

**CREDIT OPINION**

4 December 2024

Update

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**RATINGS**

**Bulgarian Energy Holding EAD**

Domicile	Bulgaria
Long Term Rating	Ba1
Type	LT Corporate Family Ratings
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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# Bulgarian Energy Holding EAD

Update following change in outlook to stable

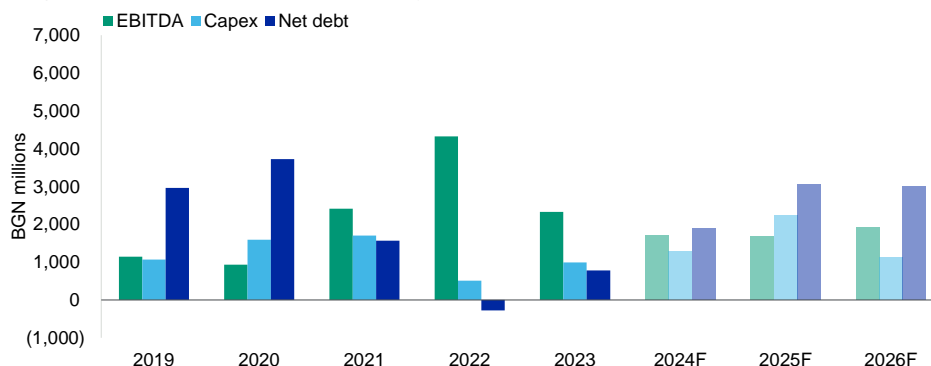
**Summary**

[Bulgarian Energy Holding EAD's](#) (BEH, Ba1 stable) credit quality reflects its dominant position as the main electricity provider in Bulgaria and its highly important role in delivering on the country's energy policies. The credit quality is further supported by the high share of largely fixed-cost, low-carbon hydro and nuclear generation, which benefits from still-above-average electricity prices; and the significant EBITDA contribution from its regulated energy infrastructure. Robust earnings underpin BEH's continuing debt reduction, which has increased the company's flexibility to cope with increasing capital spending (Exhibit 1).

The group's credit quality is constrained by the risks and uncertainties related to BEH's potential involvement in the construction of new nuclear power plants; extraordinary contributions to the Security of the Electricity System Fund (SESF); volatile earnings, which result in low cash flow visibility amplified by a still-unsettled regulatory regime; delays in the full liberalisation of the Bulgarian retail electricity market; and the company's weak liquidity management because of its almost exclusive reliance on internally generated cash flow.

BEH's credit quality incorporates its standalone creditworthiness (expressed as a Baseline Credit Assessment [BCA] of ba3) and a high likelihood of support from its 100% owner, the [Government of Bulgaria](#) (Baa1 stable), in the event of financial distress. At the same time, the company remains exposed to political interference, as illustrated by the significant cash extractions by the government in 2022 to fund energy subsidies via the SESF, extraordinarily high dividends in 2023 and regulatory risk.

Exhibit 1  
**Capital spending to increase, resulting in higher net debt, partially mitigated by expected strong EBITDA alongside the full liberalisation of the electricity market**



All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Periods are financial year-end unless indicated. Nuclear liabilities excluded from our debt calculation from 2021. Potential additional spending for the new nuclear power plant is not included from 2026F. 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

- » Earnings growth from increased sale of competitively priced power in the profitable unregulated wholesale market, likely to be strengthened with a further liberalisation of the electricity market, scheduled for 1 July 2025
- » Improved earnings in the regulated electricity market on the back of reforms and price decisions more closely aligned to actual costs
- » Ownership of strategic energy infrastructure, which generates regulated earnings
- » High likelihood of support from the government given its 100% ownership

## Credit challenges

- » Risks and uncertainties related to BEH's potential involvement in the construction of new nuclear power plants in Bulgaria
- » Limited earnings visibility as a result of evolving energy markets and short regulatory periods
- » Recent sizeable cash extractions by the government to fund domestic energy cost subsidies via the SESF and extraordinarily high dividends in 2023
- » Liquidity management fully reliant on internal cash flow, which exposes BEH to market disruption risk
- » Prevailing political instability, with frequent new elections (the latest one was in October 2024) and different government coalitions

## Rating outlook

The stable outlook reflects our expectation that BEH will maintain funds from operations (FFO)/net debt above 25% at least over the next 24 months.

## Factors that could lead to an upgrade

Upward pressure on the BCA is currently unlikely given the uncertainties surrounding the new nuclear power plant project. Nevertheless, an upgrade of the company's BCA would likely result in a rating upgrade. The rating could be further upgraded if the rating of the Government of Bulgaria was upgraded.

## Factors that could lead to a downgrade

Downward pressure on the BCA could occur if BEH's FFO/net debt were to decline and remain persistently below 25% as a result of, but not limited to, the company's high capital spending; cash distributions above expectations, either via dividends or extraordinary payments to the SESF; or adverse regulatory changes. The rating could be downgraded if BEH were to go ahead with the construction of new nuclear plants and the risks associated with such project were not sufficiently mitigated by the support provided by the Bulgarian government. Downward pressure on the rating could also develop if we were to reassess our estimate of high support from the Bulgarian government.

