

CREDIT OPINION

24 October 2025

Update



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RATINGS

EnBW Energie Baden-Wuerttemberg AG

Domicile	Karlsruhe, Germany
Long Term Rating	Baa1
Type	LT Issuer Rating
Outlook	Stable

Please see the [ratings section](#) at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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EnBW Energie Baden-Wuerttemberg AG

Update to credit analysis

Summary

The credit quality of [EnBW Energie Baden-Wuerttemberg AG](#) (EnBW, Baa1 stable), [Germany's](#) (Aaa stable) only fully vertically integrated utility, is supported by its scale and its leading position in its home state [Land of Baden-Wuerttemberg](#) (Baden-Wuerttemberg, Aaa stable); the solid share of regulated and predictable earnings from its distribution and transmission grid operations; the increasing profit contribution from its largely contracted renewables (RES) generation, underpinned by capacity growth; and its balanced financial policy and demonstrated commitment to maintaining a robust credit quality.

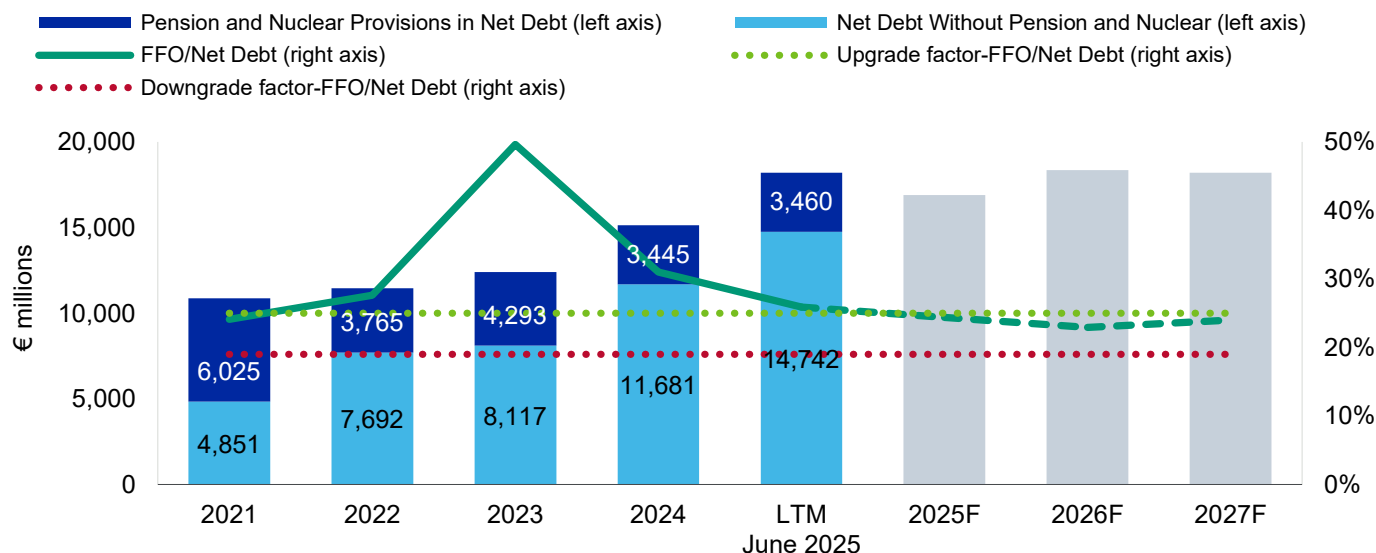
EnBW's credit quality is constrained by its sizeable (gross) investment programme, which is focused on grid infrastructure and renewable installations, over 2024-30. Planned investments were raised to up to €50 billion from €40 billion, following a €3.1 billion capital increase in July 2025, which will bolster credit metrics. Although the company's strategy to selectively and partially divest shares in projects, presumably mainly in the grid and RES segments, will help mitigate net cash outflow, this approach comes at the expense of increased cash leakage to minority shareholders and will likely weigh on the business risk profile over time. In addition, the company remains exposed to volatile energy prices and faces intense competition in the retail markets for energy and related services.

Because of the 47% ownership by Baden-Wuerttemberg, we consider EnBW a government-related issuer (GRI). Based on our expectation of a moderate probability of support from the state government in case of financial distress, the Baa1 rating factors in a one-notch uplift from EnBW's standalone credit quality, or Baseline Credit Assessment (BCA), of baa2.

Exhibit 1

Notwithstanding falling power prices and significant planned investments, we expect EnBW to stay comfortably within the guidance for its current rating

Net debt and funds from operations (FFO)/net debt



All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Sources: Moody's Financial Metrics™ and Moody's Ratings forecasts

Credit strengths

- » High share of earnings from regulated transmission and distribution grids under an established regulatory framework
- » Growing share of RES assets, mostly backed by feed-in tariffs or power purchase agreements (PPAs)
- » Track record of measures to defend credit quality and commitment to maintaining a solid investment-grade rating
- » Supportive shareholders, reflected by moderate dividend extractions and the substantial €3.1 billion equity increase in July 2025

Credit challenges

- » Large capex programme, which will constrain credit metrics, mitigated by new equity and proceeds from disposals
- » Expected increase in the share of minorities in the capital structure, which increases risk of cash leakage and could alter the business risk profile
- » Earnings exposed to wholesale price volatility, mitigated through hedging, and resource risk from the growing share of RES assets

Rating outlook

The stable outlook reflects our expectation that EnBW will record solid cash earnings over 2025-27, allowing the company to continue funding a substantial share of capex from generated cash flow. The stable outlook also factors in our expectation that the company will maintain a prudent financial policy and put in place mitigants should its funds from operations (FFO)/net debt fall below 19% or retained cash flow (RCF)/net debt fall below its 14% target.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody.com> for the most updated credit rating action information and rating history.

Factors that could lead to an upgrade

We do not expect upward pressure on the rating because of EnBW's planned sizeable capex. However, such upward pressure could develop over time if EnBW's FFO/net debt increases above the mid-20s in percentage terms on a sustained basis.

Factors that could lead to a downgrade

We could downgrade EnBW's rating if its credit metrics remain persistently below the guidance for the current BCA and rating, with FFO/net debt below 19% and RCF/net debt below 14%. A decline in the government support assumption incorporated into EnBW's rating is also likely to lead to a rating downgrade.

The guidance for EnBW's rating may be tightened further if the level of minority interests increases beyond what is currently expected or the business risk profile deteriorates.

