aim of the EU Sustainable Finance Disclosure Regulation (SFDR, Regulation (EU) 2019/2088) is to channel capital flows into sustainable investments and economic activities. | [2] UNPRI: Principles for Responsible Investment

Asset liability management model

EnBW's cash flow-based model

in € m



As of 31 December 2023. I [1] Adjusted for inflation.

Credit ratings

MOODY'S RATINGS

Baa1 / stable[1]

- Leading position within its home state of Baden-Württemberg
- High share of earnings from regulated transmission and distribution grids under an established regulatory framework
- Growing share of renewable assets, mostly backed by feed-in tariffs or power purchase agreements
- Balanced financial policy and demonstrated commitment to maintaining robust credit quality
- Supportive shareholders
- Large capital spending programme will constrain credit metrics, mitigated by proceeds from disposals
- Expected increase in the share of minorities in the capital structure
- Earnings exposed to wholesale price volatility, mitigated through hedging
- Dynamic evolution of decarbonization policies

S&P Global Ratings

A- / stable[1]

- Strong EBITDA base with diversified and integrated position along energy supply chain demonstrated resilience across different economic and geopolitical cycles
- High share of EBITDA from regulated operations under strong regulation and an expanding share of renewable generation provide stability and predictability to earnings and cash flow
- Investment plan oriented toward low-risk regulated networks and long-term contracted renewable generation carries moderate execution risk and supports long-term earnings visibility
- Ambitious investment plan to pressure credit metrics to levels below expectations for current rating temporarily
- Above-average carbon footprint in the short term, because of existing coal-generation fleet, which is profitable and is being gradually switched to gas

[1] Moody's: Latest update and credit opinion published on 22 October 2024.I S&P: Latest update published on 23 September 2024 and latest full analysis on 23 August 2024.

Sustainability ratings

		Status quo	Recent development (last 12 months)	Scale
MSCI	ESG rating	AA Leader		**AAA to CCC** Leader AAA – AA; Average A – BB; Laggard B – CCC
ISS ESG ethix•climate•oekom	ESG rating	B Prime status		**A+ to D-** absolute best-in-class basis; Prime Status awarded
SUSTAINALYTICS	ESG risk rating	28.0 Medium risk		**0 to 40+** Risk Score: negligible (0-10); low (10-20); medium (20-30); high (30-40); severe (40+)
CDP DISCLOSURE INSIGHT ACTION	Climate rating	A- Leadership		**A to D** Leadership A/A-; Management B/B-; Awareness C/C-; Disclosure D/D-; Failure F

As of September 2024.

Overview

- Decarbonization and regulation
  - EU
  - Germany
- Electricity market designs Europe
- Power plant strategy Germany
- PPA market Germany
- Energy market Germany
- Regulated grids business Germany
- Framework for charging infrastructure expansion
- Europe and Germany

Decarbonization in the EU: Regulatory framework

EU 2050 goals

- Well below +2°C above pre-industrial average; efforts to limit to **+1.5°C** in 2100
- Climate neutrality by 2050

EU 2030 goals

- **-55%** GHG emissions vs 1990
- **+42.5% (+45%)** RE in final energy consumption
- **-11.7%** energy consumption reduction vs 2020
- **-62%** EU ETS emissions vs 2005

The European Green Deal

Key goals

- Climate neutral and friendly Europe
- Industrial policy to secure sustainable economy and industry in terms of sustainable products and access to natural resources
- Protect habitats

Key elements

- Clean, safe and affordable energy
- Sustainable mobility and food
- Zero pollution target and circular economy
- Preserving and restoring ecosystems and biodiversity
- Strengthening EU industry, economic competitiveness and EU resilience regarding raw materials

The legislation to adapt the legal framework for the 2030 targets ("Fit for 55" Package), the EU Gas Market Package and REPowerEU were passed as legislation with the sole exception of the Energy Taxation Directive

[1] Commission Communication: The European Green Deal, COM(2019) 640 final , 11 December 2019; Commission Website. | [2] Commission Communication: A Clean Planet for all, COM(2018) 773 final, 28 November 2018

EU regulation: Electricity

EU Electricity Market Design

Adopted in May 2024 and entered into force on July 2024

- Market-driven electricity pricing maintained at the core of the regulations
- Two-sided CfDs to become standard instrument for renewable support schemes
- Capacity markets an integral part of electricity markets, previously only measure of last resort
- Review of the current framework by 30 June 2026

Renewable Energy Directive

Entered into force in 2023, currently being transposed into member state law

- Considerably accelerates renewable build-out by establishing overriding public interest in renewable energy and electricity network projects
- Overall renewable energy target set at 42.5% with the ambition to reach 45% by 2030
- Very ambitious target for 42% share of renewable hydrogen in industrial EU hydrogen consumption

Net-Zero Industry Act

Entered into force in June 2024 to boost the competitivenes of EU industry

- Establishes set of pre-qualification and non-price criteria for auctions for renewable energy production as well as for public procurement, including sustainability, resilience, cyber security etc.
- Also aims at accelerating approval for production sites of net-zero technologies
- Criteria to be further defined by the European Commission in the course of 2024

EU regulation: Gas and hydrogen

EU Gas Market Regulation and Directive

Adopted in May 2024 and entered into force on July 2024

- Establishes fundamental regulatory framework for hydrogen and gas market decarbonisation in the EU
- Sets out legal requirements for hydrogen infrastructure concerning e.g. market rules, tariffs, ownership

Methane Regulation

Adopted in May 2024 and entered into force in August 2024

- First introduction of EU law to reduce methane emissions in the energy sector
- Prescribes measurements leaks in infrastructure, reporting of emissions and other reduction measures for natural gas, oil and coal including imports

Delegated Act Low Carbon Hydrogen

In preparation by European Commission, final version expected end 2024

- Defines EU criteria for production and import of low carbon hydrogen/fuels
- Based on GHG emissions thresholds and more detailed criteria e.g. accounting of inputs such as electricity and imports of natural gas

Decarbonization in Germany: Political & regulatory environment

German Climate & Energy Policy Goals

- **-65%** GHG emissions by 2030 (-88% by 2040) vs 1990
- **-50%** primary energy consumption by 2050 vs 2008

Climate Change Act

- Establishes German climate protection targets by 2050 and sets a legal framework
- Climate neutrality by 2045 (instead of 2050) pursued as long-term target. Emission budgets specified through to 2030
- Monitoring process for target attainment by 2030: If emission targets are predicted to be missed twice in a row and in total across all sectors, an action program has to be submitted

Climate Action Programme

- Target of 80% renewables in 2030 and target ranges specified for specific technologies are legislated within the Renewable Energy Act 2023 (EEG 2023)
- Coalition agreement: Coal phase-out ideally by 2030 as a target (instead of 2038)
- National emissions trading system for transport and heating from 2021, for coal from 2023 and waste from 2024 with fixed prices until 2025, followed by an auction design from 2026 (BEHG)

Climate Adaption Act

Sets out the strategic framework for future climate adaption at federal, state and communal level and obliges the federal government to present, regularly update and continuously implement a precautionary climate adaptation strategy with measurable targets

Decarbonization Germany: Regulatory framework for renewable energies

Onshore wind

Renewable Energy Sources Act, Federal Nature Conservation Act, Onshore Wind Energy Act, Solar Package I, BImSchG, implementation of RED III

- Better economic conditions for low wind yield regions and bonus scheme for projects in the south
- German states must designate an average of 2% of territory for wind energy use
- Significant reduction in previous species conservation obstacles

Solar

Renewable Energy Sources Act, Solar Package I, implementation of RED III

- Extension of eligible areas for ground-mounted solar
- Major improvements for small-scale solar and solar prosuming
- Introduction of new definition of storage and increased feed-in tariffs for full feed-in and surplus feed-in

Offshore wind

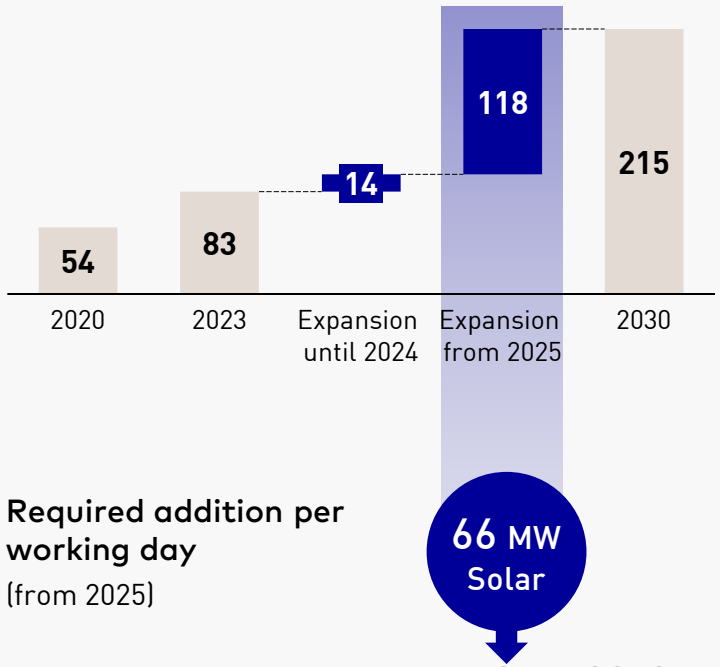
Offshore Wind Energy Act, implementation of RED III

- Different tendering conditions for auctions of sites that have and have not been subject to preliminary investigation
- Auction design requires uncapped payment by operator to state when bidding
- Project implementation deadlines are rigid and challenging as to time

Beyond adopted measures, further legislative adjustments are necessary to achieve renewables expansion targets

Decarbonization Germany: Renewable expansion targets 2030

Solar - installed capacity/additions[1]
in GW

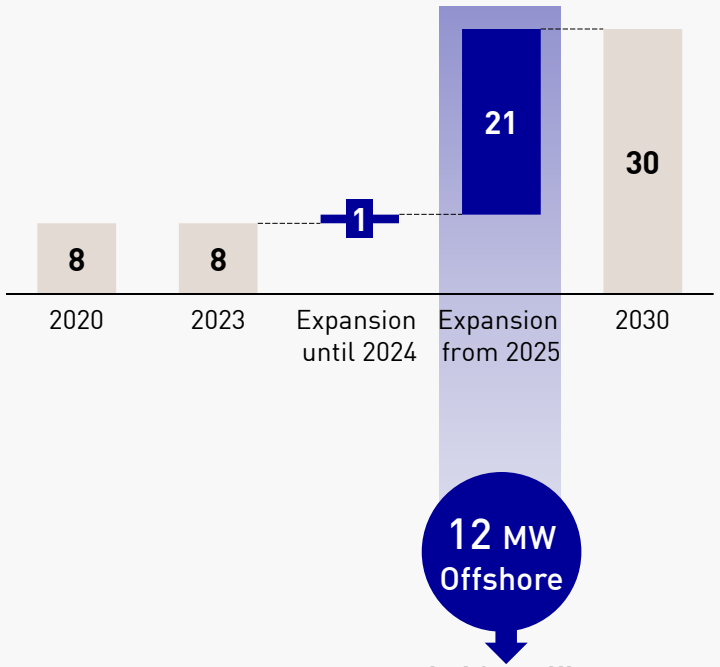


Required addition per working day
(from 2025)