## Key indicators

Exhibit 2

### Bulgarian Energy Holding EAD

	2019	2020	2021	2022	2023	Moody's 12-18 month forward view
(CFO Pre-W/C + Interest) / Interest Expense	6.7x	4.5x	15.0x	28.8x	12.4x	7.0x - 8.0x
(CFO Pre-W/C) / Net Debt	30.4%	14.8%	125.6%	-1368.6%	248.1%	50% - 70%
RCF / Net Debt	30.4%	14.8%	125.6%	-1299.8%	63.6%	45% - 55%

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

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

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.

## Profile

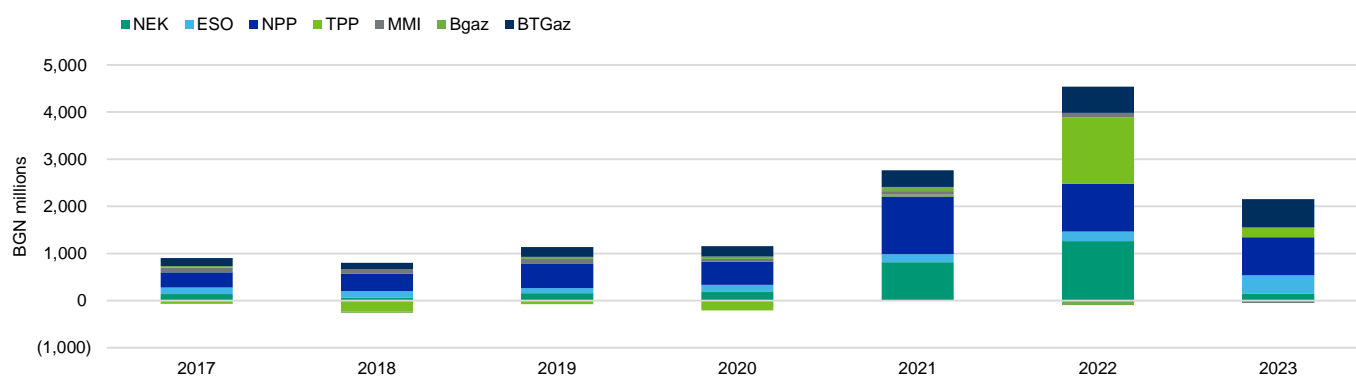
Bulgarian Energy Holding EAD (BEH) is the holding company of the incumbent 100% state-owned electricity and gas utility group in Bulgaria. Through its subsidiaries, BEH owns more than 50% of the electricity generation capacity in the country. In 2023, it generated 21.9 terawatt-hours (TWh) of electricity, which was around 55% of the total gross domestic generation.

BEH's generation subsidiaries include NPP Kozloduy EAD (NPP), a nuclear power plant with an installed capacity of 2,000 megawatts (MW); Nationalna Elektricheska Kompania EAD (NEK), with 2,737 MW of hydro capacity; and TPP Maritsa East 2 EAD (TPP ME2), a 1,620 MW lignite plant with an adjacent mine (Mini Maritsa Iztok EAD [MMI]), also owned by BEH. NEK is also the sole public supplier in the regulated power market. The termination of NEK's public supplier role is scheduled for July 2025.

Transmission grids in Bulgaria are also owned and operated by BEH's subsidiaries, with Electricity System Operator EAD (ESO) in charge of the high-voltage electricity network, and its sister company Bulgartransgaz EAD (BTGaz) managing the gas transmission and transit networks. Bulgargaz EAD (Bgaz) is the regulated public wholesale gas supplier. In 2023, BEH group reported EBITDA of BGN2,229 million (about €1,139 million).

Exhibit 3

**BEH's EBITDA has been boosted by high power prices and increased thermal generation, but dropped again along declining energy prices**



Periods are financial year-end unless indicated. EBITDA as reported by BEH's subsidiaries before consolidation.

Sources: Company and Moody's Ratings

## Detailed credit considerations

**Strong operational performance created financial flexibility, but the planned construction of new nuclear power plant units will create risks**

For 2023, BEH group reported EBITDA of BGN2,229 million, down 47% from the record levels in 2022 but still well above the historical numbers. This was mainly because of still-above-average power prices, which benefitted its low-fixed-cost generators NPP and NEK, which reported combined EBITDA of BGN962 million in 2023. As a consequence of the strong performance in recent years, BEH managed to reduce its gross debt position gradually, and net debt substantially because of its increasing cash balance. Adjusted net debt as of year-end 2023 amounted to BGN781 million, up around BGN1 billion as a consequence of the sizeable dividend distributed to the government. Nevertheless, Moody's-adjusted consolidated leverage metrics of around 248.1% of FFO/net debt as of year-end 2023 indicate financial flexibility for upcoming capital spending.