Key indicators

Exhibit 2

EnBW Energie Baden-Wuerttemberg AG

	2020	2021	2022	2023	2024	LTM Jun-25	Moody's 12-18 month forward view
(FFO + Interest Expense) / Interest Expense	5.7x	6.4x	5.0x	7.2x	5.8x	6.0x	5.2x - 5.5x
FFO / Net Debt	17.0%	24.1%	27.7%	49.6%	31.0%	25.9%	23% - 25%
RCF / Net Debt	13.9%	20.5%	24.0%	46.1%	26.6%	22.6%	18% - 20%

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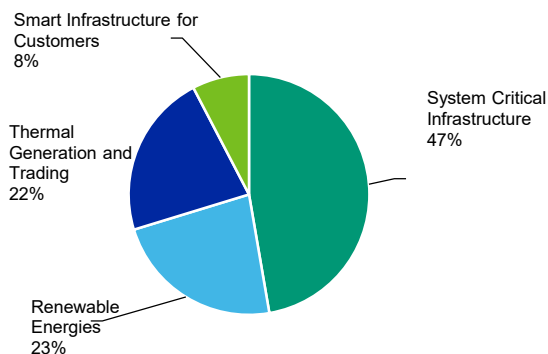
Profile

EnBW Energie Baden-Wuerttemberg AG (EnBW) is one of the leading utilities in Germany, with a dominant position in the south-western state of Baden-Wuerttemberg, one of Europe's wealthiest regions. Its vertically integrated energy activities serve around 5.5 million customers, and comprise electricity generation and trading; transmission and distribution networks; RES; and the supply of electricity, gas and related services.

Exhibit 3

Regulated grids that make up the large majority of earnings in the System-Critical Infrastructure segment account for a substantial share of EnBW's earnings

Adjusted EBITDA breakdown as reported by EnBW (LTM June 2025)



LTM = Last 12 months.

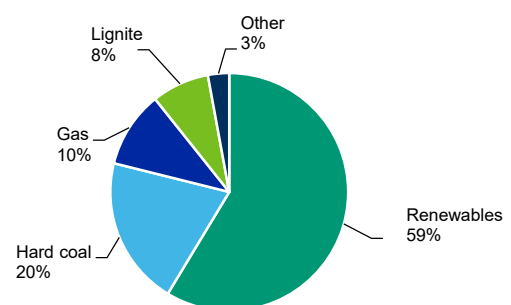
Total adjusted LTM June 2025 EBITDA is €4.7 billion. Renewable Energies, Thermal Generation and Trading together constitute the "Sustainable Generation Infrastructure" segment.

Source: Company

Exhibit 4

EnBW's generation capacity is dominated by renewables

Installed capacity (2024)



Total capacity: 11.2 gigawatt (GW)

Source: Company

EnBW's majority shareholders are the Land of Baden-Wuerttemberg and Zweckverband Oberschwaebische Elektrizitaetswerke, an association of nine administrative districts. Each entity holds a stake of 47% via subsidiaries. A further 3.92% is owned by several municipal associations in Baden-Wuerttemberg, while the remainder is held by EnBW as own shares (1.74%) or is in free float (0.34%) on the Frankfurt and Stuttgart stock exchanges. The market capitalisation of EnBW on 23 October 2025 was around €22.5 billion.

Detailed credit considerations

System-Critical Infrastructure (SCI): Expansion of regulated electricity and gas networks will require large capex, accompanied by a gradual increase in cash earnings

The economics of EnBW's SCI segment are mainly determined by its earnings and capex associated with its power and gas distribution grids, mainly operated by its subsidiary Netze BW GmbH (100%); gas transport (ONTRAS Gastransport GmbH and terranets bw GmbH, each 100%); and electricity transmission (TransnetBW GmbH, 50.1%¹). These grids operate under the German regulatory framework, which we regard as well defined, with key aspects of the revenue building blocks enshrined in law, and designed to provide adequate and fair remuneration for operating expenses and capex.

Following amendments to the German Energy Act in December 2023 to ensure greater independence of German regulator Bundesnetzagentur (BNetzA), we expect adjustments to the regulatory process over time. Furthermore, BNetzA has been in consultation with stakeholders since early 2024 to amend the regulatory framework to better support the energy transition from the fifth regulatory period (RP), which will start in 2029 and 2028 for electricity and gas grid operators, respectively. This process, called NEST², is currently in the post-consultation phase, during which BNetzA is evaluating stakeholders' inputs, and final determinations are likely to be released from Q4 2025 through 2026.

RPs comprise five calendar years, with the current, fourth one spanning 2024-28 for electricity grid operators and 2023-27 for gas grid operators.

Significant features of the regulatory framework include:

- » A regulatory account mechanism under which certain volume and cost deviations in year t are offset over three years (t+3 through t+5);
- » Cost inflation adjustments, offset against company-specific (X-Ind) and sectorwide general productivity factors (X-gen, separate for electricity and gas, set at 0.86% and 0.87%, respectively, in the current RP) to provide incentives to increase cost efficiencies;
- » Cost of debt essentially treated as a pass-through item, notwithstanding some efficiency evaluation by BNetzA;
- » Capital returns through depreciation and a return on equity (RoE) based on the regulated asset base (RAB), capped at 40% of the RAB;
- » In terms of gas grid operations, existing and new RAB assets may be fully depreciated by 2045,³ the current target year for Germany's carbon neutrality, to reduce the risk of stranded assets.

As for X-Ind, EnBW's electricity grids are mostly solidly positioned in the highest decile against the benchmark, although scores for the gas grids are slightly weaker, which means that the pressure to achieve cost efficiencies is higher. However, in September 2023, the Federal High Court decreed that BNetzA's efficiency test for gas distribution grid companies was flawed and needs to be revised. Thus, there is upside potential for the relevant EnBW subsidiaries.

Adjusted RoE calculation provides higher returns for new investments from 2024

Depreciation and RoE constitute the main sources of grid operators' cash earnings, and are a function of the RAB evolution. The RAB is calculated under the capital cost adjustment (CCA) model,⁴ which aims to include new investments in the RAB without delay during the year of the investment, thus ensuring faster cash remuneration for all capex.

The RoE for the current RP is applied as follows:

- » Assets included in the RAB as of 31 December 2023 are remunerated at 5.07% (nominal, pretax and post-trade tax) over the entire RP.⁵

- » The RoE applying to assets accruing to the RAB from 2024 is annually updated as a result of the annual adjustment of the risk-free rate (RfR) to reflect market conditions in any given year through 2028 (gas: 2027).

For investments over 2025-26, a preliminary return rate of 7.00% is applied, based on the average RfR of 2.71% for Q1 2025.

Exhibit 5

Evolution of allowed equity returns in Germany for electricity and gas grids

	1st Period (2009-2013)	2nd Period (2014-2018)	3rd Period (2019-2023)	4th Period BNetzA Final Determination October 2021 (2024-2028)	BNetzA Calculation RoE for 2026
Risk-free rate	4.23%	3.80%	2.49%	0.74%	2.71%
Market risk premium	4.55%	5.44%	3.80%	3.70%	3.70%
Equity beta	0.79	0.66	0.83	0.81	0.81
Equity risk premium	3.59%	3.59%	3.15%	3.00%	3.00%
Risk surcharge				0.40%	
Cost of equity (post tax) - new assets	7.82%	7.39%	5.64%	4.13%	5.67%
Cost of equity (pre-tax) - new assets	9.29%	9.05%	6.91%	5.07%	7.00%
Inflation factor	1.45%	1.56%	1.46%	1.27%	
Cost of equity (pre-tax) - old assets	7.56%	7.14%	5.12%	3.51%	

Sources: Bundesnetzagentur and Moody's Ratings

The relatively stable and predictable cash flow from regulated network activities underpins EnBW's plans for around €30 billion in gross capex in the SCI segment over 2024-30. This includes spending on electricity grids to connect RES, digitise the grids and build regional sections of large north-south and cross-country direct-current (DC) connections: SuedLink and NordwestLink (both between TransnetBW and [Tennet Holding B.V.](#) [Baa2 stable]), ULTRANET (TransnetBW partnering with [Amprion GmbH](#) [Baa1 negative]) and SuedwestLink (TransnetBW together with 50Hertz GmbH, the 100% subsidiary of [Eurogrid GmbH](#) [Baa2 stable]).