66 MW Solar

... approx. a solar park in the size of 650,000 m²/day

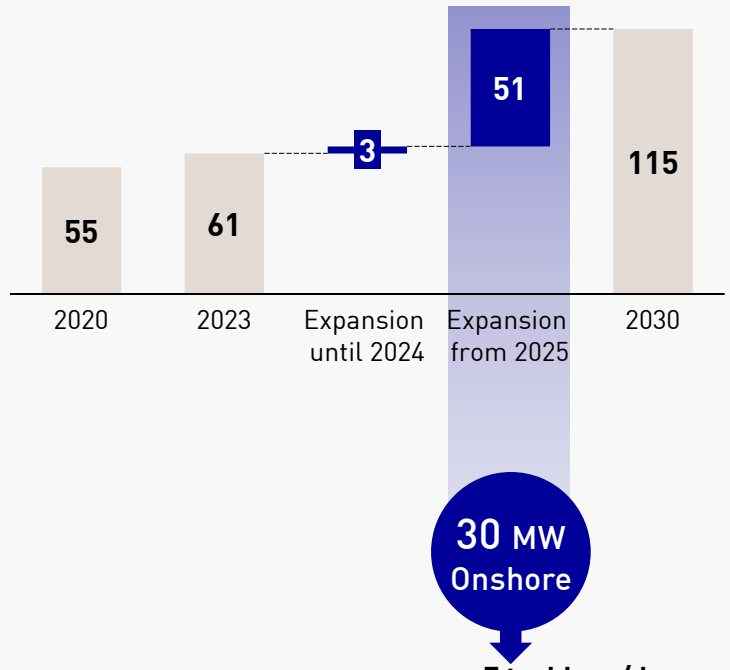
Offshore wind - installed capacity/additions
in GW



12 MW Offshore

... approx. a wind farm like He Dreiht (960 MW) every three months

Onshore wind - installed capacity/additions
in GW



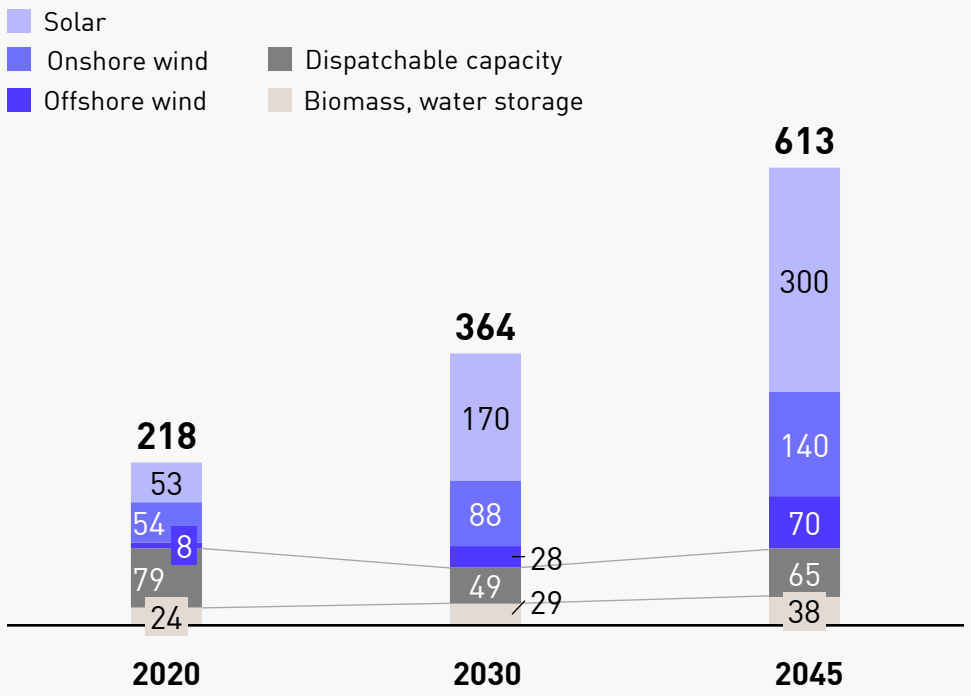
30 MW Onshore

... approx. 7 turbines/day

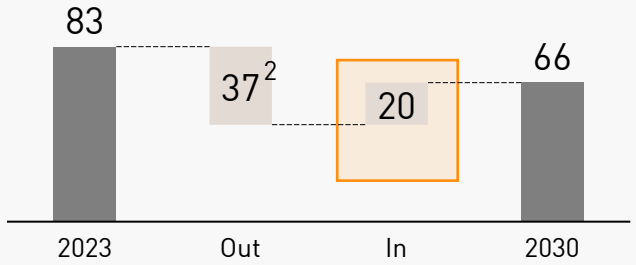
[1] Expansion from 2025 based on the newest expansion targets by 2030 in Renewables Energy Sources Act.

Germany: New dispatchable capacity - essential for the expansion of intermittent renewables

Installed capacity development in Germany
in GW



Expansion & reduction of dispatchable capacity by 2030[1]
in GW

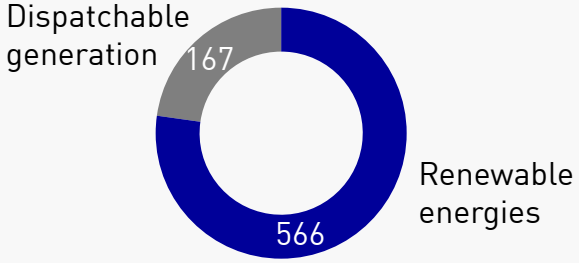


Dispatchable capacity expansion ratio

~50%

(dispatchable power to be replaced)

Share of production in 2030
in TWh



Dispatchable capacity addition ratio

3 to 1

(Ratio of renewable to dispatchable capacity)

[1] EnBW analysis including Coal, Gas, Biomass and pump storage . I [2] Decommissioning of 30 GW of lignite and hard coal capacity on the market; ~7 GW of gas capacity reduction is expected due to age.

Regulation Germany: Electricity

Power plant strategy

Since last year, key points on the power plant strategy have been published several times, and some have already been agreed on with the EU Commission. However, the energy sector is still waiting for the final decision on the strategy and in particular on the details of the auction design. EnBW will then actively contribute to the consultation on the strategy.

Capacity mechanism

The Ministry of Economic Affairs recently published a paper on the market design in which it tends toward a combined capacity mechanism. EnBW considers this model to be extremely complex and lengthy to implement and is clearly advocating for this position in the upcoming discussions on the market design.

Red III

The implementation of the Renewable Energy Directive III is still in various technology-specific legislative processes. The main remaining conflicts relate to environmental assessments. At EnBW, we want to keep the environmental assessment for offshore wind optional, but not introduce it for solar.

Electricity pricing zones

In 2024 and well into 2025, two processes are underway at EU level considering a split of the German unified bidding zone. Consequences of the division could be a rise in electricity prices in Southern Germany, risk of industrial relocation and distortion of investment conditions for power plants and infrastructure. EnBW rejects a split.

Regulation Germany: Gas/hydrogen

LNG

Based on the LNG Acceleration Act, operation of LNG infrastructure has to end or switch to climate-neutral hydrogen and derivatives by the end of 2043.

Hydrogen infrastructure

Law for planning and financing of the H_2 core grid sets regulatory framework for the development of H_2 transport infrastructure.

German government to publish the H_2 storage strategy by the end of this year, elaborating how the construction of storage can be incentivized and subsidized.

H_2 acceleration act (WassBG) intends to accelerate and facilitate approval procedures for H_2 and derivatives infrastructure.

Under the H_2 import strategy, the German government expects demand for H_2 and derivatives to amount to 95 – 130 TWh in 2030, with imports accounting for 50-70% (45-90 TWh); the government recognizes the need for low-carbon H_2 and derivates for market ramp-up.

Natural gas grid write-offs

KANU 2.0 (review of economic useful life and depreciation rules for natural gas pipeline infrastructure) is expected to be finalized in mid-September 2024.

- Shorter economic useful life from 2025, including for existing infrastructure
- If the relevant state or local authority stipulates on the subject, the economic useful life can end as early as 2045 but no earlier than 2035 (Baden-Württemberg aims to be climate-neutral by 2040)
- Temporary arrangement ending 2027

Regulation Germany: Renewable energies

Federal Immission Control Act (BImSchG)

A major reform of the Federal Immission Control Act (BImSchG) entered into force in July 2024. Implementing various basic changes called for by EnBW, the reform significantly simplifies procedures and cuts bureaucracy in the approval of onshore wind turbines.

Reform of RE funding

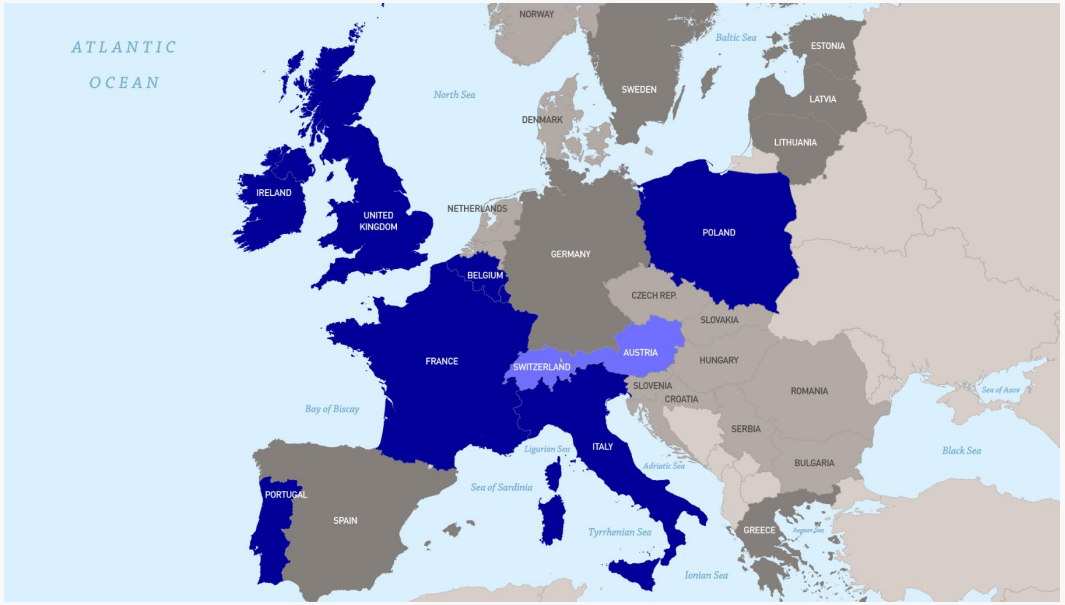
A fundamental reform of RE funding is currently being discussed as part of the "options paper" on electricity market design. The authorization for the current regime expires in 2027. The aim is to solve problems such as negative prices and at the same time achieve greater market proximity. At EnBW, we are sceptical about the proposals due to their high level of complexity. It is essential to develop an effective design for CfDs and implement a mandatory claw-back mechanism.

Solar Package I + x

The EU emergency regulation has been extended until 30 June 2025. Tolerance for power lines and renewable energy installations applies to public land and private land with over 50% public ownership. This is disadvantageous for our projects. Positively, electrolyzers and storage are included. The PV-FF cap in the EEG is now 50 MW. Environmental standards for PV are positive.