On 4 November 2024, BEH's subsidiary NPP Kozloduy (NPPK) announced that it has signed a \$350 million design and engineering contract with [WEC US Holdings Ltd.](#) (B1 stable) and South Korean Hyundai Engineering and Construction Co. Ltd. The contract assesses the overall construction and engineering requirements for the addition of two new units (units 7 and 8; Westinghouse AP1000, with a combined generation capacity of 2,200 megawatts) at the existing Kozloduy site, which will conclude with the final investment decision and EPC contract, expected to be taken and signed in H2 2025. The total investment amount would likely to exceed \$14.6 billion. Details of the financing structure will not be available before H2 2025. Meanwhile, the US Export-Import Bank has signed a letter of intention to provide \$8 billion, and a similar amount is currently being discussed with the [Export-Import Bank of Korea](#) (Aa2 stable). We also expect the Bulgarian government to support BEH. This support could be provided, for example, in the form of equity

injections or state guarantees. The dates for the commencement of commercial operations for the two units are likely to be in 2034 (unit 7) and 2036 (unit 8). As seen in construction projects for other nuclear power plants in Europe, there is a high risk of delays and cost overruns. Furthermore, the size of the project, if it goes ahead, has the potential to significantly weigh on the group's financial metrics, depending on the final financing structure and potential support from the government.

Aside from this nuclear power plant project, capital spending is predominantly skewed towards maintenance spending. The main discretionary spending will be done by BTGaz, notably for the Chiren Underground Gas Storage (UGS Chiren) expansion, which will increase the storage capacity to 1 bcm from 0.55 bcm. The commissioning is expected for the first quarter 2025.

### Full wholesale electricity liberalisation benefits BEH, but was postponed again; now scheduled to become effective 1 July 2025

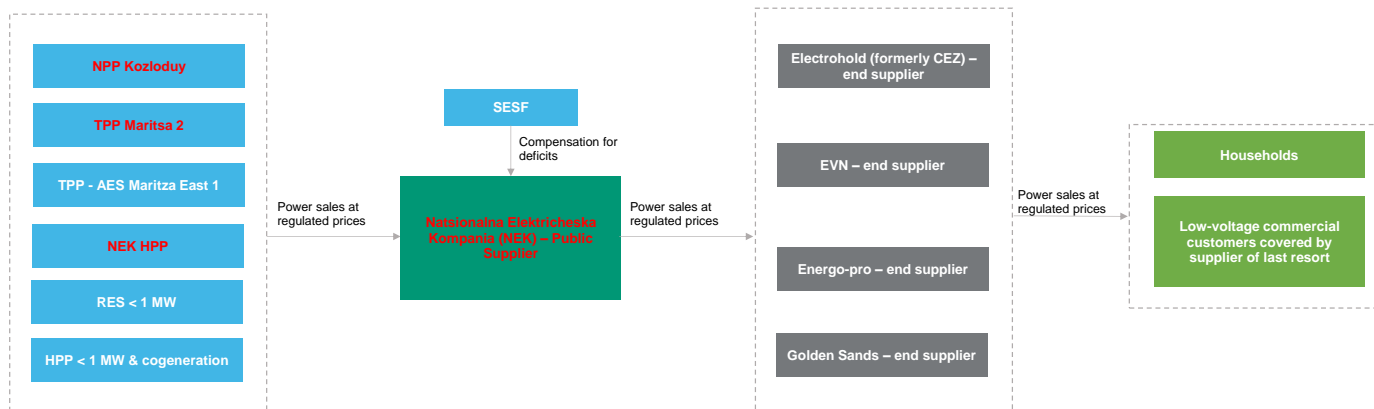
The liberalisation of the electricity market in Bulgaria started in 2004, and its evolution is based mainly on a concept advised by the World Bank to the Bulgarian government in 2016. The liberalisation of the wholesale market was partially completed in July 2021, and a full market liberalisation (including the retail market) is planned for year-end 2025.

After the formation of a new government coalition on 2 June 2023, the Parliament passed on 5 October 2023 an amendment to the Energy Act that paved way for the final full market liberalisation. Despite a veto by Bulgarian President Roumen Radev, the final publication of the amended Energy Act<sup>1</sup> was on 17 November 2023 after the Parliament overturned the presidential veto. However, after the election in June 2024, the new caretaker government disregarded the legislations and postponed the final implementation by another year to July 2025.

Exhibit 4

#### Current design of the regulated electricity market in Bulgaria

BEH group companies occupy key positions; NEK's public supplier role will be abolished from July 2025



Entities in red are the fully consolidated subsidiaries of BEH.

Sources: Company and Moody's Ratings

Under the existing framework, the sale prices in the regulated market, from generation to end supply to households, are annually determined by the regulatory authority, the Energy and Water Regulatory Commission (EWRC). The required volume is based on the EWRC's demand forecast and is procured via a long-term power purchase agreement (PPA) with a privately owned thermal plant, AES-3C (the PPA with ContourGlobal expired in February 2024); small (less than 500 kilowatt) renewable installations and highly efficient cogeneration plants, which are legally entitled to offtake at feed-in tariffs. The so-called quota producers, mainly NEK and NPP, provide the required volumes to bridge the gap between demand and supply from other sources.