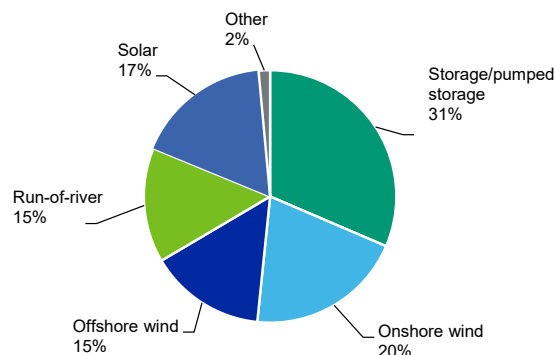
Assuming annual average capex of €4.3 billion, based on EnBW's plans, and equity returns of around 7% on 40% of this amount (BNetzA notional equity share), average annual incremental cash earnings from new investments will be around €120 million over the next few years. We expect the annual EBITDA contribution from the SCI segment, on average, to be €2.4 billion-€2.7 billion, taking into account the volatility in energy prices and the regulatory account movements. The segment's operating cash flow will likely not cover its capex through the end of the decade.

Sustainable Generation Infrastructure (SGI) - Renewable Energies: Capacity expansion will boost revenue and earnings

EnBW has a large and well-diversified portfolio of RES, with an installed capacity of around 6.8 gigawatts (GW) as of 30 June 2025, including 3.0 GW of hydro generation assets (run-of-river and pumped storage including thermal capacity); 1.0 GW of offshore wind; 2.7 GW of onshore wind and solar in almost equal parts; and 0.1 GW of other RES. Through 2030, the company aims to have 10-11.5 GW in RES installed, representing 75%-80% of its total generation capacity, up from 60% as of 30 June 2025. Around 90% of the total installed capacity for RES is located in Germany, with the remainder in France, Sweden and the Czech Republic.⁶

Exhibit 6

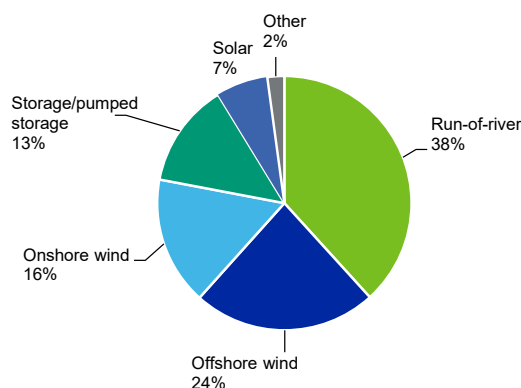
EnBW has a diversified portfolio of renewables Installed capacity (2024)



Total capacity: 6.6 GW.
Source: Company

Exhibit 7

Hydro accounts for the bulk of renewables generation Output (2024)



Total generation: 14.7 terawatt hours (TWh).
Source: Company

Offshore wind capacity will be the largest driver of RES growth through 2030

Offshore wind, with EnBW's 5 GW² pipeline, is key to achieving the company's 2030 RES capacity target:

- » He Dreiht (German North Sea): Installed capacity of 960 MW, full commissioning planned for 2026. In line with its four existing operational offshore farms, EnBW retains a 50.1% majority ownership,⁸ with the remainder held by various infrastructure investors; no subsidies. Around 55% of the capacity has been sold through PPAs to large German corporates, mostly through 15-year PPAs.
- » Dreekant (German North Sea): Potential capacity of 1 GW; EnBW won the rights to develop the wind park in a 2024 offshore auction at a price of €1,065 million. Of this amount, 90% is to be paid over the operational life of the wind farm, which could commence around 2032/33; no subsidies.
- » Morgan and Mona (UK - England): Combined capacity of 3 GW; final investment decision (FID) yet to be taken; remuneration through contracts for difference (CfDs) to be awarded through an auction or PPAs, or a combination of both. If built, the two offshore wind farms could, subject to grid connection, become operational from 2030-31.
- » Morven (UK - Scotland): Capacity of 2.9 GW, which could become operational by 2035 if an FID is taken; earnings based on CfDs or PPAs, or both.

The UK projects were allocated to EnBW and its partner Jera Nex bp, a joint venture between [BP p.l.c.](#) (A1 stable) and Japanese utility Jera Co., Inc., through successful bids at seabed lease auctions. We expect EnBW and Jera Nex bp to consider an FID over the next 12-18 months.

Offshore wind, but also other RES, projects with earnings based on PPAs reduce a merchant exposure but bring counterparty risk and do not offer the same predictability as a fixed-tariff subsidy regime. While we believe that EnBW will aim to secure a high degree of coverage from PPAs, for example for He Dreiht, any project is likely to maintain some merchant exposure, with associated risk from output and power price volatility, mitigated by feed-in priority.

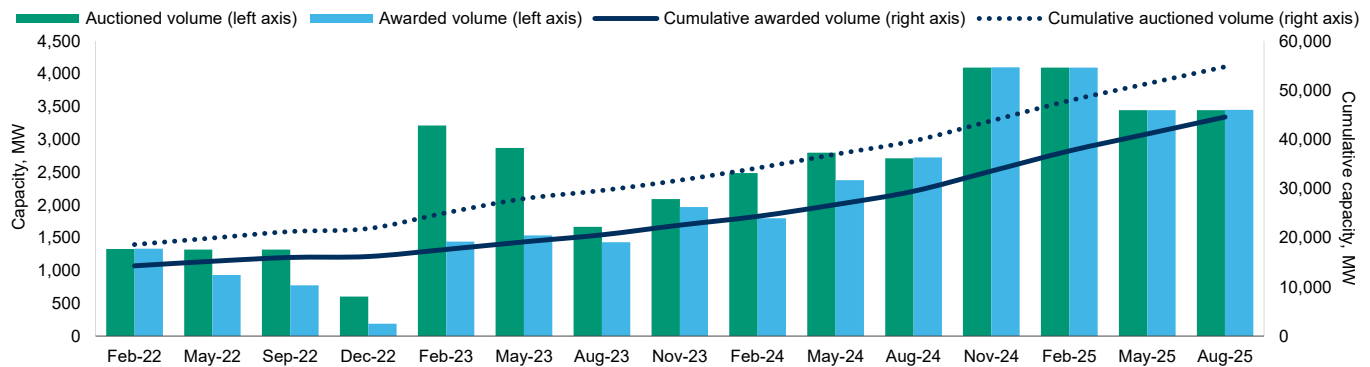
Large-scale solar and onshore wind could add around 2-3 GW capacity by 2030

EnBW has some 1.4 GW of installed onshore wind capacity, with 190 MW under construction. Future growth is focused on Germany but is predicated on support payments to ensure profitability. After a long period of undersubscribed German auctions, the most recent August auction volume was fully allocated at a volume-weighted average price of €65.70/MWh, below the cap of €73.50/MWh. We expect accelerated permitting procedures and adequate reference prices, which are set annually by BNetzA, to encourage an increase in investment in this technology. This may add around 500 MW to EnBW's portfolio by 2030.