Europe: Electricity market design

Capacity markets gaining importance across Europe[1]



- Energy-only market + capacity market
- Energy-only market + strategic reserve
- Capacity market under discussion
- Energy-only market

Capacity markets on the rise across Europe with increased concerns about the provision of secured capacity an energy-only market

Energy-only market

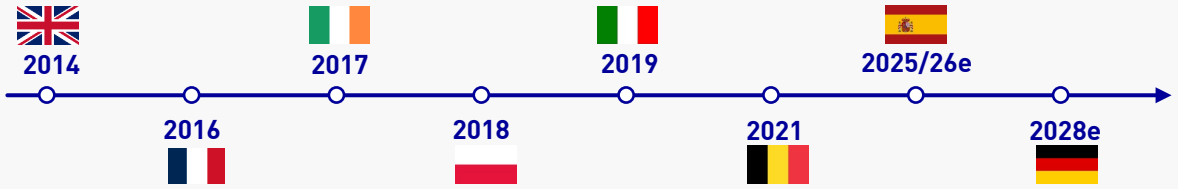
Remuneration for the energy actually generated

- Prices on the wholesale electricity market determined by the merit order principle
- Short-term marginal generation costs determine the electricity price

Capacity mechanism

Remuneration for the provision of secured generated capacity

- Complements the energy-only market
- Procurement of reliably available capacity
- Capacity providers must make their capacity available in a delivery period in return for a capacity payment; additional revenues refinance investments and modernizations



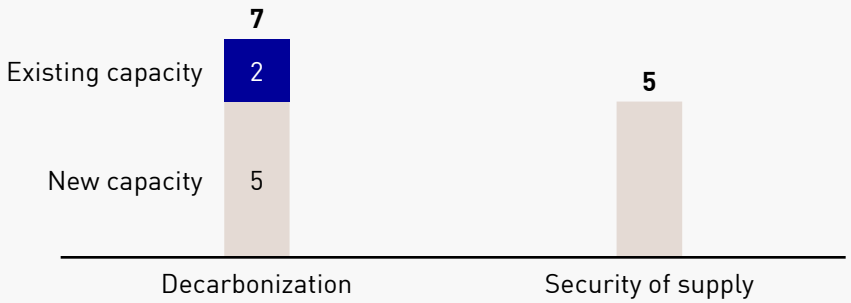
[1] Aurora Energy Research, June 2024.

Germany: Power plant strategy

...under discussion with power plant strategy to secure capacity, followed by a capacity market from 2028

- The power plant strategy envisages a more comprehensive reform of the market design with the introduction of a capacity mechanism (from 2028)
- "Options paper" published in summer 2024 (various models and forms of implementation)
- Expected cornerstones of a capacity remuneration system to be implemented:
  - "Dimensioning for efficiency": overcapacity is to be avoided, reflected in a loss-of-load expectation (LOLE) of 2.77 h/a. This means short supply situations and loss of load are not inconceivable; however, loss of load will be mitigated by reserves
  - Introduction of a clawback mechanism: scarcity prices are clawed back from producers and returned to customers, e.g. via a reliability option

Capacity to be procured by the power plant strategy (GW)



- Implementation of the power plant strategy has been postponed, in part due to state aid approval from the European Commission
- Capacity divided between decarbonization and security of supply segments

Capacity market: Basic models under discussion

Centralized capacity market

Decentralized capacity market

Mandatory hedge for peaking units

Combined capacity market (preferred by Federal Govt.)
Centralized procurement for new plants (as under power plant strategy), decentralized market for existing plants and demand-side flexibility

Germany:
Capacity market – different designs under discussion

1 Centralized capacity mechanism

- Capacity put out to state tender by a central body (generally a TSO or a regulatory authority) and auctioned off as capacity premiums
- High level of investment certainty particularly for capital-intensive plants
- Examples: UK and Belgium

2 Decentralized capacity mechnanism

- Suppliers are responsible for securing capacity for the electricity volumes they supply to customers at pre-defined peak demand situations
- Capacity certificates are introduced as a tradeable commodity
- The capacity price is then determined between producers, large customers, and suppliers in a market for capacity certificates
- Example: France (switch to centralized capacity market announced)

3 Capacity securing mechanism through peak price hedging

- Providers must secure their procurement volumes specifically against price peaks and thus for severe scarcity situations
- This generates demand for suitable hedging products on the futures market
- Builds on the hedging mechanisms familiar from today's forward electricity markets

4 Combined capacity market (hybrid)

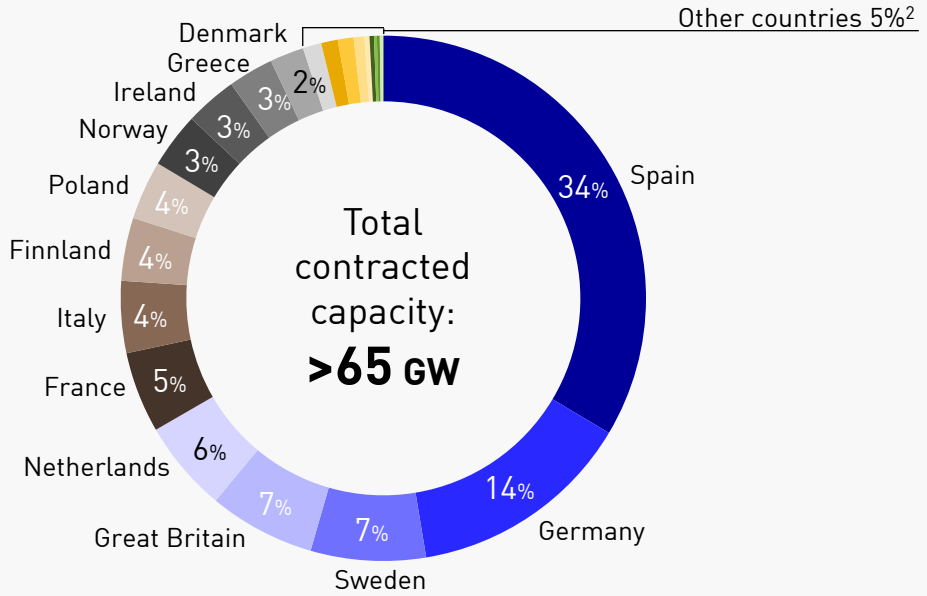
- Consists of two components:
  Centralized component: a central body puts out to tender the volume of new dispatchable capacity required, with relatively long-term refinancing periods

  Decentralized component: covers new investment and existing operators for remaining load coverage. Providers are responsible for securing capacity for the electricity volumes they supply to customers
- No existing example known, interdependencies therefore uncertain

› **The centralized capacity mechanism and the combined capacity market** are in the focus of discussion; the latter preferred by the Federal Government

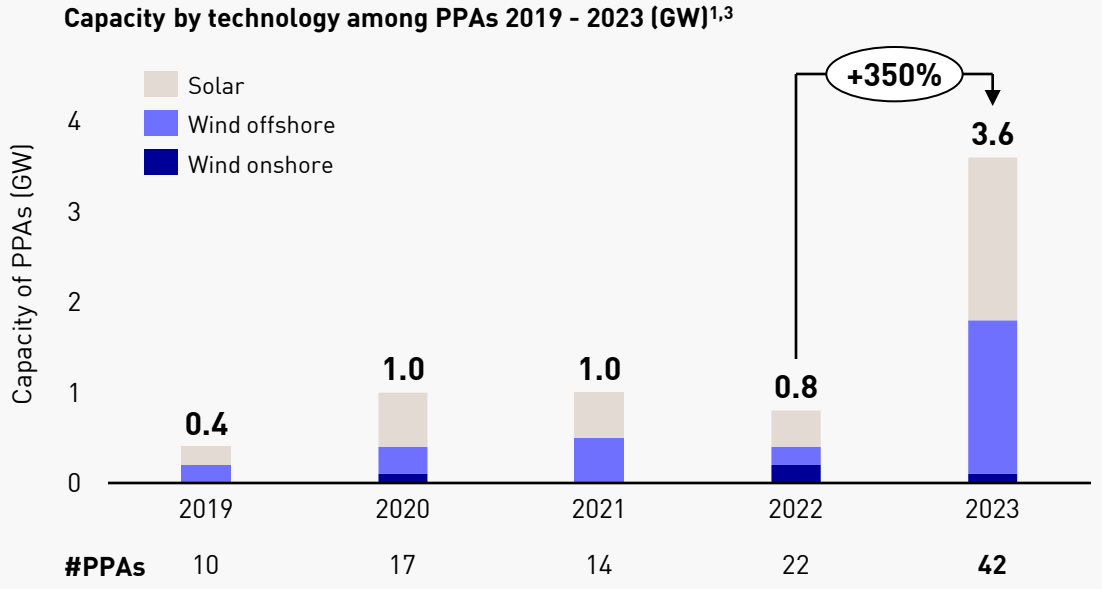
PPA market

Germany has the 2nd largest PPA market in Europe[1]



- With a total share of 14%, the German market is the second largest market within Europe

German PPA market is experiencing strong growth



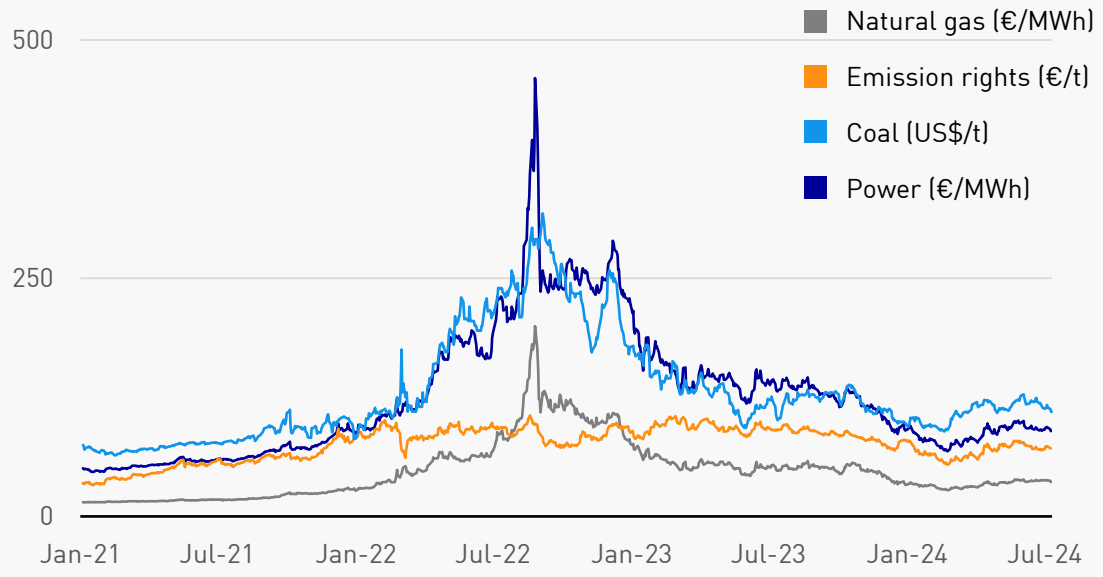
- German market recorded strong growth in 2023, with the number of PPA **(#PPAs)** transactions almost doubled
- Renewable energy capacity newly marketed with long-term PPAs in 2023 increased by 350% compared to 2022

Source: EnBW analysis. I [1] Only publicly disclosed corporate and utility PPAs were included. I [2] Other countries (5%): Romania, Belgium Lithuania, Bulgaria, Croatia, Austria, Serbia, Czechia, Estonia, Hungary, Luxembourg, Slovakia, Switzerland. I [3] Conversion based on market and technology-specific capacity factors where no capacity stated.