NEK's role as the public supplier has caused a structural deficit, because the weighted average offtake price paid to the power generators exceeds the selling price charged to end-suppliers. This has been covered by monthly payments from the SESF. From 1 July 2025, with the planned abolition of NEK's public supplier role, this structural deficit will shift towards the end-suppliers during a six-month transition period before being discontinued from 1 January 2026. Similar to NEK, end-suppliers are entitled to receive a compensation via the SESF if regulated prices for households, which remain in place until 31 December 2025, are inadequate to cover

the market price, at which they purchase electricity from the Independent Bulgarian Energy Exchange (IBEX). The ultimate deadline for the full market liberalisation according to Bulgaria's National Recovery and Resilience Plan (NRRP) is 31 December 2025.<sup>2</sup>

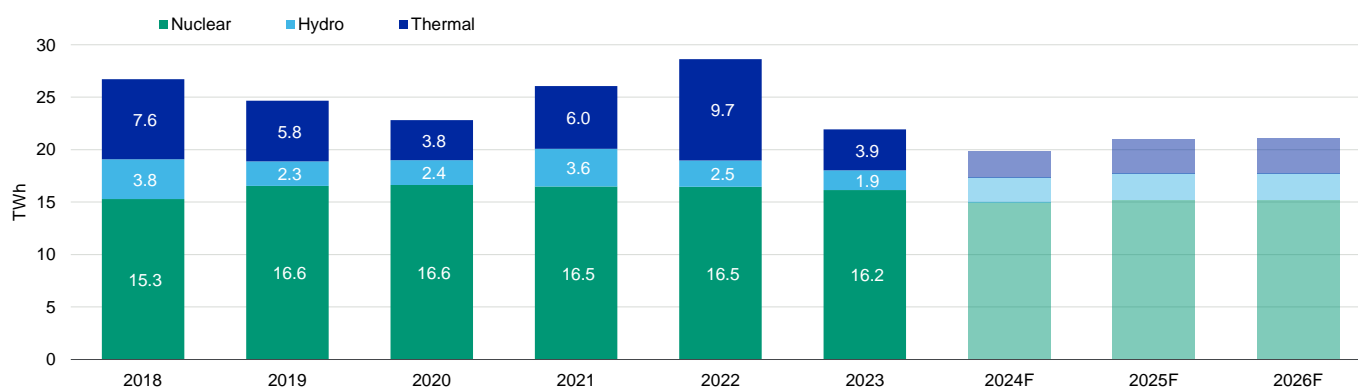
Because a liberalised market implies the termination of the public supplier role, NEK will not remain exposed to an unsettled, although improved, regulatory regime. Moreover, we expect NEK's accumulated tariff deficit, which is currently financed by debt at BEH's parent company level, to be resolved as a result of the termination of the public supplier role. The assessment is underway, and neither the final compensation nor the exact compensation mechanism has been determined.

In addition, the full market liberalisation will be credit positive for BEH because NPP and NEK — its low-carbon power-generating subsidiaries with low variable costs that contributed around 82% to BEH's total electricity generation in 2023 (Exhibit 5) — will be able to sell their entire output in the more lucrative unregulated market. Furthermore, the increased flexibility enables BEH to make use of export opportunities, because its generation volumes will no longer be tied to the domestic market.

Exhibit 5

### BEH's power generation is dominated by clean and low-cost nuclear and hydro plants

#### BEH's gross generation by type of plant



Periods are financial year-end unless indicated. Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Sources: BEH filings and Moody's Ratings forecasts

At the same time, despite significant progress in market-coupling activities, the IBEX continues to lack the depth and liquidity of the more established European markets. There are limited opportunities for BEH to hedge its electricity output, e.g. via forwards or long-term PPAs that are less common in Bulgaria. As a consequence, the company's earnings will remain volatile and fluctuate with electricity price movements.

### BEH plays a crucial role in Bulgaria's energy policy and could be compelled to pay higher dividends or extraordinary contributions to the SESF given its currently strong financial profile

Bulgaria introduced a compensation scheme in October 2021 in response to higher electricity and gas prices, which benefited non-household consumers and electricity network operators in the form of subsidies for their technical grid losses, initially for 2021-22. The scheme was repeatedly amended to reflect market price changes and was finally terminated on 31 December 2023. A significant part of the initially budgeted BGN2.9 billion of subsidies were funded by BEH, and the remaining smaller share was funded by the government and the SESF. The SESF's main purpose is to compensate for the losses that arise from NEK's public supplier role. The SESF is funded, among others, by revenue-related contributions from electricity generators and transmission system operators (TSOs), sales from the Bulgarian government's EU Emissions Trading System allowances, revenue from imported electricity and fees paid by end customers. Usually, the SESF revenue has been higher than its payments. However, because of the support schemes, the unplanned payouts led to a deficit for the SESF in Q1 2022. BEH companies funded the shortfall at the behest of the government by making target contributions to the SESF in H2 2022. A mechanism for the calculation of the extraordinary payments to the SESF was introduced taking into account full production costs, capital spending, loan repayments and a rate of return on capital of 9.9%. Extraordinary payments to the SESF, entirely paid by NPP, totaled around BGN3.2 billion (€1.6 billion) in 2022 and BGN680 million in 2023. Because of lower energy prices, the payment for 2024 will decrease further. These contributions to the SESF are in addition to the BGN580 million of ordinary payments in 2022 and BGN281 million in 2023.

Because of BEH's strong earnings and cash flow in recent years, the government deviated from its policy of minimal cash extraction. After the early prepayment in April 2022 of a €601 million state loan extended to NEK in 2016, originally due in December 2023, dividend extractions have increased substantially. In 2023, BEH distributed dividends in the amount of BGN1,440 million. The government might return to the previous dividend policy, namely a distribution of 50% of net profit after tax. In our view, the construction of the new nuclear power plant will curb the urge to extract cash, because BEH's free cash flow will turn negative once construction spending accelerates.

