



**Institute for Energy Economics  
and Financial Analysis**

# **Update: STEAG's Uncertain and Slow Decarbonisation Strategy**

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## Key Findings

**As predicted in our previous IEEFA report, STEAG's 2023 sustainability commitment to phase out its German coal-fired power generation by mid-2026, well ahead of the national target, has been thrown into doubt by its sale to private equity investor, Asterion Industrial Partners.**

**Asterion has stated that it supports the German government's plans to phase out coal, but has given no explicit commitment to uphold STEAG's coal phase-out plan, which could keep coal burning beyond 2030.**

**IEEFA calls for a reassessment of STEAG's sale process, or at the minimum a more responsible sale to a buyer who is committed to implementing STEAG's coal exit plan.**



## Executive Summary

This paper updates our previous study (published 1 June 2023) regarding the case of German power utility, Steinkohlen-Elektrizität AG (STEAG), whose generation is almost entirely coal-fired.<sup>1</sup>

Since the 1930s, STEAG has been a coal-fired power producer from the industrial heartlands in Germany spread across the Nord Rhein Westphalia, Saarland and Baden-Württemberg regions.

Despite being awarded decommissioning auctions for three plants, only one German coal plant has been decommissioned so far. As of today, STEAG is still operating 4.1 gigawatts (GW) of coal-fired capacity.

Last year, the company was split into two entities: Iqony GmbH, a branch dedicated to renewables and grid investments, and STEAG Power GmbH, which hosts all the legacy coal generation assets. Both are subsidiaries of STEAG GmbH.

In May 2023, the company published its Sustainability Report 2023, which included a 2040 net zero target and a commitment to phase out coal at its German power plants by mid-2026. However, it is not apparent that the coal phase-out target will be adhered to once STEAG has been sold to a new owner.

The company has been losing money for most of the past decade. The six German municipalities owning STEAG put the company up for sale in late 2022, hoping to take advantage of a high-power price environment that could make it more attractive to buyers. Last month, it was announced that Asterion Industrial Partners, a private infrastructure investor headquartered in Madrid, Spain, would buy the company for approximately €2.6 billion, with the transaction expected to close by the end of 2023. In the press release, Asterion stated its commitment to the 2040 target, but said nothing about a timeline for coal phase-out, only stating it “supports the German government’s plans to phase out coal”.

It is of great concern that the new buyer will not follow STEAG’s coal phase-out target and will maximise the coal fleet lifetime until each plant has been compulsorily decommissioned by the Federal Network Agency, which could mean STEAG’s German hard coal phase-out is not completed until 2034, according to current estimates.<sup>2</sup>

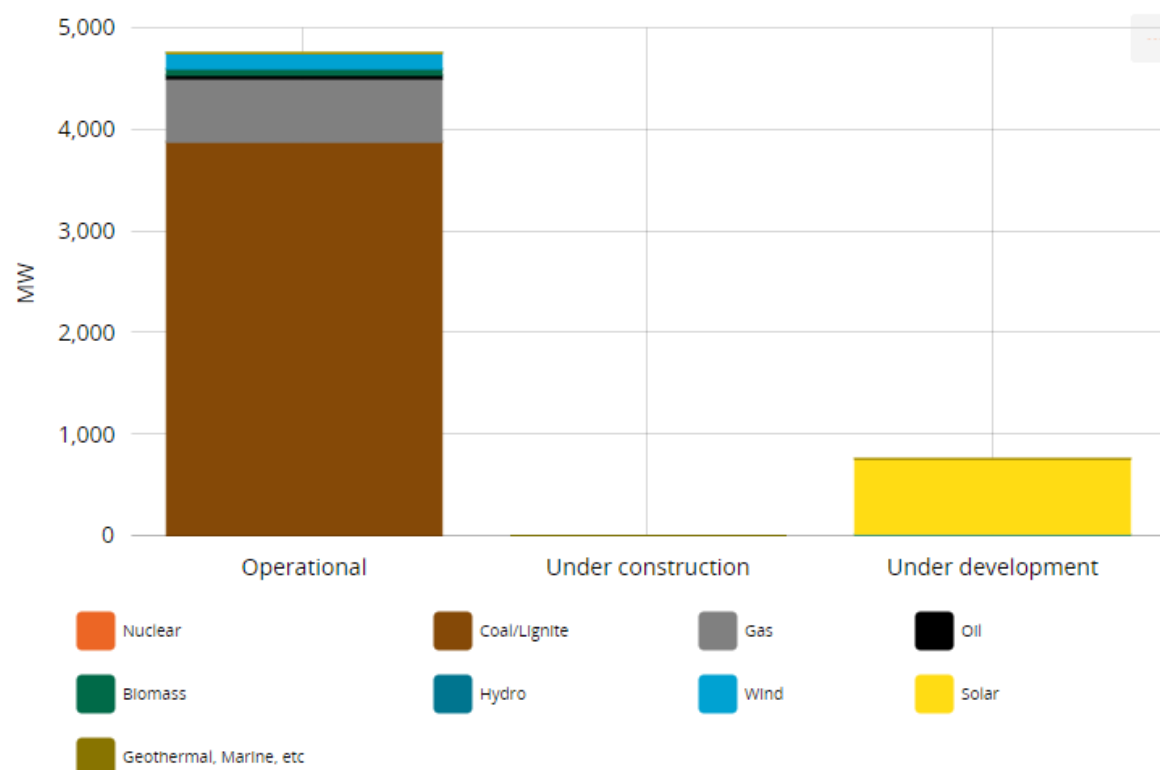
The goal of this paper is to call for a reassessment of the company’s sale or raise awareness for a responsible sale that includes a public commitment to implement STEAG’s coal exit target.