Electricity market Germany: Price development

Prices for delivery 2024

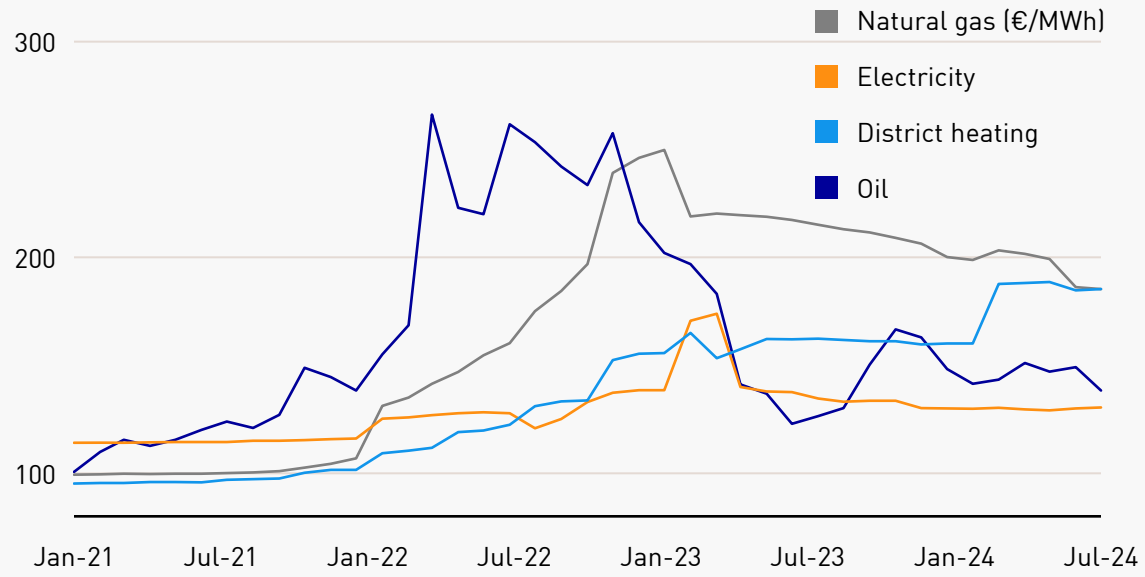
(January 2021 vs. July 2024)



High uncertainty regarding security of supply for winter 2022/23 in August 2023; calming of energy markets in the aftermath

Energy prices for households[1]

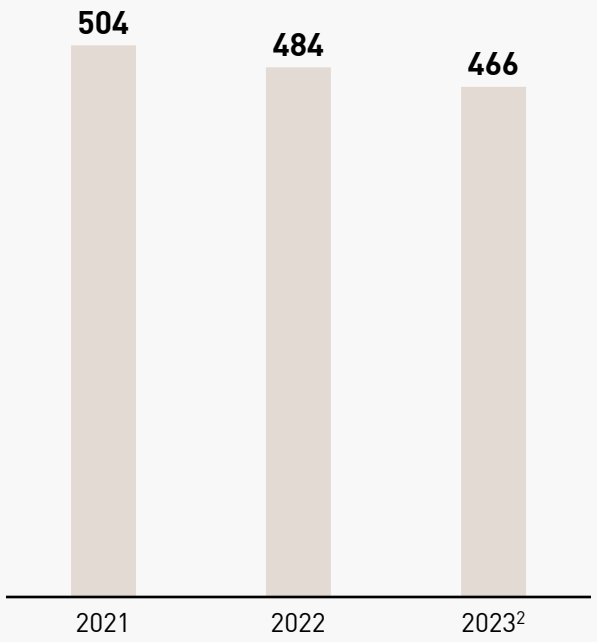
(Index 2015=100)



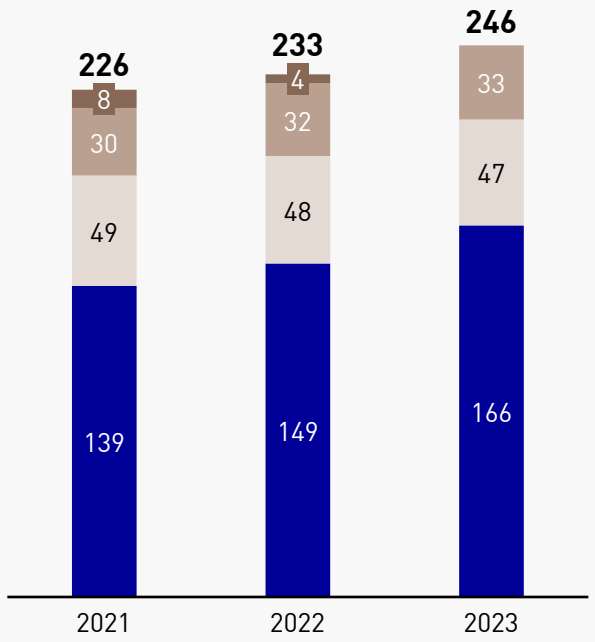
[1] As of April 2024. I Source: Federal Statistical Office (FS 17, R 2), BDEW (electricity 3,500 kWh/a). The chart shows the development of prices (indexed rates of increase, not absolute fuel prices) for heating oil, gas, electricity and district heating for households since January 2015 relative to the 2015 base year (annual average).

Electricity market Germany: Consumption, installed capacity and generation

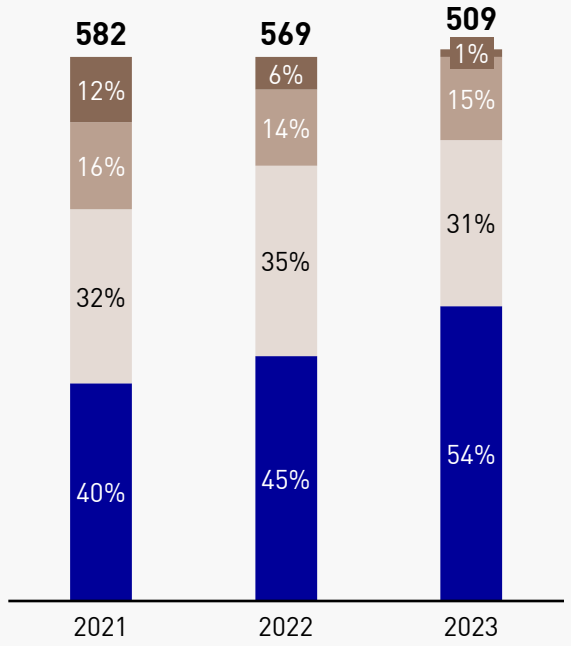
Consumption
in TWh



Installed capacity
in GW



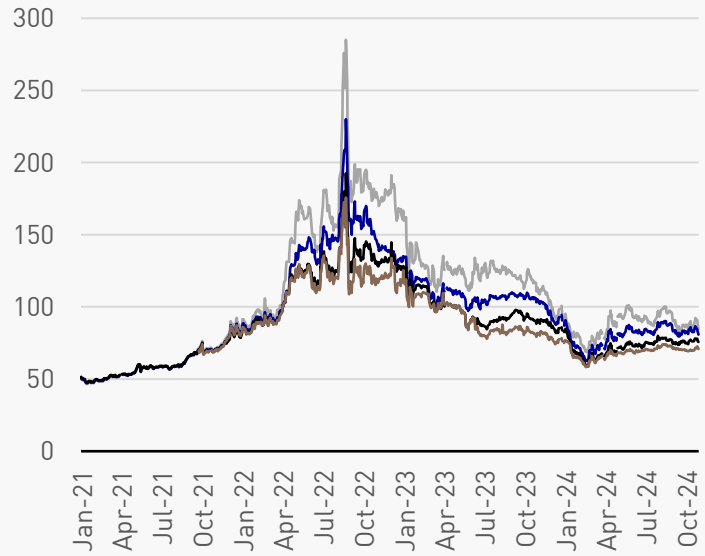
Generation[1]
Gross power generation in TWh



As of April 2024. I Source: BDEW. I [1] May not add up to 100% due to rounding. I [2] Preliminary.

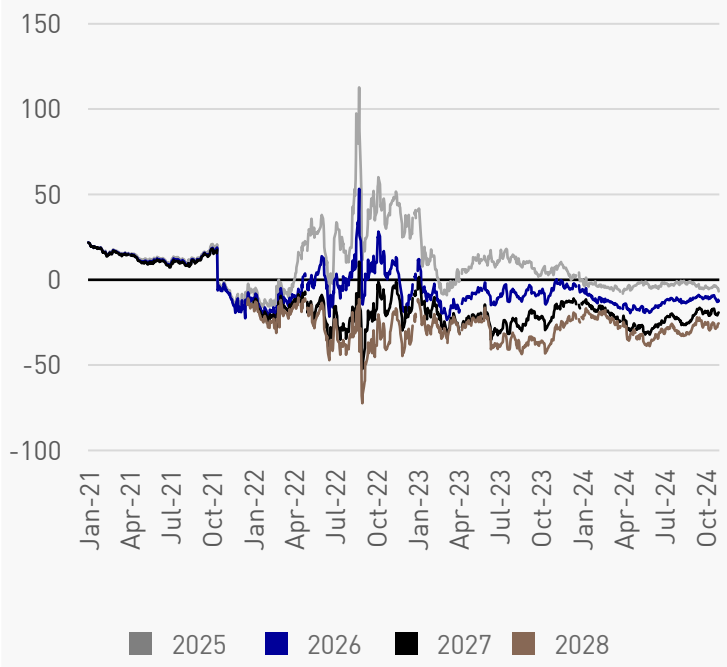
Electricity market Germany: Forward price development[1]

Forward price baseload electricity
in €/MWh



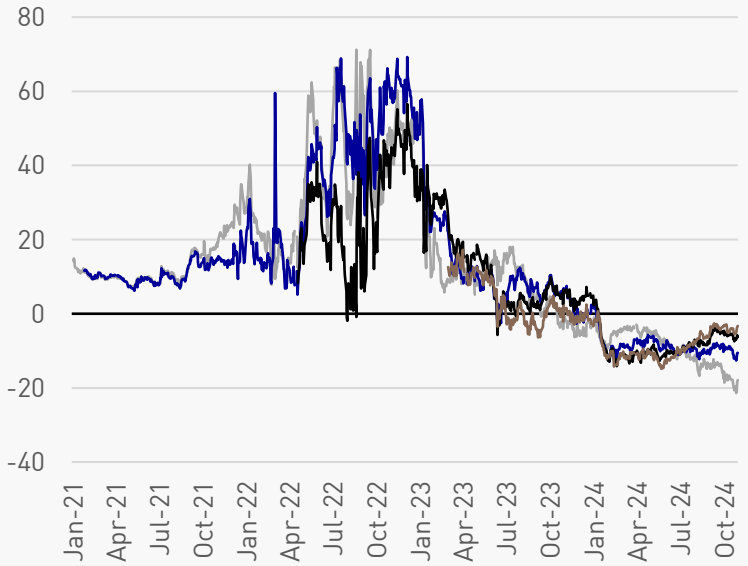
CDS base[2]
in €/MWh

- Gross margin of a coal-fired power plant (plant efficiency: 42%)



CSS peak[3]
in €/MWh

- Gross margin of a gas-fired power plant (plant efficiency: 50%)

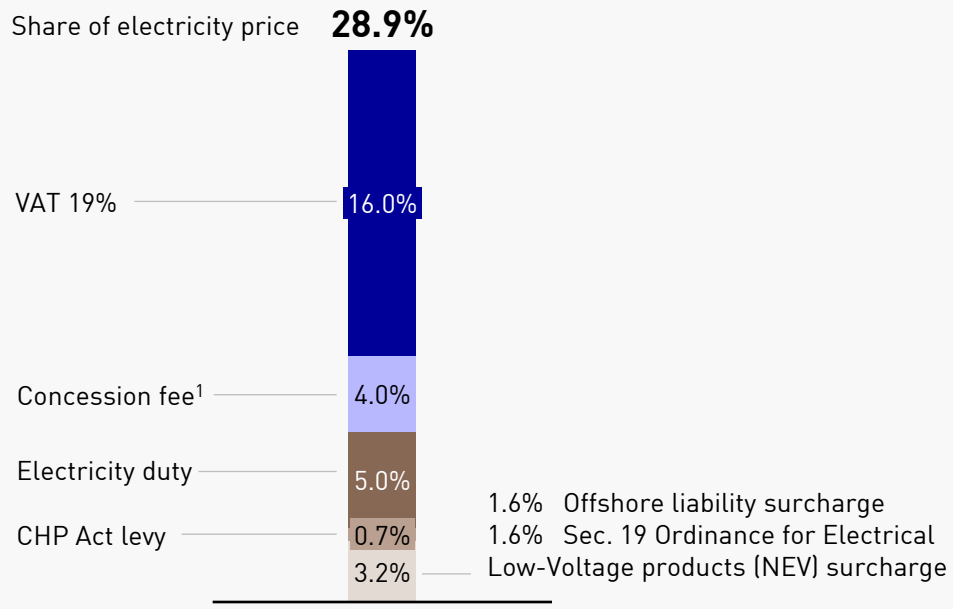


As of 1 January 2021 – 31 October 2024. | [1] Clean dark spread represents the net revenue a generator makes from selling power, having bought coal and the required number of carbon allowances. | [2] Clean spark spread is the corresponding indicator for gas-fired generation of electricity.