Despite high distributions to the government and the SESF, BEH retained robust credit metrics and significant bond covenant capacity (net debt/EBITDA of negative 0.15x versus the threshold of 4.5x, as of 31 December 2023). Beside increasing capital spending, cash outflow in the form of payments to the SESF or extraordinarily high dividend payments such as those in 2023 could have an adverse effect on BEH's credit quality.

#### **BEH has fully substituted Russian gas imports, but gas supply earnings remain small**

Bgaz is the monopoly gas importer in Bulgaria, a country that has hardly any domestic gas resources. The company has a 1 billion cubic meter (bcm) long-term contract with Azerbaijan Gas Supply Company Ltd and substituted Russian gas in the winter of 2022-23 with additional Azeri supplies and 1.5 bcm of liquefied natural gas (LNG) procured via Turkiye and Greece. Bgaz has also secured annual capacities of 1 bcm for a decade at the Greek LNG terminal project Alexandroupolis, of which BTGaz holds a 20% stake. Commercial operations started in October 2024. In addition, Bgaz signed various smaller contracts for LNG supplies via the Revithoussa LNG terminal in 2023.

Bgaz has a significant share of regulated earnings under a cost-plus approach stemming from its public supplier role. Regulated selling prices are set on a monthly basis by the EWRC. In addition, Bgaz is able to pass on energy costs in the liberalised market to industrial customers and traders. However, as a result of the cessation of Russian gas deliveries in 2022, there was a mismatch in the timely alignment of purchase and selling prices. Ultimately, a liquidity shortage was mitigated by an BGN800 million loan granted by the Ministry of Energy, which is intended to be repaid by August 2025.

#### **Transmission grid operations underpin BEH's earnings, but predictability is limited**

The EWRC, as the independent regulatory authority for the electricity and gas markets in Bulgaria, is also in charge of regulating BEH's TSOs, ESO and BTGaz. Regulations for TSOs are mainly based on the principle of a rate of return on a regulated asset base (RAB) for electricity and gas transmission. In the case of ESO, the regulatory period lasts one year, from 1 July to 30 June. Its current transmission RAB amounts to around BGN2.2 billion and yields a return of 3%, measured as the weighted average cost of capital (WACC), which is lower than that of its European peers.

On 1 October 2020, BTGaz entered into a new five-year regulatory period with revenue cap elements, which will end on 30 September 2025. The WACC for the entire period is set at 6.69%, and BTGaz's annual RAB was approved at about BGN3.6 billion for the period from 1 October 2023 to 30 September 2024. However, domestic transmission and other activities, such as gas balancing, only accounted for around 20% of the company's revenue in 2023, while the larger share came from a long-term transit agreement with Gazprom PJSC, with volumes destined for Serbia and Hungary through the new Balkan Stream pipeline. The terms and conditions of the transit agreement are unknown; however, we estimate, based on similar arrangements in other markets, that the income is fairly stable, for example, through a ship-or-pay clause that guarantees payments irrespective of the actual transit volume. However, such a transit agreement exposes BTGaz to counterparty risk and to the risk of a cessation of Russian gas flows.

The approved NRRP envisages a separation of the two transmission grid operators from the BEH group by the end of 2025 at the latest. Many details of the carve-out are yet to be determined and there is still some resistance from the current government on the execution, which argues that the TSOs are better placed within the BEH group. Even after the potential carve-out, BTGaz and ESO are intended to remain 100% owned by the government. The unbundling of the TSOs from the BEH group would increase business risk because of the cessation of the share of EBITDA from regulated businesses. Additionally, discussions are currently underway with the European Commission (EC) because certain grants could be at risk if the carve-out is not completed by the end of 2025.

#### **BEH's credit quality benefits from its government ownership**

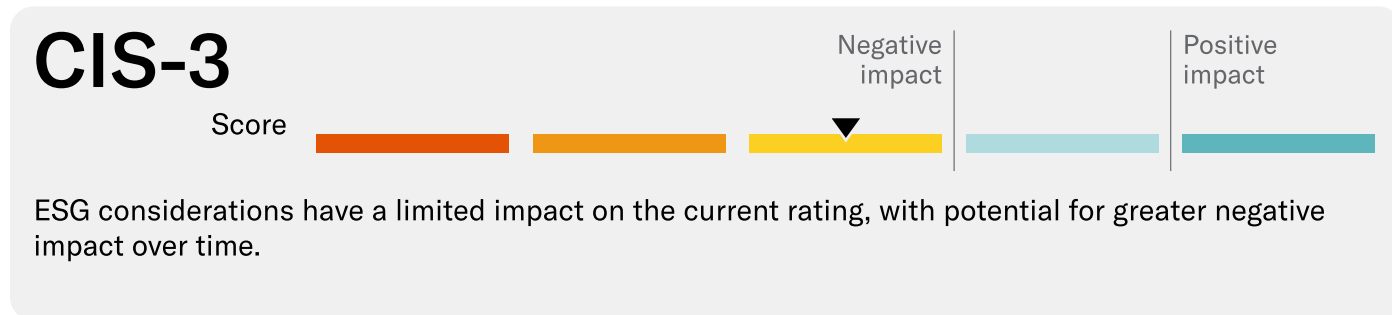
BEH is rated using our Government-Related Issuers rating methodology because of its 100% ownership by the Bulgarian government. Consequently, the Ba1 rating incorporates two notches of uplift from the company's standalone credit quality or BCA of ba3, reflecting

the high default dependence between the company and the government, as well as a high likelihood of extraordinary support from the government in case of financial distress in view of the company's strategic importance to the national economy. BEH owns a substantial part of the domestic energy infrastructure, including gas and electricity transmission grids, and the country's sole nuclear power plant.