Exhibit 8

Auctioned capacity in recent onshore wind auctions in Germany have been fully awarded, which bodes well for the next auction in November, with 3.4 GW capacity to be awarded

Auctioned and awarded capacity in German onshore wind auctions (February 2022 - August 2025)



The auctioned volume generally follows values laid out in the Renewables Act (§28 EEG 2023) but can be adjusted, for example, if an auction is likely to be undersubscribed.

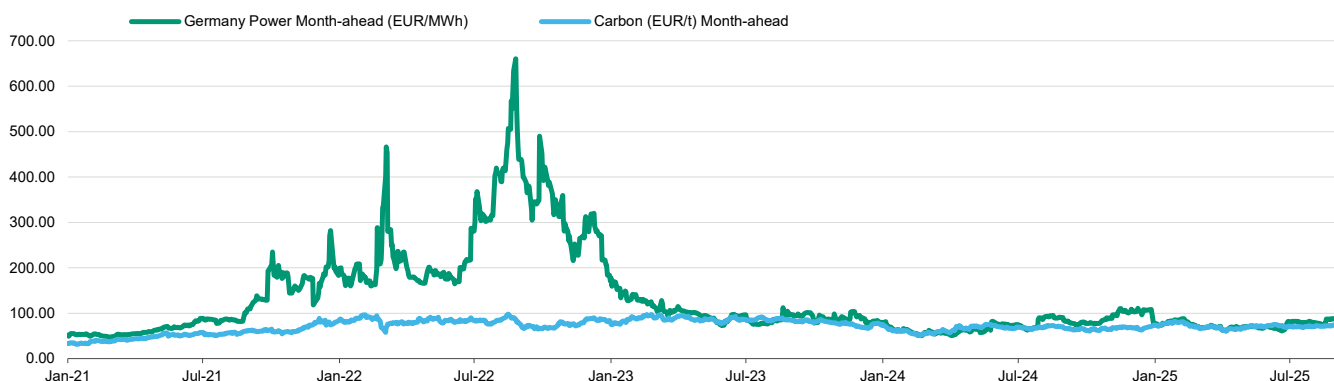
Sources: Bundesnetzagentur and Moody's Ratings

EnBW currently has around 1.3 GW of large solar installations in operation and nearly 500 MW under construction, mainly in Germany and Sweden. At scale, this technology has reached profitability on merchant terms because of less cumbersome permitting procedures and a decline in equipment costs. Unless supply chain bottlenecks arise from geopolitical and trade tensions with [China](#) (A1 negative), the world's largest producer of solar panels, we expect significant growth in capacity in Germany and Europe, and EnBW could even triple its capacity by 2030.

For 2025, EnBW provided EBITDA guidance of €1.1 billion–€1.3 billion for RES, similar to the €1.2 billion in 2024, driven by reduced prices that are offset by higher output from new capacity. As of the first half of 2025, earnings from RES amounted to €525 million, indicating that the company is on track to achieve its guidance, supported by some new capacity and good wind yields. For 2025, we expect EBITDA to be around or slightly below the level in 2024, subject to resource risk. Additional onshore wind and solar capacity and more turbines of He Dreiht coming online will lead to higher earnings, but these may be slightly dampened by merchant exposure to lower prices (EEX CAL-25 for November and December futures currently stand at around €94–€97/MWh).

Exhibit 9

After 2022, German electricity prices have decreased significantly on the back of reduced gas prices and relatively stable CO₂ prices



Source: FactSet

SGI - Thermal Generation and Energy Trading: Switch from coal plants to gas-fired capacity will boost earnings from flexibility offerings

As of 30 June 2025, EnBW (co-)owned and operated a diversified conventional generation fleet with an installed capacity of around 4.6 GW (following allocation of pumped storage capacity, which was formerly part of thermal capacity, to RES), including around 3.1

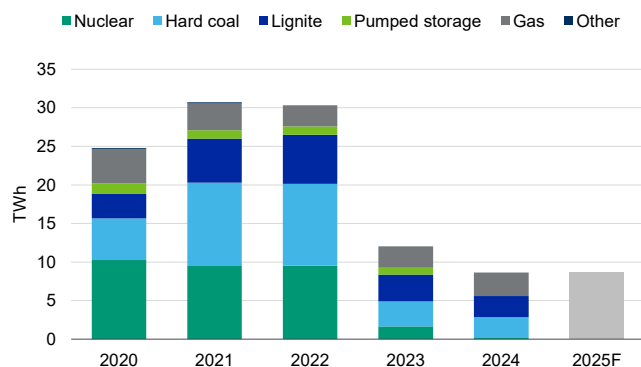
GW of coal and lignite plants, and 1.2 GW of gas-fired capacity. The company also concluded the sale of its 875 MW Lippendorf plant, effective 31 December 2025, thereby fully exiting lignite capacity.

We estimate that conventional generation output in 2025 will decline further from the 8.6 terawatt-hours (TWh) produced in 2024 because of a high share of RES output in Germany, underpinned by rapidly growing solar capacity and good wind yields. Given the roll-off of prior years' hedges that locked in high prices, offset by earnings from grid stabilisation plants and relatively stable power prices in 2025, the EBITDA contribution from Thermal Generation and Energy Trading in 2025 is likely to be around last year's level of €1.4 billion.

Exhibit 10

Conventional generation output in 2025 is likely to be in line with the year-earlier level, but will continue to decline until planned coal exit in 2028

Output in TWh

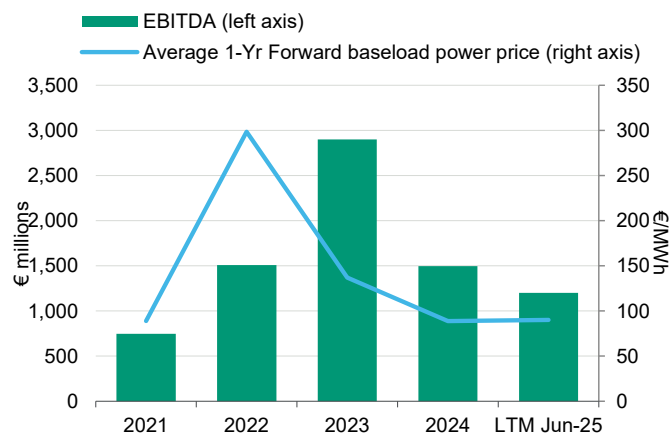


Source: Company

Exhibit 11

Because of EnBW's hedging of generation, EBITDA development follows electricity prices with a time lag

EBITDA in € millions, average one-year forward price in €/MWh



Adjusted EBITDA of Thermal Generation and Trading.