Electricity market Germany: Energy costs for households

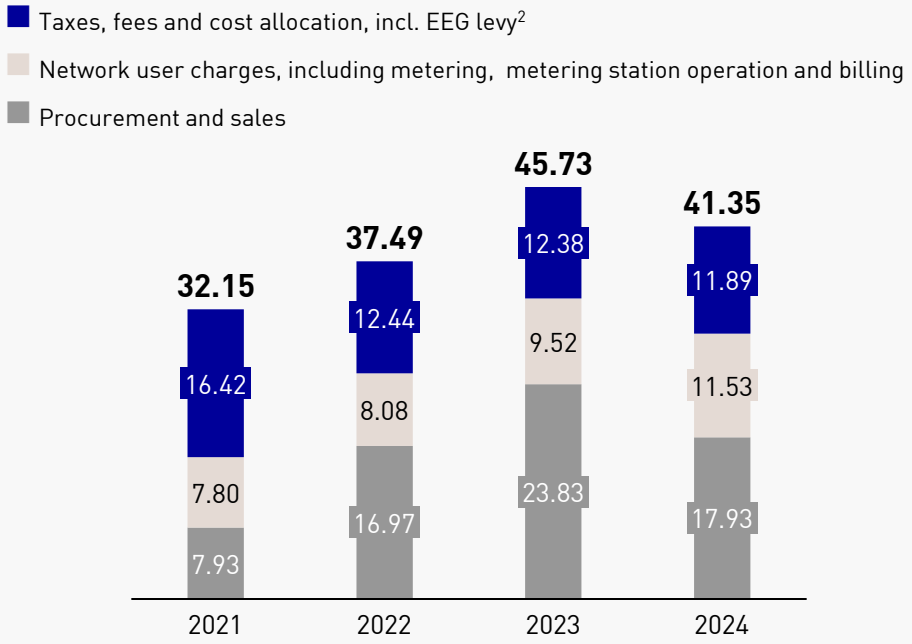
Taxes, fees and cost allocation for private households

2024



Average electricity price for a 3-person household

Annual consumption of 3,500 kWh - € cents/kWh

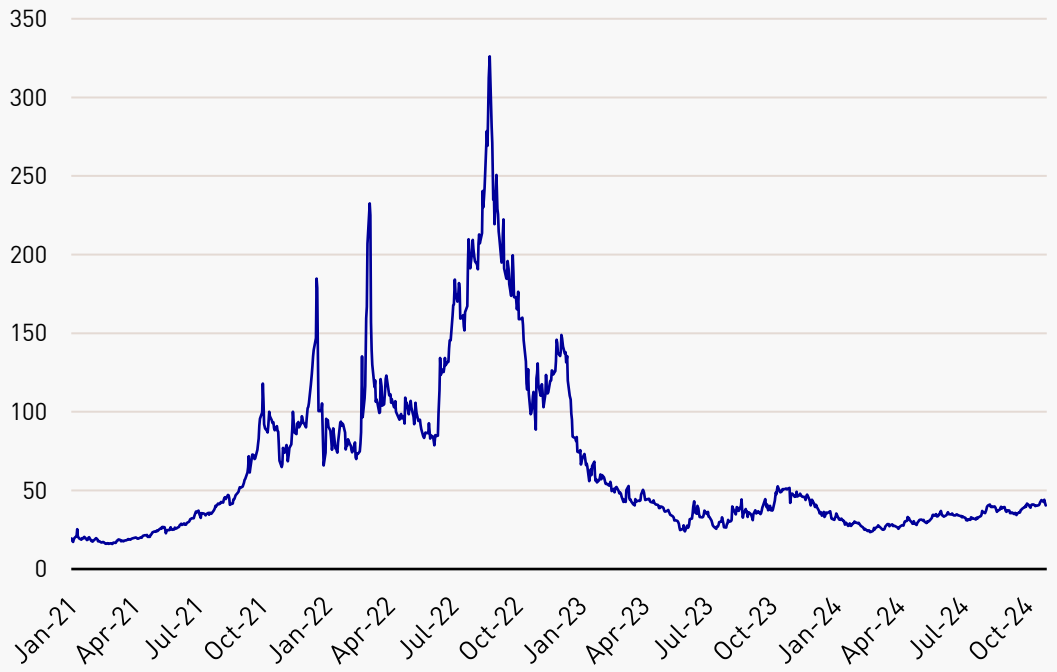


Source: German Federal Association of Energy and Water Management (BDEW) I Figures as of April 2024.
| [1] Average concession fee; varies according to size of community.

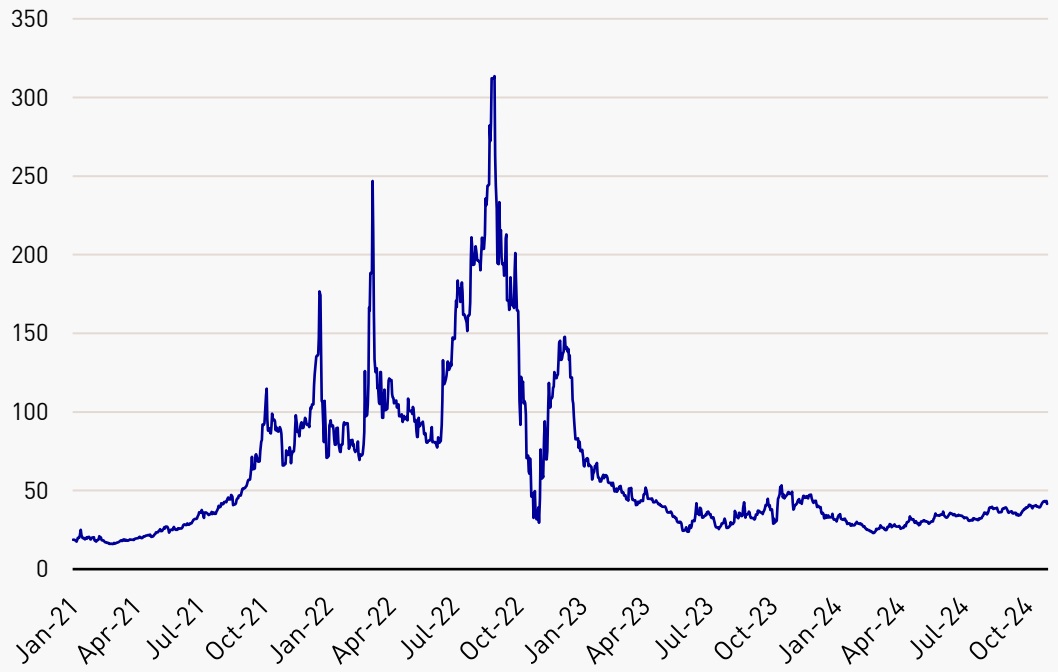
Source: BDEW. I Figures as of April 2024. | [2] German EEG surcharge not applicable as of July 2022.

Gas market Germany:
Front month price and spot market development

Front month reference prices
in €/MWh



Spot market reference prices
in €/MWh

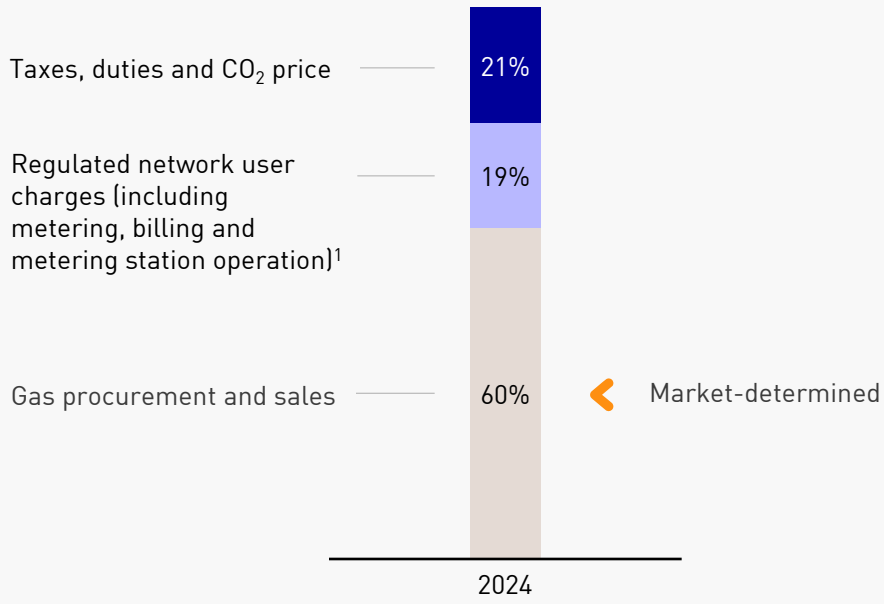


As of 1 January 2021 - 31 October 2024.

Gas market Germany: Private household price

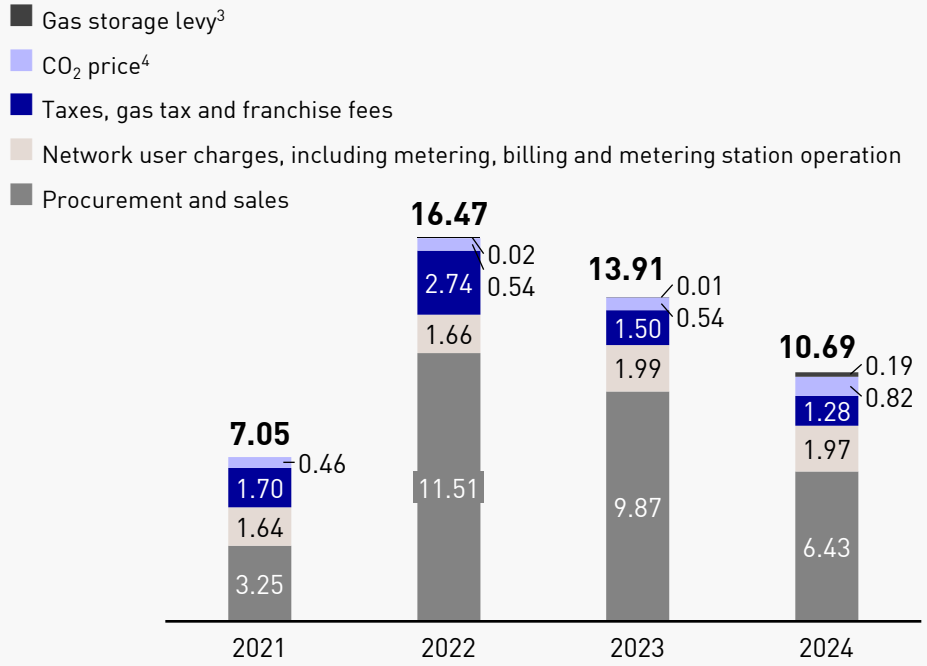
Gas price 2024

Average single-family home[1]



Gas central heating

Average single-family home, gas central heating including hot water, customer on contract with regional default supplier[2]
(annual consumption 20,000 kWh) € cents/kWh



Figures as of Jan 2024. BDEW. I [1] Average net network user charge incl. charges for metering, metering station operation, subject to large regional variation. | [2] Most heating gas customers are customers on contract with the regional default supplier with a reduced concession fee (0.03 ct/kWh).I [3] Balancing neutrality charge, conversion fee, conversion charge, biogas charge, H-gas to L-gas conversion charge and VTP fee included in the grid fees or procurement and sales costs. | [4] The CO_2 price reflects the cost of purchasing CO_2 emission trading certificates in accordance with the Fuel Emissions Trading Act and is fixed by law until the end of 2025.