### ESG considerations

#### Bulgarian Energy Holding EAD's ESG credit impact score is CIS-3

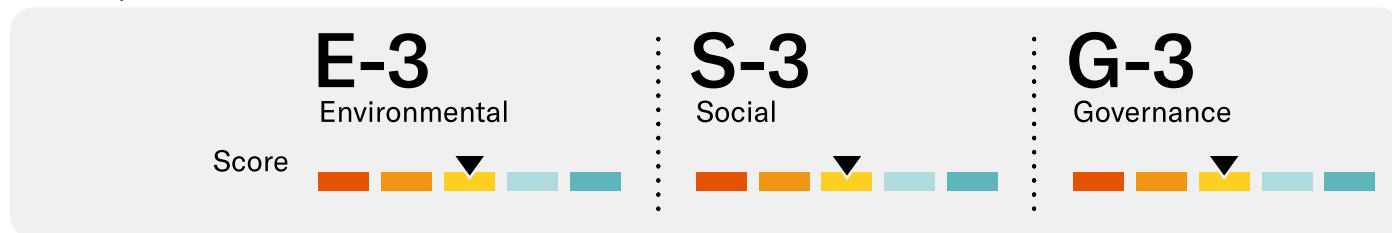
Exhibit 6  
ESG credit impact score



Source: Moody's Ratings

BEH's **CIS-3** indicates that ESG considerations have a limited impact on the current credit rating with potential for greater negative impact over time. Its score reflects moderately negative environmental, social risk and governance risks. The effect of ESG risks to the rating is partly mitigated by our expectation that its government shareholder would support the company, if this were to become necessary.

Exhibit 7  
ESG issuer profile scores



Source: Moody's Ratings

#### Environmental

BEH's **E-3** score reflects the company's generation mix consisting of nuclear, hydro and lignite plants which are exposed to risks arising from nuclear waste disposal obligations, climate-related hydro volatility and tightening carbon emission policies, respectively. Mitigants include regular cash contributions to a special nuclear waste disposal fund, which limits the risk of sudden large payments; the moderate dependence of earnings on hydro generation; and the lignite plant's technical flexibility, which allows it to operate predominantly at peak hours. The group's gas and electricity transmission grid assets are exposed to physical climate risk, such as damage from storms, given that the electricity grid assets are mostly above ground.

#### Social

BEH's **S-3** reflects risks related to employees' health & safety, mostly through its mining operations, but also public safety concerns stemming from its nuclear plant operations, both of which are mitigated by the company's long track record of operating these assets without negative incidents and, in the case of the nuclear plant, regular overhauls to ensure compliance with global safety standards.

## Governance

BEH's **G-3** score reflects our view of a lack of independent decision-making, given BEH's status as a fully state-owned company, though a reform to the Public Enterprise Act in October 2019 has introduced stricter rules on good governance and transparency for publicly owned companies. Furthermore the company has been displaying weaknesses in the quality of its reporting, reflected in perennial qualified audit opinions. These factors are balanced by a conservative financial policy with strong leverage metrics, despite a likely increasing dividend demand from the shareholder.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moody's.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.

## Liquidity analysis

As of year-end 2023, BEH had available unrestricted cash and cash equivalents of around BGN3.1 billion. The group's liquidity is managed at the parent company level through intercompany loans, the centralised purchase of carbon allowances on behalf of TPP ME2 with deferred repayment terms and, on occasion, the purchase of subsidiaries' trade receivables.

BEH only has some small bilateral bank lines for working capital purposes at the subsidiary level (especially BTGaz). Therefore, the group is reliant on internally generated cash flow, which has been volatile in the past; external debt financing; and, to a small degree, grants. Larger infrastructure projects such as the large gas projects are usually financed with committed debt.

The lack of significant liquidity backup facilities, which differentiates BEH from its peers, is credit negative. This is because in case of larger debt refinancing requirements, the company is exposed to market disruption risk. The next large maturity is the €600 million bond due for repayment in June 2025 and the BGN800 million loan at the Bgaz level, due in August 2025. Although cash on hand would be sufficient to repay the loans in 2025, we expect BEH to refinance the eurobond with a new issue in Q1 2025.

BEH's liquidity could come under pressure from 2026, when capital outflow for construction of the new nuclear power starts to accelerate. We forecast that the company will use up its liquidity buffer during 2025, and external financing might be required, subject to the actual start of construction for the new NPP and potential support by the government.