LTM = Last 12 months.

Sources: Company and FactSet

Following EnBW's decision to phase out coal by 2028, in support of its 2035 climate neutrality target, we expect earnings from conventional capacity to increasingly be based on flexibility offerings rather than wholesale market sales. These products, including capacity from gas-fired plants and batteries but also demand-side response, are becoming increasingly important for ensuring system stability as intermittent RES generation grows.

EnBW operates several grid-reserve power plants in Germany, with a total capacity of 1.8 GW, which are called upon by the responsible TSO as needed, and which are remunerated to recover the mostly fixed costs associated with availability and maintenance as well as output-related expenses. Most of the remaining coal fleet is likely to be converted to grid-reserve plants, whereas three plants⁹ will be replaced by newly built low-carbon, gas-fired plants that will participate in the wholesale market and also generate income from district heating.

While this shift in conventional generation towards quasi-regulated earnings from system services and thus reduced exposure to energy wholesale markets is generally credit positive, the resulting absolute and relative increase in the share of RES in the capacity mix leads to greater exposure to resource risk (see our [Sector In-Depth report](#)).

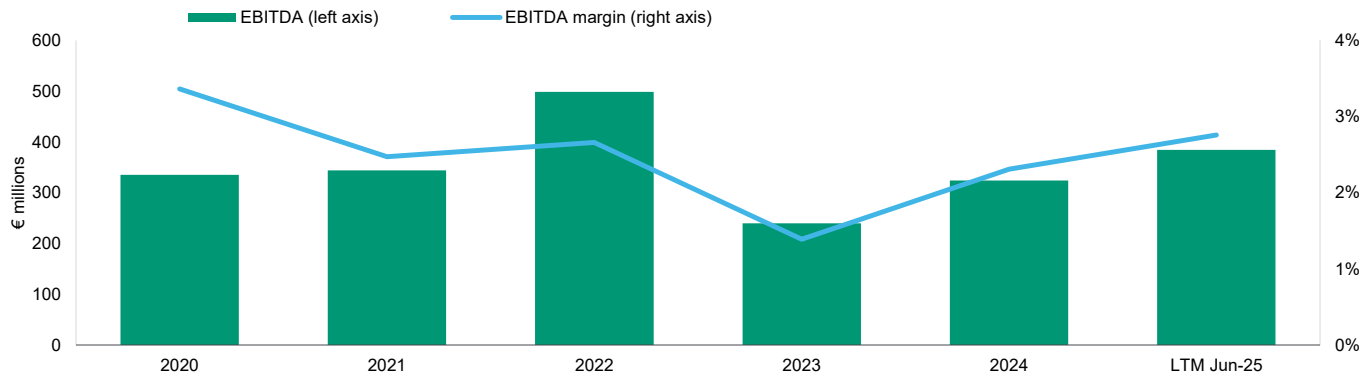
Smart Infrastructure for Customers (SMINC): EBITDA in 2025 likely to be at the prior-year level as e-mobility and energy services should contribute positively

The SMINC segment comprises energy sales to around 5.5 million household and commercial end customers; new energy solutions (e-mobility, residential solar generation and storage, and biomethane); telecommunications (fibre broadband); and energy-related services for smaller utilities.

Although the segment provides some earnings diversification for EnBW, most of SMINC's EBITDA will continue to be generated from gas and electricity sales. Thus, it remains exposed to electricity and gas wholesale prices, and to customer churn on the back of an increase in energy prices, mitigated by the company's regional roots and strong brand recognition.

Exhibit 12

SMINC's cost base is largely commodity price-driven, thus EBITDA growth does not necessarily correlate with increased margins
EBITDA and EBITDA margin in the SMINC segment



Source: Company

SMINC activities contributed €324 million to EnBW's EBITDA in 2024, up by around 33% due to the absence of the negative earnings effect of €246 million caused by the insolvency of the German biomethane trader bmp, an indirect EnBW subsidiary, in 2023; and the break-even of the e-mobility business. These positive effects were dampened by lower energy sales volumes and replacement costs for faulty home storage installations, associated with its subsidiary SENEK, a provider of solar and battery storage solutions for retail clients.

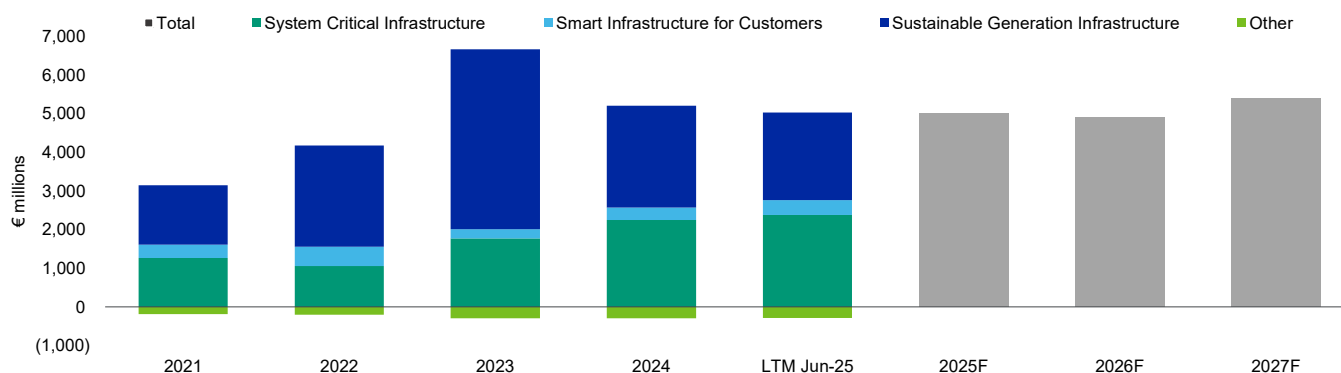
The SMINC segment is likely to experience volume growth, especially in EV charging and broadband rollouts. However, ramp-up costs, including staff and IT expenses, and the fact that competitors follow similar strategies will limit EBITDA growth potential over the next few years. For 2025, we expect EnBW's EBITDA to fall within its guidance range of €250 million-€350 million, with e-mobility and energy-related services being key drivers.

Credit metrics through 2027 weaker than in 2024, but likely to remain solidly within guidance, as higher capex are mitigated by the capital increase and disposals

In 2024, EnBW achieved adjusted EBITDA (as defined by the company) of €4.9 billion, reflecting primarily a decline in prices and a gradual run-off of the hedges that had locked in the high energy prices from 2022 through early 2023. For 2025, the company has set its guidance between €4.8 billion and €5.3 billion, mainly in view of normalised spot prices; higher grid earnings as a result of RAB growth; and additional RES capacity. Given the prices observed so far in 2025, which are similar to those in 2024, we expect adjusted EBITDA to be within the 2025 guidance range, somewhat above the 2024 result. Through 2027, we expect EBITDA to grow moderately to around €5.5 billion, mainly driven by incremental output from RES capacities and a higher grid RAB.