Regulated grids business: Framework of regulated grids business

Regulatory environment

Electricity/gas transmission & distribution grids are natural monopolies and therefore regulated business

The stability of the regulatory framework leads to comparatively low regulatory risks

Key aspects of regulation

- Revenue cap regulation enables grid revenues to remain independent of consumption fluctuations
- Inflation protection through link of revenue cap to consumer price index
- Regulated efficiency targets for individual companies based on a "best in class" approach

Ongoing developments

- More demanding investment conditions for transmission and distribution grids in the mid-term (in accordance with the Incentive Regulation Ordinance and electricity/gas Network Charges Ordinance, lower equity return rates are set as of the fourth electricity regulatory period from 2024 and for gas from 2023
- Recent actions by the regulatory authority reflect increasing interest rates on the financial markets by improving the conditions for new grid investments within the fourth regulatory period

Challenges for grids in Europe

Main challenges for electricity and gas grids

- Electricity generation is becoming increasingly uneven – fluctuations have an impact on grid stability
- Connection of decentralized renewable energy sources to the grid requires extensive grid expansion measures for the next decades
- The cessation of Russian gas imports and the integration of newly built LNG terminals will lead to altered gas flow directions and transport capacities to serve stable gas demand in the mid term
- Germany as an energy transit country has a large proportion of cross-border trading

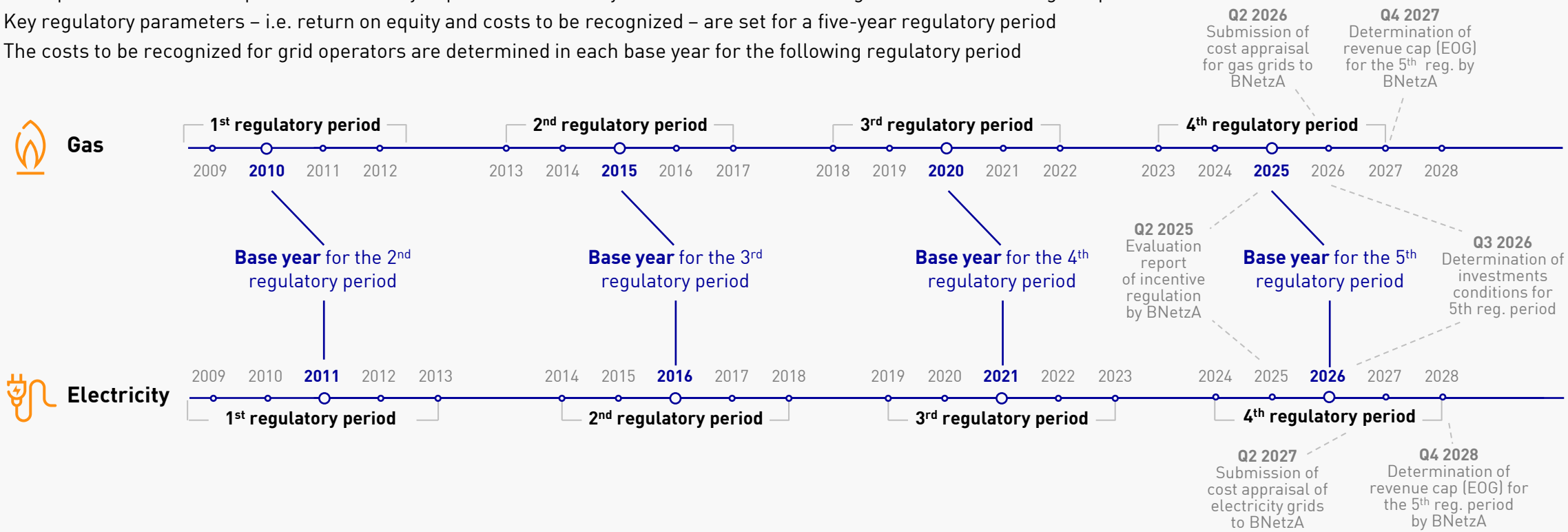
EnBW's solutions

- **TSOs:** New electricity transmission lines can bridge the distance between focal points of production and consumption centers; use of HVDC transmission lines and underground cables. Expansion of the gas transport network to cover capacity requirements
- **DSOs:** Expansion of electricity grids to integrate renewable generation and newly generated demand by electric cars and electric heating system, smart grid components optimize the expansion of distribution grids. H_2-ready renewal measures in gas distribution grids

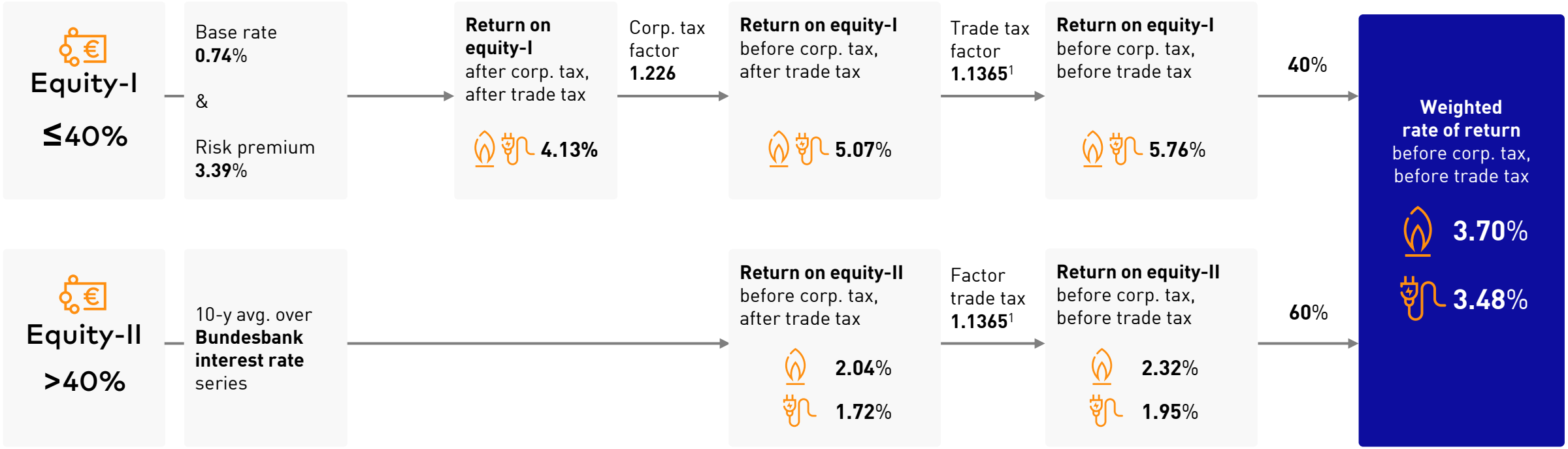
Regulated grids business Germany: Incentive regulation

Regulatory periods for electricity and gas grids

- Grid operators are called upon to continuously improve the efficiency and cost-effectiveness of grid investments and grid operation
- Key regulatory parameters – i.e. return on equity and costs to be recognized – are set for a five-year regulatory period
- The costs to be recognized for grid operators are determined in each base year for the following regulatory period



Regulated grids business Germany: Return on existing investments for the 4th regulatory period



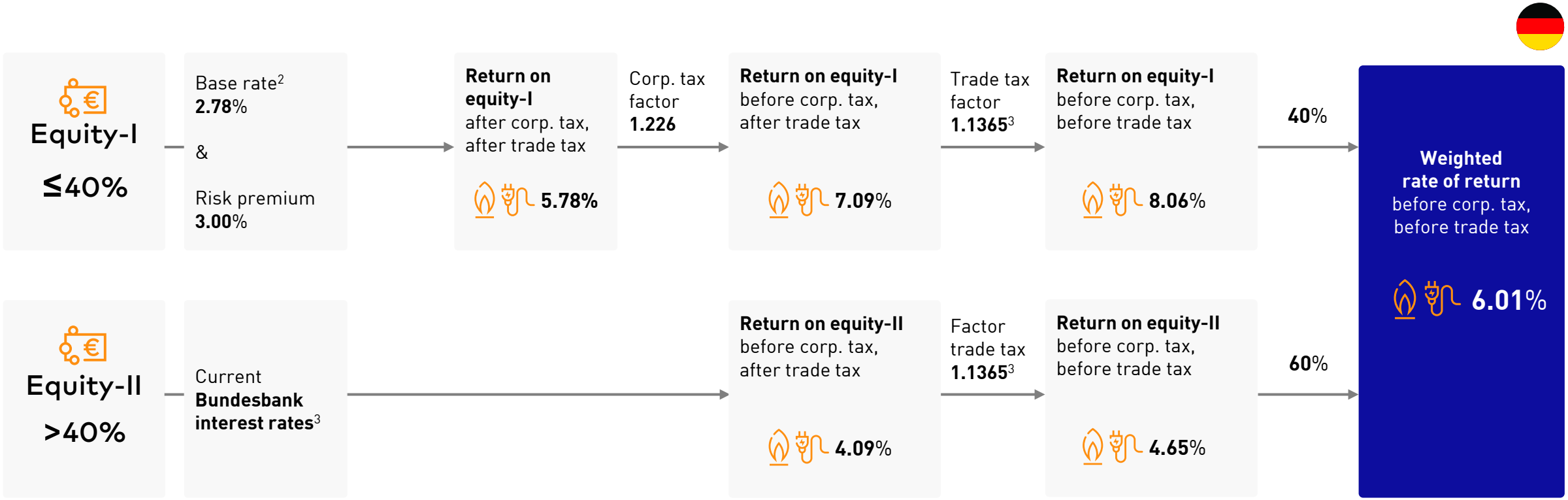
- Irrespective of the actual financing structure, a max. of 40% of capital employed is subject to the Equity-I rate of return as this is capped at 40% of equity by law (electricity/gas Network Charges Ordinance)
- Capital employed in excess of this amount is subject to the Equity-II rate of return

Gas

Electricity

[1] At tax rate 3.50% and multiplier 3.90%.

Regulated grids business Germany: Return on new investments[1] in 2024



- Return on new investments is subject to yearly adjustments
- Irrespective of the actual financing structure, a max. of 40% of capital employed is subject to the Equity-I rate of return as this is capped at 40% of equity by law (electricity/gas Network Charges Ordinance)
- Capital employed in excess of this amount is subject to the Equity-II rate of return

Gas
Electricity

[1] Accounted for in BNetzA capex true-up with capital expenditure mark-up. | [2] As of March 2024, subject to yearly adjustment. | [3] At tax rate 3.50% and multiplier 3.90%.