## Structural considerations

Debt at the holding company level accounted for around 60% of total group debt as of 31 December 2023. The holding company's senior unsecured bonds are rated one notch below the corporate family rating, reflecting a degree of structural subordination of noteholders to the significant amount of debt at BEH's subsidiaries. Debt at the subsidiary level consists predominantly of amortising loans related to BTGaz's capital spending, all of which mature by 2027. The holding company's debt service is fully reliant on dividend payments from the operating subsidiaries, and on debt service payments from related and third parties. Dividend payments to the holding company from the subsidiaries are ensured through a required distribution of 50% of net profit after certain allocations to retained earnings and reserves.

## Methodology and scorecard

BEH is rated based on our rating methodology for Unregulated Utilities and Unregulated Power Companies and our Government-Related Issuers methodology.

BEH's assigned BCA is ba3, four notches below the Baa2 forward-looking scorecard-indicated outcome. The difference reflects the risks and uncertainties related to the construction of the two new nuclear power plants; delays in the full liberalisation of the electricity market in Bulgaria; weak liquidity management; and governance issues, such as the lack of approved financial policies and recurring audit qualifications.

Exhibit 8

### Rating factors

#### Bulgarian Energy Holding EAD

Unregulated Utilities and Unregulated Power Companies Industry	Current FY Dec-23		Moody's 12-18 month forward view	
	Measure	Score	Measure	Score
<b>Factor 1 : Scale (10%)</b>				
a) Scale (\$ billions)	Baa	Baa	Baa	Baa
<b>Factor 2 : Business Profile (40%)</b>				
a) Market Diversification	B	B	B	B
b) Hedging and Integration Impact on Cash Flow Predictability	B	B	B	B
c) Market Framework & Positioning	B	B	B	B
d) Capital Requirements and Operational Performance	Baa	Baa	Baa	Baa
e) Business Mix Impact on Cash Flow Predictability	Baa	Baa	Baa	Baa
<b>Factor 3 : Financial Policy (10%)</b>				
a) Financial Policy	Baa	Baa	Baa	Baa
<b>Factor 4 : Leverage and Coverage (40%)</b>				
a) (CFO Pre-W/C + Interest) / Interest (3 Year Avg)	18.3x	Aaa	7x - 8x	Baa
b) (CFO Pre-W/C) / Net Debt (3 Year Avg)	371.8%	Aaa	50% - 70%	Aa
c) RCF / Net Debt (3 Year Avg)	293.1%	Aaa	45% - 55%	Aa
<b>Rating:</b>				
a) Scorecard-Indicated Outcome		A3		Baa2
b) Actual Baseline Credit Assessment Assigned				ba3
<b>Government-Related Issuer</b>				<b>Factor</b>
a) Baseline Credit Assessment				ba3
b) Government Local Currency Rating				Baa1
c) Default Dependence				High
d) Support				High
e) Actual Rating Assigned				Ba1

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

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 9

## Peer comparison

## Bulgarian Energy Holding EAD

(in \$ millions)	Bulgarian Energy Holding EAD			Hrvatska Elektroprivreda d.d.			Latvenergo AS			Eesti Energia AS			Holding Slovenske elektrarne d.o.o.		
	Baa1 Stable			Baa1 Stable			Baa2 Stable			Baa3 Stable			Baa3 Stable		
	FY	FY	FY	FY	FY	FY	FY	FY	LTM	FY	FY	LTM	FY	FY	FY
	Dec-21	Dec-22	Dec-23	Dec-21	Dec-22	Dec-23	Dec-22	Dec-23	Jun-24	Dec-22	Dec-23	Sep-24	Dec-21	Dec-22	Dec-23
Revenue	5,627	10,423	5,349	2,334	3,370	4,371	1,941	2,200	1,971	2,338	2,061	1,953	3,003	5,618	5,350
EBITDA	1,461	2,332	1,289	547	(683)	612	361	648	709	448	487	430	108	(141)	668
Total Assets	14,240	15,768	15,650	7,095	7,386	8,477	4,115	4,558	4,403	5,869	5,292	5,788	2,325	2,620	2,644
Net Property Plant and Equipment	10,499	10,617	10,779	5,356	5,140	5,492	3,219	3,657	3,625	3,477	3,465	4,020	1,333	1,193	1,161
Total Debt	2,440	2,170	2,183	805	1,754	2,600	946	708	637	1,131	1,871	2,066	753	894	687
Cash & Cash Equivalents	1,528	2,322	1,742	659	451	584	120	286	259	299	193	591	110	381	123
Net Debt	912	(151)	441	147	1,303	2,016	826	423	378	831	1,679	1,475	643	514	564
(CFO Pre-W/C + Interest) / Interest Expense	15.0x	28.8x	12.4x	17.5x	-12.3x	8.3x	33.6x	20.7x	20.2x	20.0x	1.9x	4.2x	18.6x	-7.4x	23.0x
FFO / Net Debt	125.6%	-1368.6%	248.1%	344.1%	-48.0%	22.8%	44.3%	135.4%	144.6%	46.9%	23.6%	15.0%	52.2%	-31.4%	112.3%
RCF / Net Debt	125.6%	-1299.8%	63.6%	257.4%	-48.0%	22.8%	35.2%	95.4%	78.7%	39.7%	18.2%	14.5%	52.2%	-31.4%	112.3%
FFO / Debt	46.9%	95.4%	50.1%	62.7%	-35.7%	17.7%	38.6%	80.8%	85.9%	34.5%	21.1%	10.7%	44.6%	-18.0%	92.2%
RCF / Debt	46.9%	90.6%	12.9%	46.9%	-35.7%	17.7%	30.7%	57.0%	46.7%	29.2%	16.3%	10.4%	44.6%	-18.0%	92.2%
Debt / Book Capitalization	21.2%	16.5%	16.7%	16.6%	37.6%	45.3%	27.3%	17.8%	16.5%	25.3%	45.4%	43.5%	44.8%	45.0%	34.6%

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

LTM = Last 12 months.