Exhibit 13

Favourable generation hedges boosted EnBW's earnings in 2023 to a level unlikely to be achieved again through 2027
Adjusted EBITDA breakdown, in € millions



For 2020, Sustainable Generation Infrastructure combines the former Renewable Energies and Generation and Trading segment.

LTM = Last 12 months.

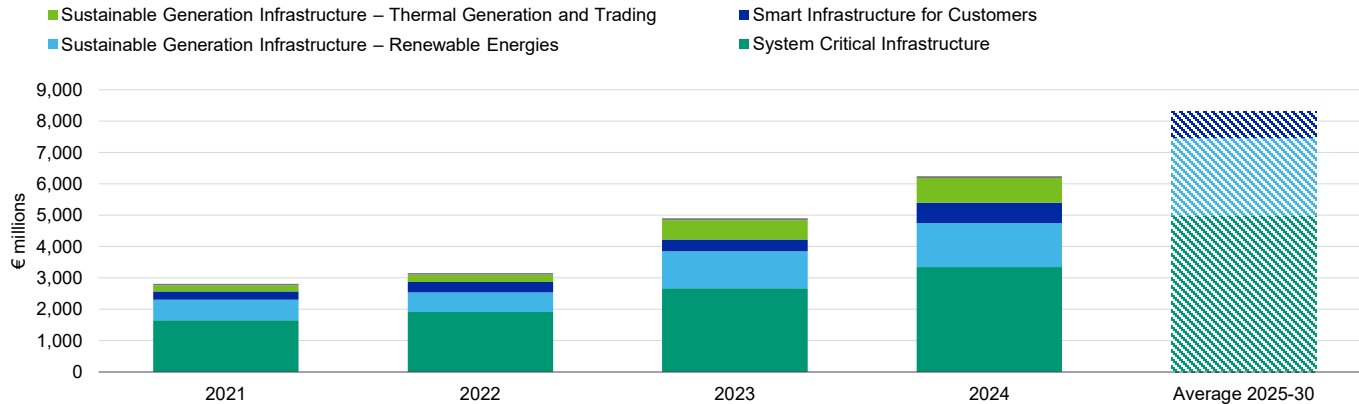
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Sources: Company and Moody's Ratings forecasts

Assuming an average annual interest expense of around €450 million-€500 million and average dividends of around €900 million over 2025-27, we expect annual FFO in the range of €4.0 billion-€4.5 billion and RCF to be around €900 million lower than FFO. Because gross investments through 2030 will likely be somewhat front-loaded on account of Suedlink and Ultranet, we estimate annual outlays, on average, to be €8.5 billion over 2025-27, implying negative free cash flow and a need for additional debt.

Exhibit 14

Gross investments are mainly directed towards networks



Source: Company

The need for additional borrowing will be partly offset by divestments and by the cash proceeds from the capital increase of €3.1 billion in July 2025. Divestments could include new partnerships through the disposal of minority stakes in existing or new operations. Precedents include the four German offshore wind farms operated by EnBW and TransnetBW.

Although such disposals, which are difficult to quantify, would diminish the need for new debt and thus be supportive for the company's credit metrics in the short term, they enhance the degree of cash leakage over the medium term; are likely to weaken the business risk profile, as disposals of lower-risk or contracted businesses are more probable; and add a degree of complexity to the corporate structure, all of which are credit negatives.

Through 2027, we expect FFO/net debt to weaken against 2025 (see Exhibit 1), but remain around the mid-20 percentages, still supported by the equity increase, and thus above our guidance for the current rating. While the effect from the front-loaded equity

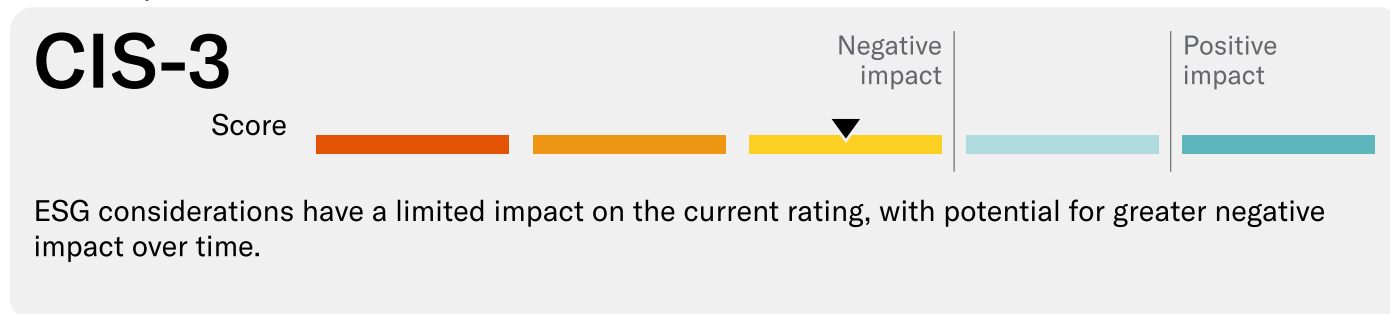
raise will level off over time due to increased investments, we expect the company to pursue a financial policy that protects its current credit quality and also expect shareholders to pursue a measured dividend policy aligned with EnBW's investment needs.

ESG considerations

EnBW Energie Baden-Wuerttemberg AG's ESG credit impact score is CIS-3

Exhibit 15

ESG credit impact score



Source: Moody's Ratings

EnBW is **CIS-3**, indicating that its ESG attributes are overall considered as having a limited impact on the current rating, with greater potential for future negative impact over time. The CIS-scoring reflects moderately negative environmental and social risks, partly offset by low to neutral governance risks.

Exhibit 16

ESG issuer profile scores



Source: Moody's Ratings

Environmental

EnBW is **E-3**, reflecting the company's carbon transition risks associated with its German coal operations, which the company announced to phase out by 2028. It also incorporates a degree of physical climate risks where the company's network operations (46% of 2024 reported adjusted EBITDA) could get damaged in case of flooding. The score also incorporates the company's liabilities associated with nuclear waste, although this is mitigated by a dedicated assets portfolio, thereby limiting operating cash outflows. Lastly, the score also reflects the sizable investment programme associated with the energy transition.

Social

EnBW is **S-3**, reflecting the risk that demographics and societal trends could lead to public concerns over affordability. These pressures can trigger adverse political intervention as shown in the temporary introduction of an excess revenue tax for utilities in 2022/23. Similarly, the mandate of the national grid regulator to protect end-users from high fees exposes the company to the risk of adverse decisions. Together, EnBW's networks and retail operations represented some 52% of reported adjusted EBITDA in 2024.