Regulated grids business Germany

Addressing time-lags between spending and remuneration

- Due to the base year concept, investments can be taken into account in the revenue cap with a 3-y time-lag at best and a 7-y time-lag at worst

Investment measures (IMAs) will be phased out in the 5th regulatory period for TSOs

- IMAs are a regulatory mechanism introduced to compensate TSOs for such time-lags and to avoid any investment barriers
- IMAs only apply to grid expansion investments and require approval by the BNetzA
- CAPEX approved by BNetzA on plan basis is recognised in the revenue cap without a time-lag
- Commissioning of the respective grid expansion terminates the IMA phase and the investments are rolled over to the "regular" cost base and become subject to the general incentive regulation
- The regulator additionally allows for an OPEX lump sum on the CAPEX during the IMA phase that flows directly through the revenue build-up

CAPEX true-up[1] is applicable to TSOs and DSO

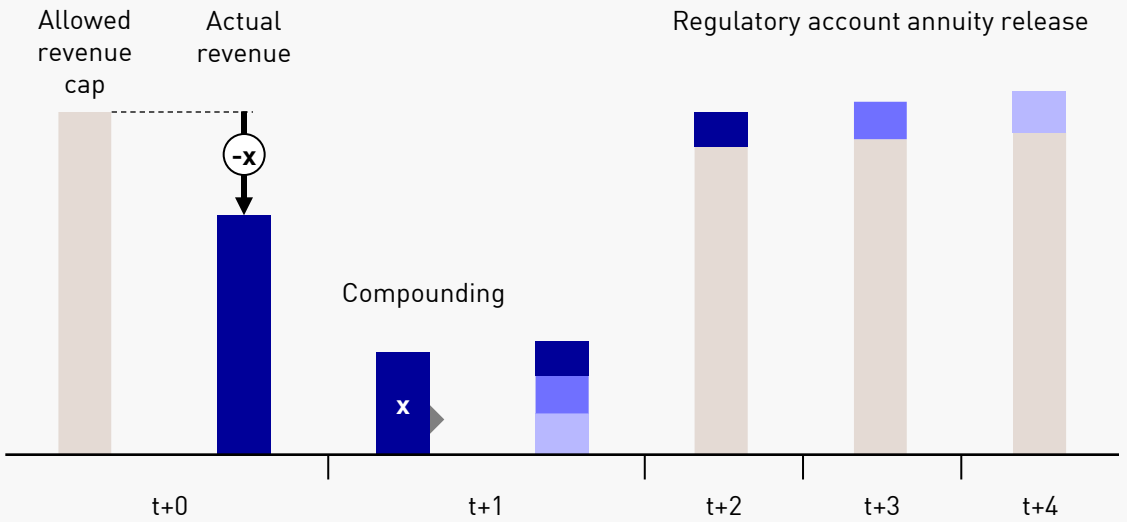
- The CAPEX true-up covers the investments and depreciation after the base year and during the respective regulatory period and requires application by 30th June of year t-1
- Investments that come under the CAPEX true-up comprise both replacement and expansion investments on a plan basis

[1] "Kapitalkostenabgleich" = capital cost comparison (BNetzA).

Regulated grids business Germany: Revenue risks due to reduced gas supply averted

- The currently reduced natural gas demand in Europe poses a temporary volume risk to grid operators
- Grid tariffs are based on volume forecasts and adjusted on an annual basis
- In case of a gap between actual revenues and allowed revenue cap (i.e. due to delta in volumes), differences are settled in upcoming periods
- The regulatory account ensures that volume risks pose no revenue risks to grid operators

Regulatory account for electricity and gas grids



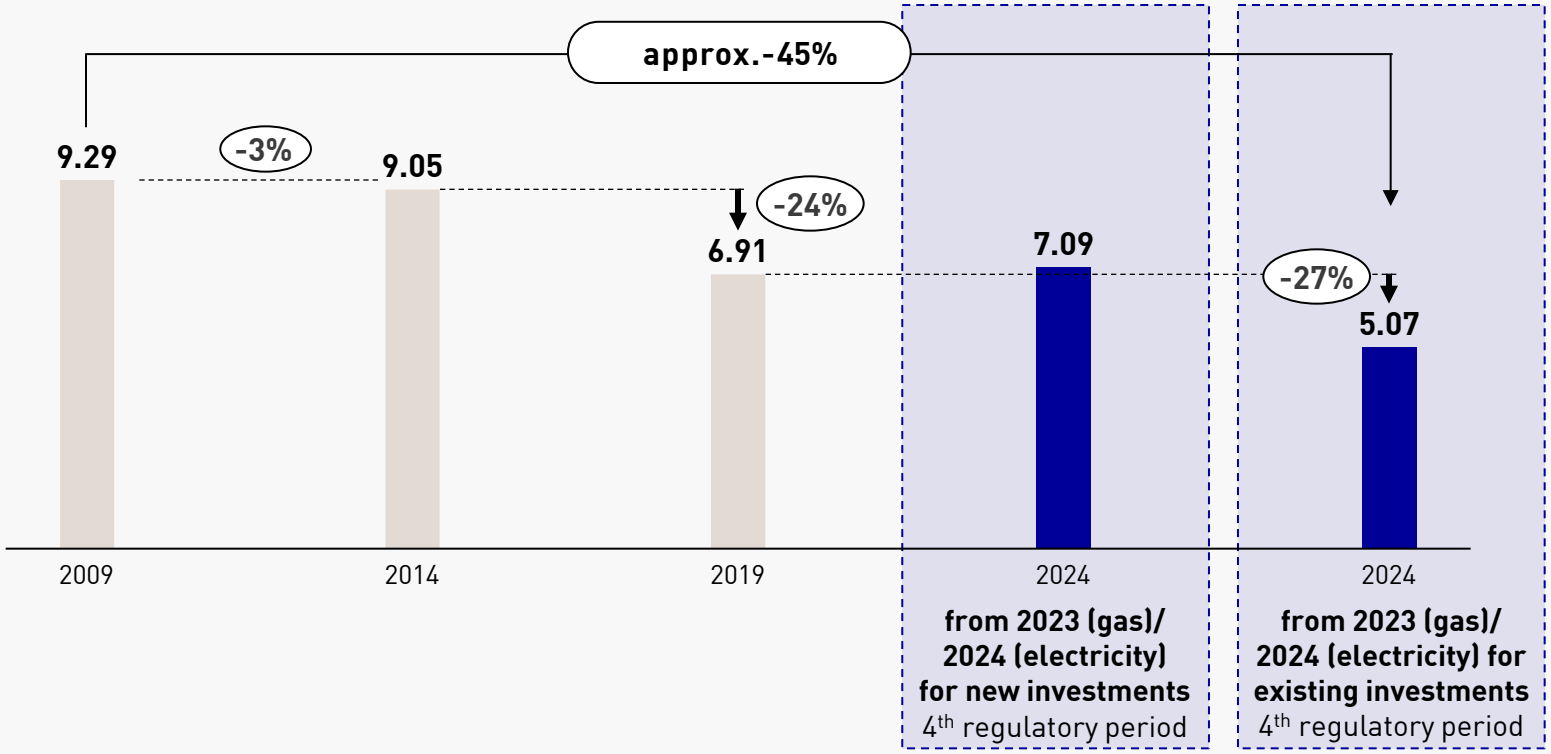
Mechanism to settle differences between allowed and actual revenue

- The regulatory account is used to compensate for:
  1. Deviations between allowed revenue cap and actual grid revenue
  2. Actual vs. budgeted difference for certain cost components in the revenue cap
  3. Other deviations such as refunding the investment measures clawback
- The account balance is determined annually by the end of the following year (t+1) and is released on an annuity basis over 3 years with interest paid on the balance (interest rate determined based on ten-year trailing average of domestic bearer bonds)
- The regulatory account balance must be approved by BNetzA and the release can lead to an increase or decrease in the revenue cap

Regulated grids business Germany: Regulatory rate of return needs to be revised from 2023/24

Development of the regulated rate of return for electricity and gas in Germany (new installations)

in % (before corporate tax, after trade tax)



- Return on equity set at 5.07% by Federal Regulatory Agency (BNetzA) for the 4th regulatory period – decreasing return on equity for investments in grids from 2023 (gas) and 2024 (electricity)
- As a reaction to current developments at the capital markets, BNetzA has proposed an increase in the return on equity, but only for new investments
- Proposal reflects BNetzA's quick - and as promised - reaction to the recent rising interest rate environment
- Further adjustments by BNetzA expected

Electricity grids Germany: Comparison of transmission and distribution grids

Transmission grids 380 kV, 220 kV
(ultra high voltage)

Organization	• 4 operators: 50Hertz, Amprion, TenneT, TransnetBW[1] • Grid length: ~36,300 km[2] • Grids owned by operators
Tasks	• Ensuring balance between generation and consumption • Using balancing power
Challenge of the energy transition	• Transport of electricity generated by wind and solar between northern and southern Germany • Building new high voltage direct current transmission lines using underground cables • Connecting offshore wind farms
Unbundling regulations	• Ownership unbundling, independent system operator, independent transmission operator

Distribution grids up to 110 kV
(high/medium/low voltage)

• 866 operators • Grid length: ~2,195,600 km[2] • Franchises issued by municipalities • Competition for franchises
• Connecting consumers and local renewable generation • Recording incidents and troubleshooting
• Connection of decentralized renewables (e.g. solar, wind) • Integration of charging infrastructure for electric cars and electric heating systems • Use of smart grid tech and digitalisation of metering operation (e.g. smart meters)
• Functional and financial unbundling of the grid business and obligation as to non-discriminatory use of grid information

[1] TransnetBW: 50.1%, EnBW; 49.9% KfW and consortium led by saving banks. | [2] Source: "Monitoringbericht 2023" as of 29 November 2023, BNetzA.

Electricity grids Germany: Backbone of the energy transition

Electricity grids

General

- The electricity grid business has become a growth business due to the transformation of the energy system to meet climate neutrality
- Changes in legislation have simplified reimbursement for costs of investment in grids: e.g. revision of the Incentive Regulation Ordinance (ARegV)

Transmission grids

- Growing geographical imbalance between generation and consumption as main driver for transmission grids – primarily construction of high voltage direct current transmission lines and connection to offshore wind farms

Proposed ultra high voltage new lines, rewiring and reinforcement 2023 - 2037[1]

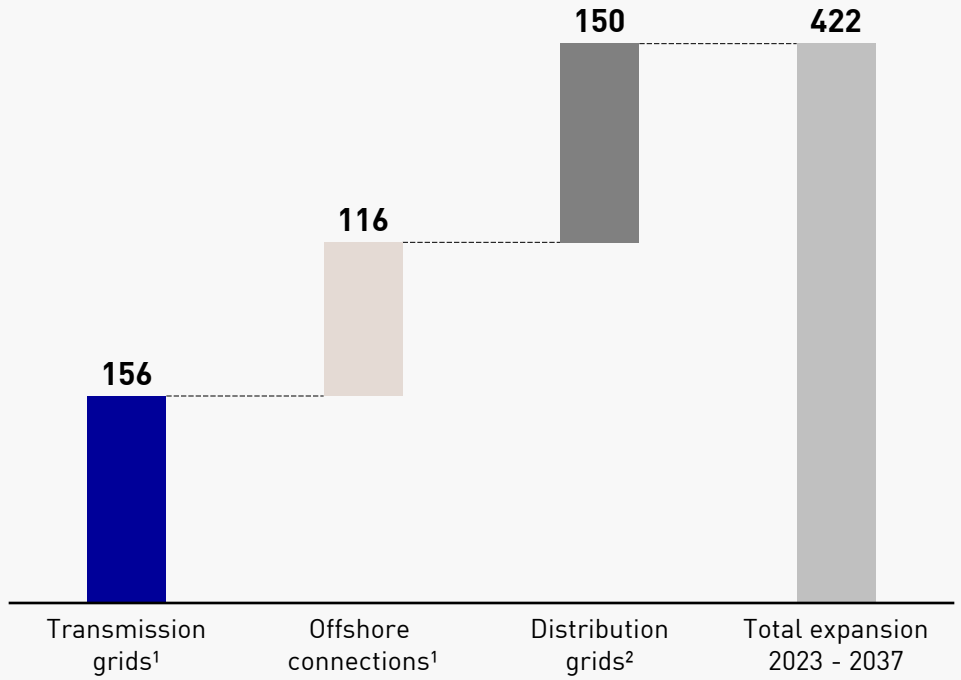
- 10,185 km upgrading in existing line routes[1]
  (AC – rewiring and reinforcement: 9,125 km; DC – rewiring and reinforcement: 1,060 km)
- 9,993 km grid expansion in new line routes[1]
  (AC – new lines: 2,312 km; AC – new interconnector lines: 290 km)
- DC – new lines: 6,861 km; new interconnector lines: 530 km
- Existing transmission grid to be upgraded and expanded by over 50% (~20,200 km) by 2037 over current grid length (37,200 km)

Distribution grids

- Feed-in growing due to local renewable generation
- Growing demand of electric cars and electric heating systems

Capex for expansion of electricity grids 2023 - 2037

in € bn



[1] Source: "Netzentwicklungsplan Strom 2037 mit Ausblick 2045, Version 2023, Zweiter Entwurf der Übertragungsnetzbetreiber", Scenario B 2037, as of 12 June 2023. | [2] Own estimation.