Source: Moody's Financial Metrics™

Exhibit 10

## Moody's-adjusted debt reconciliation

## Bulgarian Energy Holding EAD

(in BGN millions)	2019	2020	2021	2022	2023
<b>As reported debt</b>	<b>2,827.0</b>	<b>3,319.9</b>	<b>3,866.5</b>	<b>3,664.0</b>	<b>3,529.0</b>
Pensions	293.6	302.9	329.5	313.2	336.1
Non-Standard Adjustments	1,036.1	1,131.7	-	-	-
<b>Moody's-adjusted debt</b>	<b>4,156.7</b>	<b>4,754.5</b>	<b>4,196.0</b>	<b>3,977.2</b>	<b>3,865.2</b>
Cash & Cash Equivalents	(1,195.0)	(1,030.6)	(2,628.3)	(4,254.5)	(3,084.6)
<b>Moody's-adjusted net debt</b>	<b>2,961.7</b>	<b>3,723.9</b>	<b>1,567.8</b>	<b>(277.3)</b>	<b>780.6</b>

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Periods are financial year-end unless indicated.

Source: Moody's Financial Metrics™

Exhibit 11

## Moody's-adjusted EBITDA reconciliation

## Bulgarian Energy Holding EAD

(in BGN millions)	2019	2020	2021	2022	2023
<b>As reported EBITDA</b>	<b>1,126.6</b>	<b>929.5</b>	<b>2,414.8</b>	<b>4,328.8</b>	<b>2,322.8</b>
Pensions	31.6	0.0	0.5	(0.9)	8.6
Unusual Items	(11.3)	-	-	-	-
<b>Moody's-adjusted EBITDA</b>	<b>1,146.9</b>	<b>929.6</b>	<b>2,415.3</b>	<b>4,327.9</b>	<b>2,331.4</b>

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Periods are financial year-end unless indicated.

Source: Moody's Financial Metrics™

Exhibit 12

Overview on select historical Moody's-adjusted financial data  
Bulgarian Energy Holding EAD

(in BGN millions)	2019	2020	2021	2022	2023
<b>INCOME STATEMENT</b>					
Revenue	5,318	4,462	9,302	19,344	9,675
EBITDA	1,147	930	2,415	4,328	2,331
EBIT	547	301	1,695	3,498	1,431
Interest Expense	157	158	140	137	169
Net income	373	110	1,341	3,120	1,116
<b>BALANCE SHEET</b>					
Net Property Plant and Equipment	15,295	17,394	18,058	19,457	19,084
Total Assets	19,739	21,547	24,491	28,897	27,709
Total Debt	4,157	4,755	4,196	3,977	3,865
Cash & Cash Equivalents	1,195	1,031	2,628	4,254	3,085
Net Debt	2,962	3,724	1,568	(277)	781
Total Liabilities	8,061	9,828	9,797	9,852	9,372
<b>CASH FLOW</b>					
Funds from Operations (FFO)	900	550	1,970	3,795	1,936
Cash Flow From Operations (CFO)	1,058	934	2,672	2,993	1,855
Dividends	0			191	1,440
Retained Cash Flow (RCF)	900	550	1,970	3,604	497
Capital Expenditures	(1,070)	(1,596)	(1,701)	(508)	(992)
Free Cash Flow (FCF)	(12)	(663)	971	2,294	(576)
FFO / Net Debt	30.4%	14.8%	125.6%	-1368.6%	248.1%
RCF / Net Debt	30.4%	14.8%	125.6%	-1299.8%	63.6%
FFO / Debt	21.6%	11.6%	46.9%	95.4%	50.1%
RCF / Debt	21.6%	11.6%	46.9%	90.6%	12.9%
<b>PROFITABILITY</b>					
EBIT Margin %	10.3%	6.8%	18.2%	18.1%	14.8%
EBITDA Margin %	21.6%	20.8%	26.0%	22.4%	24.1%
<b>INTEREST COVERAGE</b>					
(FFO + Interest Expense) / Interest Expense	6.7x	4.5x	15.0x	28.8x	12.4x
<b>LEVERAGE</b>					
Debt / Book Capitalization	25.2%	27.8%	21.2%	16.5%	16.7%

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Periods are financial year-end unless indicated.

Source: Moody's Financial Metrics™

## Ratings

Exhibit 13

Category	Moody's Rating
<b>BULGARIAN ENERGY HOLDING EAD</b>	
Outlook	Stable
Corporate Family Rating	Ba1
Senior Unsecured	Ba2/LGD5

Source: Moody's Ratings

## Endnotes

- [1](#) Bulgaria's National Assembly, [Law on Amendment and Supplement to the Energy Act](#), 17 November 2023.
- [2](#) Details on the NRRP can be found [here](#).

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