Governance

EnBW is **G-2**, reflecting the benefit from the ownership by the Land of Baden-Wuerttemberg, which holds 47% of the shares. As a government-owned company, we assess that the independence of EnBW's board is relatively weak and that its management may face competing priorities. In addition, EnBW's organisational structure is marked by a gradual increase of subsidiaries with large minority

stakes, notably for larger renewable projects, but also at TransnetBW, a key subsidiary in charge of electricity transmission in southwest Germany. Nonetheless, governance risks are balanced by other considerations associated with government ownership, including transparent reporting and oversight as well as a solid track record of achieving financial budgets.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Government support considerations

EnBW is 47% owned by the Land of Baden-Wuerttemberg, one of the most prosperous states in Germany. Because of the high ownership, we consider EnBW a GRI.

EnBW's focus on its home region, tempered by its operations across Germany and abroad, implies a moderate default dependence on the Land of Baden-Wuerttemberg. Our assumption of a moderate probability of support from Baden-Wuerttemberg in case of financial distress at EnBW is underpinned by the company's strategic importance to the region and the shareholder's endorsement of EnBW's strategy. However, it also acknowledges that Baden-Wuerttemberg does not own a majority in EnBW, which may limit a timely intervention.

Liquidity analysis

We expect EnBW to maintain good liquidity over the next 12 months, supported by operating cash flow and cash on balance sheet, and undrawn amounts under committed bank facilities.

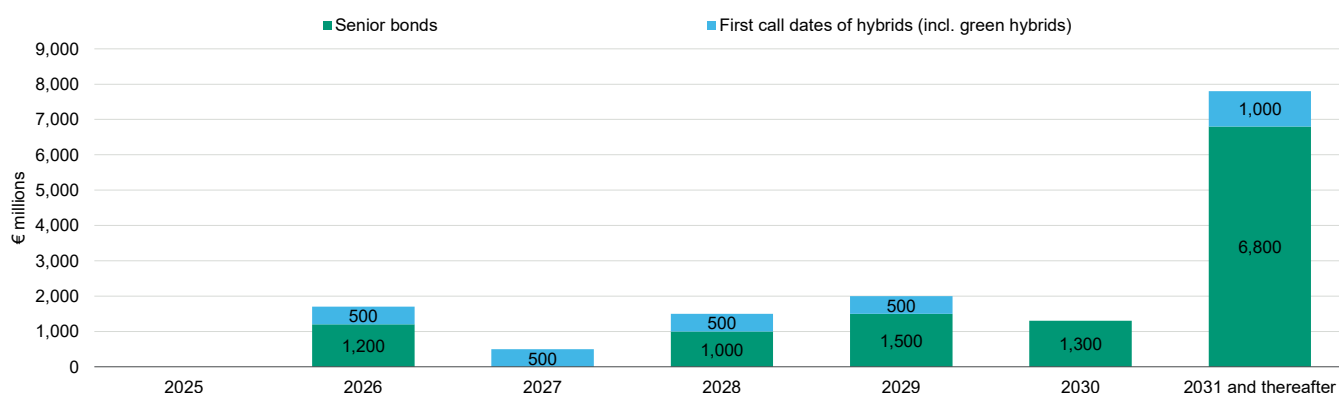
As of the end of June 2025, EnBW had cash and short-term investments (excluding trapped cash) of around €4.7 billion. In addition, the group has around €6.7 billion of committed bank facilities at its disposal, including a €2.0 billion undrawn syndicated facility due in 2030. In July 2025, the company raised €3.1 billion in cash through a successful equity increase.

Assuming net investments of around €7.0 billion-€7.5 billion over the next 12 months, senior bond repayments totalling €1.2 billion through year-end 2026 and dividend payments of €800 million-€850 million in 2026, we deem EnBW's available liquidity to be sufficient to cover these outflows.

Exhibit 17

EnBW has a well-spread debt maturity profile

Notes outstanding as of 30 September 2025, in € millions



Source: Company

Structural considerations

EnBW's capital structure includes a mix of senior unsecured bonds, bank debt and hybrid securities that are largely located at the level of the parent company we rate or the dedicated funding subsidiary EnBW International Finance B.V., which is the issuer of senior bonds and fully guaranteed by the parent. We estimate that around 10%-15% of debt, including leases, sits at the level of subsidiaries over which EnBW has control as the sole or majority shareholder. Therefore, we do not apply notching.

EnBW has six hybrids outstanding, currently amounting to €3.0 billion. Because of the features of the hybrids, we treat them as 50% debt and 50% equity in financial leverage calculations.

Methodology and scorecard

EnBW is assessed in accordance with our Unregulated Utilities and Unregulated Power Companies rating methodology, and our Government-Related Issuers Methodology.

Exhibit 18

Rating factors

EnBW Energie Baden-Wuerttemberg AG

Unregulated Utilities and Power Companies			Current LTM June 2025		Moody's 12-18 Month Forward View	
Factor 1 : SCALE (10%)			Measure	Score	Measure	Score
a) Total Assets (USD Billion)			\$74	A	\$75 - \$82	A
Factor 2 : BUSINESS PROFILE (35%)						
a) Market Diversification			Ba	Ba	Ba	Ba
b) Cash Flow Stability			A	A	A	A
Factor 3 : LEVERAGE AND COVERAGE (40%)						
a) (FFO + Interest Expense) / Interest Expense			6.00x	Baa	5.2x - 5.5x	Baa
b) FFO / Net Debt			25.90%	Baa	23% - 25%	Baa
c) RCF / Net Debt			22.60%	Baa	18% - 20%	Baa
Factor 4 : FINANCIAL POLICY (15%)						
a) Financial Policy			Baa	Baa	Baa	Baa
Rating:						
Indicated Outcome before Notching Adjustments				Baa1		Baa1
Notching Adjustments				0		0
a) Scorecard-Indicated Outcome				Baa1		Baa1
Government-Related Issuer				Factor		Factor
a) Baseline Credit Assessment				baa2		baa2
b) Government Local Currency Rating				Aaa		Aaa
c) Default Dependence				Moderate		Moderate
d) Support				Moderate		Moderate
e) Actual Rating Assigned				Baa1		Baa1

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Sources: Moody's Financial Metrics™ and Moody's Ratings forecasts

Appendix

Exhibit 19

Peer comparison

EnBW Energie Baden-Wuerttemberg AG

	EnBW Energie Baden-Wuerttemberg AG			Vattenfall AB			CEZ, a.s.			Iberdrola S.A.		
	Baa1 Stable			A3 Stable			Baa1 Positive			Baa1 Stable		
	FY	FY	LTM	FY	FY	LTM	FY	FY	LTM	FY	FY	LTM
(in \$ millions)	Dec-23	Dec-24	Jun-25	Dec-23	Dec-24	Jun-25	Dec-23	Dec-24	Mar-25	Dec-23	Dec-24	Jun-25
Revenue	48,047	37,355	36,252	27,368	23,241	22,735	15,860	14,931	15,093	53,350	48,407	48,809
EBITDA	6,551	6,029	5,001	4,380	5,620	4,873	5,787	5,946	6,036	15,297	16,310	17,616
Total Assets	71,492	66,559	73,846	58,404	50,546	55,250	36,116	36,257	38,036	165,314	163,516	184,848
Total Debt	29,376	30,064	33,283	18,329	13,246	14,574	9,732	13,000	13,783	61,533	64,619	71,836
Net Debt	13,709	15,664	21,365	13,350	5,878	7,784	9,245	11,342	11,053	58,198	60,392	69,060
FFO / Net Debt	49.6%	31.0%	25.9%	24.3%	57.6%	50.5%	37.4%	27.3%	30.4%	20.6%	19.6%	20.7%
RCF / Net Debt	46.1%	26.6%	22.6%	20.6%	46.7%	37.4%	-0.1%	16.9%	19.3%	11.7%	13.2%	13.4%
(FFO + Interest Expense) / Interest Expense	7.2x	5.8x	6.0x	5.4x	6.1x	6.8x	9.4x	7.9x	7.5x	4.8x	4.9x	4.7x
Debt / Book Capitalization	59.7%	59.1%	58.4%	53.1%	39.2%	38.9%	38.3%	46.9%	46.7%	46.9%	49.6%	49.2%