Gas grids Germany: Comparison of transmission and distribution grids

Transmission grids

Organization	• 16 grid operators[1] • Grid length: ~43,300 km[1] • Grids owned by operators • One market area
Tasks	• Transport gas from import to export points (transit) and vice versa (DSOs and industry or other market areas)
Challenge of the energy transition	• Long term: potential use of synthetic gas (i.e. hydrogen) as storage medium for fluctuating electricity generation
Unbundling regulations	• Ownership unbundling, independent system operator, independent transmission operator

Distribution grids

	• 704 grid operators[1] • Grid length: ~527,000 km[1] • Franchises issued by municipalities • Competition for franchises
	• Connecting consumers and local providers • Recording incidents and troubleshooting
	• Integration of biogenic and synthetic gases • Degree of utilization decreases if electric heating systems and district heating systems increase
	• Functional and financial unbundling of the grid business and obligation as to non-discriminatory use of grid information

[1] Source: "Monitoringbericht 2023" as of 29 November 2023, BNetzA.

Gas grids Germany: Another major element of the energy transition

Gas grids

Transmission grids

- The reduction of Russian natural gas imports via pipeline and their substitution by LNG via ship have significant impact on transmission grid flow directions and capacities
- In March 2023, the transmission grid operators proposed their preferred gas transmission grid development scenario and corresponding CAPEX requirements

Distribution grids

- Smaller scale of expansion compared to electricity grids
- Growth potential due to the connection of new gas fired power plants

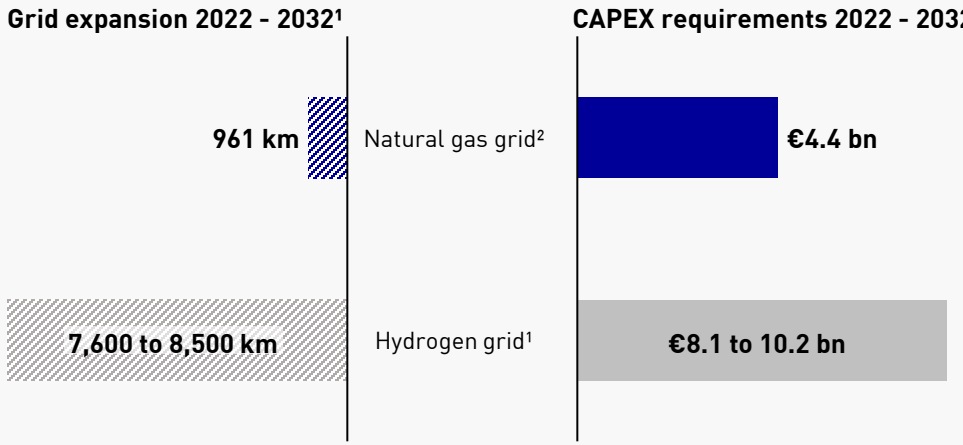
Hydrogen grids

- Hydrogen grids for at least industry as well as heat and power generation plants intended by the EU
- Regulatory framework and German core grid to be defined in 2023

Further development of German gas transmission grid

Transmission grid operators proposed grid development plans to:

- Integrate LNG supplies into the existing German transmission grid to partially substitute Russian gas imports
- A hydrogen grid supplying development up to 150 TWh to German demand clusters in 2032 predominantly from already existing natural gas pipelines



[1] "Netzentwicklungsplan Gas 2022 –2032, Entwurf" as of 31 March 2023, German Transmission System Operators. | [2] According to natural gas transmission grid development scenario "Versorgungssicherheitsvariante LNGplus C" in "Netzentwicklungsplan Gas 2022 – 2032, Entwurf".

Framework for charging infrastructure expansion

European legislation

Regulation and incentives

- EU AFIR sets minimum targets for charging infrastructure expansion, with Germany already at double the targets[2]
- Support for the integration of electromobility with renewable energy: Measures like EU RED III[3], mandating first steps for vehicle data sharing for smart and bidirectional charging.

Challenges

- Vehicle data exchange between OEMs and third parties is not yet fully regulated, risking market isolation.
- Vehicle numbers are increasing slower than the charging infrastructure expansion.

German legislation

Regulation and incentives

- Charging infrastructure expansion is an important issue for the German government, supported by the Master Plan II
- The industry is mostly advancing the expansion without subsidies (~80% subsidy free)[2]
- The Building Electromobility Infrastructure Act (GEIG) mandates charging infrastructure for a portion of parking spaces in residential and non-residential buildings

Challenges

- Urgent need for standardization, digitalization, and faster grid connection processes.
- Bureaucratic and inconsistent building regulations cause significant delays

**Regulations set a binding framework for scaling charging infrastructure.
Removing barriers will further accelerate expansion in Germany.**

[1] Alternative Fuels Infrastructure Regulation: Regulation (EU) 2023/1804 of the European Parliament and Council of September 13, 2023, on the deployment of alternative fuels infrastructure. I [2] Source: Electromobility Monitor of BDEW, April 2021. I [3] Renewable Energy Directive III, RED III.

Appendix

Power plant portfolio: Run-of-river

Power plant	Installed capacity (in MW)	Country
Run-of-river		
Iffezheim	148	Germany
Ryburg-Schwörstadt	30	Germany
Laufenburg	106	Germany
Wyhlen	39	Germany
Rheinfelden	100	Germany & Switzerland
Aletsch AG	100	Switzerland
KW Lötschen AG	78	Switzerland
Further small power plants (<30 MW)	379	
Total run-of-river[1]	**982**	

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs. | [1] Deviations due to rounding.

Power plant portfolio: Pumped storage

Power plant	Installed capacity (in MW)	Country
Pumped storage		
Rudolf-Fettweis-Werk Forbach (RFW)	43	Germany
Vorarlberger Illwerken (VIW)	1,059	Germany
Schluchsee power plants	870	Germany
Glems	90	Germany
Total pumped storage	**2,062**	

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs.

Power plant portfolio: Onshore wind

Power plant	Installed capacity (in MW)	Country
Onshore wind		
Langenburg	33	Germany
Obhausen	36	Germany
Bliekevare	32	Sweden
Buchholz, Cuxhafen	36	Germany
Harthäuser Wald	54	Germany
Further small power plants (<30 MW)	1,026	
Total onshore wind[1]	**1,212**	

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs. | [1] Deviations due to rounding.

Power plant portfolio: Offshore wind

Power plant	Installed capacity (in MW)	Country
Offshore wind		
Baltic 1	48	Germany
Baltic 2	288	Germany
EnBW Hohe See	522	Germany
EnBW Albatros	118	Germany
Total offshore wind	**976**	

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs.

Power plant portfolio: Solar

Power plant	Installed capacity (in MW)	Country
Solar		
Weesow-Willmersdorf	187	Germany
Gottesgabe	153	Germany
Alttrebbin	151	Germany
CS DE BORS DE MONTMOREAU (Bors)	30	France
Further small power plants (<30 MW)	436	
Total solar[1]	**955**	

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs. | [1] Deviations due to rounding.

Power plant portfolio: Biomass and waste (renewable)

Power plant	Installed capacity (in MW)	Country
Biomass and waste (renewable)		
Stuttgart-Münster	27	Germany
Düsseldorf	27	Germany
Further small power plants (<10 MW)	31	
Total biomass and waste (renewable)	**85**	

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs.

Power plant portfolio: Coal

Power plant	Installed capacity (in MW)	Country	Comment
Lignite			
Lippendorf	875	Germany	
Total lignite	**875**		
Hard coal			
Heizkraftwerk Altbach/Deizisau (ALT 2)	336	Germany	
Heilbronn (HLB 7)	778	Germany	
Rheinhafen-Dampfkraftwerk Karlsruhe Block 7 (RDK 7)	517	Germany	Transferred into grid reserve on 26 May 2024
Rheinhafen-Dampfkraftwerk Karlsruhe Block 8 (RDK 8)	834	Germany	
Grosskraftwerk Mannheim AG (GKM) Mannheim-Neckarau	426	Germany	GKM 8 (120 MW) transferred into grid reserve on 31 March 2024
Stuttgart-Münster	55	Germany	
Rostock (ROS)	259	Germany	
Fernwärme Ulm (FUG)	12	Germany	Fully decommissioned on 31 March 2024
Walsum	250	Germany	Termination of contract on 31 December 2023
Total hard coal	**3,467**		
Total coal	**4,342**		

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs.

Power plant portfolio: Gas

Power plant	Installed capacity (in MW)	Country
Gas		
Altbach/Deizisau	248	Germany
Düsseldorf	827	Germany
Further small power plants (<30 MW)	86	
Total gas	**1,161**	

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs.

Power plant portfolio: Other

Power plant	Installed capacity (in MW)	Country
Oil		
Stuttgart-Münster	47	Germany
Walheim (WAL)	136	Germany
Düsseldorf	86	Germany
Total oil	**269**	
Other (e.g. waste)		
Other	181	
Total other	**181**	
Total	**450**	

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs.

Power plant portfolio: Total

Power plant	Installed capacity (in MW)
Total	
Run-of-river	982
Pumped storage	2,062
Onshore wind	1,212
Offshore wind	976
Solar	955
Biomass and waste (renewable)	85
Coal	4,342
Gas	1,161
Other	450
Total[1]	**12,225**

Total generation capacity: 12.2 GW of which 5.7 GW Renewables (47%) end of 2023; of which 6.5 (>55%[2]) end of June 2024

As of 31 December 2023; incl. activities in which we own minority shareholdings without operational control and PPAs. | [1] Deviations due to rounding. | [2] Includes pro forma renewables portfolio as of 31 December 2023 incl. reallocated 0.5 GW pumped storage and new onshore/solar additions in H1 2024.

Investor relations contacts and important links

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Important links

Glossary

A

ÄVWL	Ärzte Versorgung Westfalen-Lippe

B

BEHG	Fuel Emissions Trading Act (Brennstoffemissionshandelsgesetz)
BNetzA	Federal regulatory agency (Bundesnetzagentur)
Biogas-SNG	Biogas Synthetic Natural Gas

C

CAPEX	Capital expenditures
CCGT	Combined cycle gas turbine
CfD	Contract for Difference
CHP	Cogeneration combined heat and power
COD	Commercial operations date
CPO	Charge point operator
CPPIB	Canada Pension Plan Investment Board

D

DSO	Distribution system operator

E

EMP	E-mobility provider

F

FID	Final investment decision
FNB	Vereinigung der Fernleitungsnetzbetreiber Gas (association of supra-regional gas transmission companies in Germany)

G

GHG	Greenhouse gas
GRESB	Global Real Estate Sustainability Benchmark

H

HVDC	High-voltage direct current transmission technology

I

IMAs	Investment measures

K

KPI	Key performance indicator

L

LNG	Liquefied natural gas
LTIF	Lost Time Injury Frequency

O

OCF	Operating cash flow
OCGT	Open-cycle gas turbine
OPEX	Operational expenditure

P

PEI	People Engagement Index
PGGM	Stichting Depositary PGGM Infrastructure Funds
PPA	Power purchase agreement

R

RoE	Return on Equity

S

SaaS	Software as a Service
SAIDI	System Average Interruption Duration Index

T

TSO	Transmission system operator

U

USPP	US private placement

V

VAT	Value tax added

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