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Source: Moody's Financial Metrics™

Exhibit 20

Moody's-adjusted debt reconciliation

EnBW Energie Baden-Wuerttemberg AG

(in € millions)	2020	2021	2022	2023	2024	LTM Jun-25
As reported debt	10,499.6	12,134.9	13,803.9	17,454.1	20,757.8	20,283.4
Pensions	7,419.1	7,772.5	5,426.0	6,030.8	5,275.5	5,275.5
Hybrid Securities	(1,727.7)	(1,737.8)	(1,244.4)	(1,245.6)	(1,245.5)	(1,250.0)
Non-Standard Adjustments	5,056.5	4,589.7	4,241.4	4,353.9	4,246.0	4,045.2
Moody's-adjusted debt	21,247.5	22,759.3	22,227.0	26,593.2	29,033.8	28,354.1

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Nonstandard adjustments reflect nuclear liabilities.

Source: Moody's Financial Metrics™

Exhibit 21

Overview on select historical Moody's-adjusted financial data

EnBW Energie Baden-Wuerttemberg AG

(in € millions)	2020	2021	2022	2023	2024	LTM Jun-25
INCOME STATEMENT						
Revenue	19,694	32,148	56,003	44,431	34,524	33,308
EBITDA	2,705	3,010	3,877	6,058	5,572	4,595
EBIT	1,316	1,454	2,257	3,661	3,363	2,352
Interest Expense	512	489	784	987	984	950
Net income	469	697	1,151	1,399	982	292
BALANCE SHEET						
Net Property Plant and Equipment	19,991	20,364	22,705	25,430	29,671	31,398
Total Assets	45,965	71,273	69,504	64,719	64,278	62,909
Total Debt	21,248	22,759	22,227	26,593	29,034	28,354
Cash & Cash Equivalents	7,036	11,883	10,771	14,183	13,907	10,153
Net Debt	14,211	10,876	11,456	12,411	15,127	18,201
Total Liabilities	39,410	64,888	59,296	54,165	52,799	51,522
CASH FLOW						
Funds from Operations (FFO)	2,410	2,620	3,168	6,160	4,694	4,713
Cash Flow From Operations (CFO)	1,272	7,674	1,933	1,029	3,263	4,362
Dividends	432	387	420	437	668	586
Retained Cash Flow (RCF)	1,978	2,233	2,748	5,722	4,026	4,127
Capital Expenditures	(2,338)	(2,547)	(2,954)	(4,579)	(5,687)	(6,394)
Free Cash Flow (FCF)	(1,499)	4,739	(1,440)	(3,988)	(3,091)	(2,618)
INTEREST COVERAGE						
(FFO + Interest Expense) / Interest Expense	5.7x	6.4x	5.0x	7.2x	5.8x	6.0x
LEVERAGE						
FFO / Net Debt	17.0%	24.1%	27.7%	49.6%	31.0%	25.9%
RCF / Net Debt	13.9%	20.5%	24.0%	46.1%	26.6%	22.7%
Debt / EBITDA	7.9x	7.6x	5.7x	4.4x	5.2x	6.0x
Net Debt / EBITDA	5.3x	3.6x	3.0x	2.0x	2.7x	4.0x

All data based on adjusted financial data, which follow our Financial Statement Adjustments in the Analysis of Nonfinancial Corporations methodology. LTM = Last 12 months.

Source: Moody's Financial Metrics™

Ratings

Exhibit 22

Category	Moody's Rating
ENBW ENERGIE BADEN-WUERTTEMBERG AG	
Outlook	Stable
Issuer Rating	Baa1
Senior Unsecured MTN	(P)Baa1
Jr Subordinate -Dom Curr	Baa3
Subordinate -Dom Curr	Baa2
Other Short Term -Dom Curr	(P)P-2
ENBW INTERNATIONAL FINANCE B.V.	
Outlook	Stable
Bkd Senior Unsecured	Baa1
Bkd Other Short Term -Dom Curr	(P)P-2

Source: Moody's Ratings

Endnotes

- 1 In November 2023, 49.9% of the company, valued at €2.05 billion, was sold in equal parts to Suedwest Konsortium Holding GmbH, a group of institutional and corporate investors from Baden-Wuerttemberg, and Expand Netzbetreiber GmbH, a subsidiary of state-owned lender [Kreditanstalt fuer Wiederaufbau](#) (Aaa stable).
- 2 NEST is a German abbreviation and stands for "Netze. Sicher. Effizient.Transformiert." meaning "Grids, efficient, safe, transformed."
- 3 In September 2024, BNetzA released its "KANU 2.0" determination, laying down rules for the depreciation of legacy assets that had accrued to the RAB as of year-end 2023, complementing KANU 1.0 from November 2022 where assets accruing to the RAB from 2024 were addressed. Under certain conditions, KANU 2.0 allows accelerated full depreciation of assets through 2035.
- 4 The CCA has been applied since the third RP for distribution grid operators and since the start of the fourth RP for transmission system operators.
- 5 Under the German regime, there is in fact another distinction of RoE for assets acquired or built before 2006 (old assets) and after 2006 (new assets). Old assets receive a real equity return, adjusted for inflation, but their relevance is decreasing as they are largely depreciated. The rate of 5.07% refers to the new assets.
- 6 EnBW is also a 50% partner in the Turkish joint venture (JV) Borusan EnBW Enerji, a large operator of wind farms, and some hydropower and solar installations. As of 30 June 2025, the total installed capacity of the JV, which EnBW consolidates at equity, amounted to 854 megawatts (MW), which is not included within the 6.8 GW.
- 7 UK offshore projects are counted pro rata for EnBW's 50% stake; project companies are consolidated at equity.)
- 8 EnBW has a 50.3% ownership in Wind Farm Baltic 1.
- 9 Coal plants Altbach/Deizisau, Stuttgart-Muenster and Heilbronn block 7, with an aggregate capacity of 1.17 GW, are in the process of being converted to hydrogen-ready gas plants (total capacity of 1.47 GW) through 2026 at an estimated cost of €1.6 billion, with Stuttgart-Muenster having started operations in August.

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