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\* Correction: A previous version of this report incorrectly stated that Germany has a target of reducing coal-fired power generation to 9 GW by 2030. The report has been updated with the correct figure of 8 GW by 2030.

<sup>1</sup> Translates to hard coal electricity.

<sup>2</sup> Tiedemann & Müller-Hansen. [Auctions to phase out coal power: Lessons learned from Germany](#). March 2023.

**Figure 1: STEAG Fleet by Technology (megawatts), Including Iqony Assets**

Source: Enerdata.

The data above shows the large majority of STEAG's fleet is coal-fired (4 GW). The solar development capacity falls under the Iqony portfolio (a separate entity from STEAG Power).

## STEAG History and Background

STEAG GmbH is an energy corporation based in western Germany (Saarland and Nord Rhein Westphalia) that also operates internationally. As one of Germany's main electricity producers, its business focuses on planning, building, acquiring and operating energy facilities and related services. Other capabilities include procurement, marketing, sales and energy trading.

The company's headquarters is based in Essen (Nord Rhein Westphalia), and it is a wholly owned subsidiary of KSBG KG, a consortium of six German municipal utilities (Stadtwerke Duisburg AG, DSW21, Stadtwerke Bochum GmbH, Stadtwerke Essen AG, Energieversorgung Oberhausen AG and Stadtwerke Dinslaken GmbH).

KSBG purchased STEAG in 2011 and has been the sole shareholder from 2014; since then, the company financials have mostly resulted in losses, except in periods of high power prices, such as the environment since the start of the war in Ukraine in February 2022.

In 2022, the company was split into two entities: Iqony GmbH for renewables and grid assets, and STEAG Power GmbH for fossil fuel-fired power generation. The latter is meant to shut down once all coal and gas assets have been decommissioned. Both divisions are subsidiaries of STEAG GmbH, though they operate with their own brand identity and support functions.

In August 2022, STEAG's management announced that the company would be sold by its owners, KSBG KG, with a sale process starting in the second quarter of 2023.

An official company statement was released on 1 August 2022:

"It is the company's declared goal and decision that STEAG should be sold as a whole, divided into two subgroups that are separate in terms of organisation, personnel and company law, and not in parts."<sup>3</sup>

It may seem surprising that targets for exiting coal had not already been set by STEAG in 2022. Part of the reason is that Nord Rhein Westphalia and Saarland have been historical coal regions in Germany since the 1930s and have been strongly tied to the growth of German heavy industries in the 20<sup>th</sup> century. Culturally, Nord Rhein Westphalia is an area of Germany where the energy transition is harder to implement due to its industrial past and low capacity in renewables. The vast majority of Germany's wind generation capacity is based in the north; most of the electrical load is located in the south.

In May 2023, STEAG published its Sustainability Report 2023, which included a target to reach net zero emissions by 2040 and a firm commitment to phase out coal at all of its power plants in Germany by mid-2026.

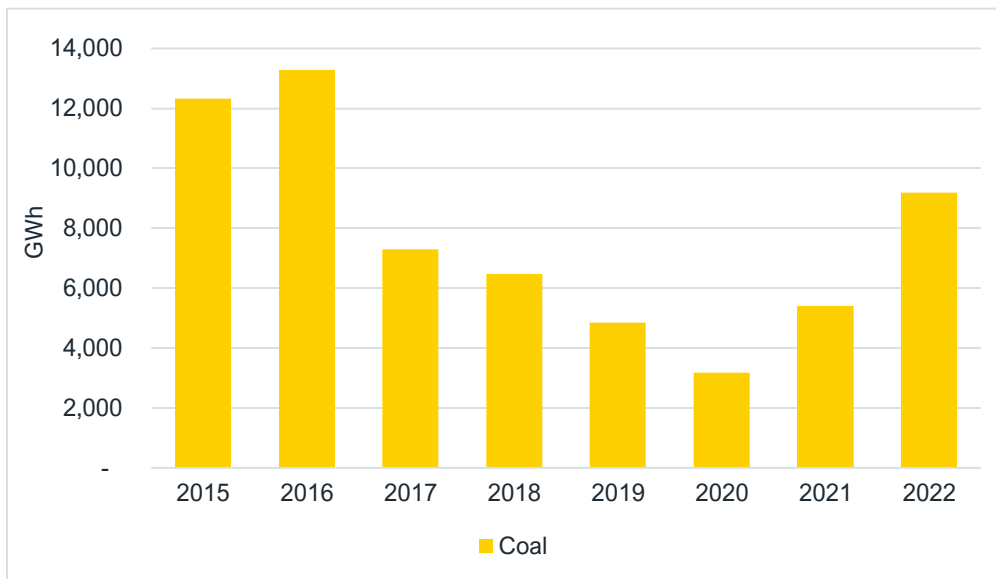
In August 2023, it was announced that STEAG would be sold to Madrid-based private equity investor Asterion Industrial Partners. In its press release, Asterion stated that it supported the German government's plans to phase out coal, but gave no explicit support for STEAG's commitment to phase out coal by mid-2026.<sup>4</sup>

STEAG has so far been awarded decommissioning auctions for three plants: Walsum-9 (built in 1988, 410 megawatts (MW), coal), Bergkamen (built in 1981, 780 MW, coal) and Völklingen-Fenne (built in 1982, 466 MW, coal).

Walsum-9 was decommissioned in July 2021. Bergkamen and Völklingen-Fenne have been judged relevant to the system by the Federal Network Agency and are still operating.

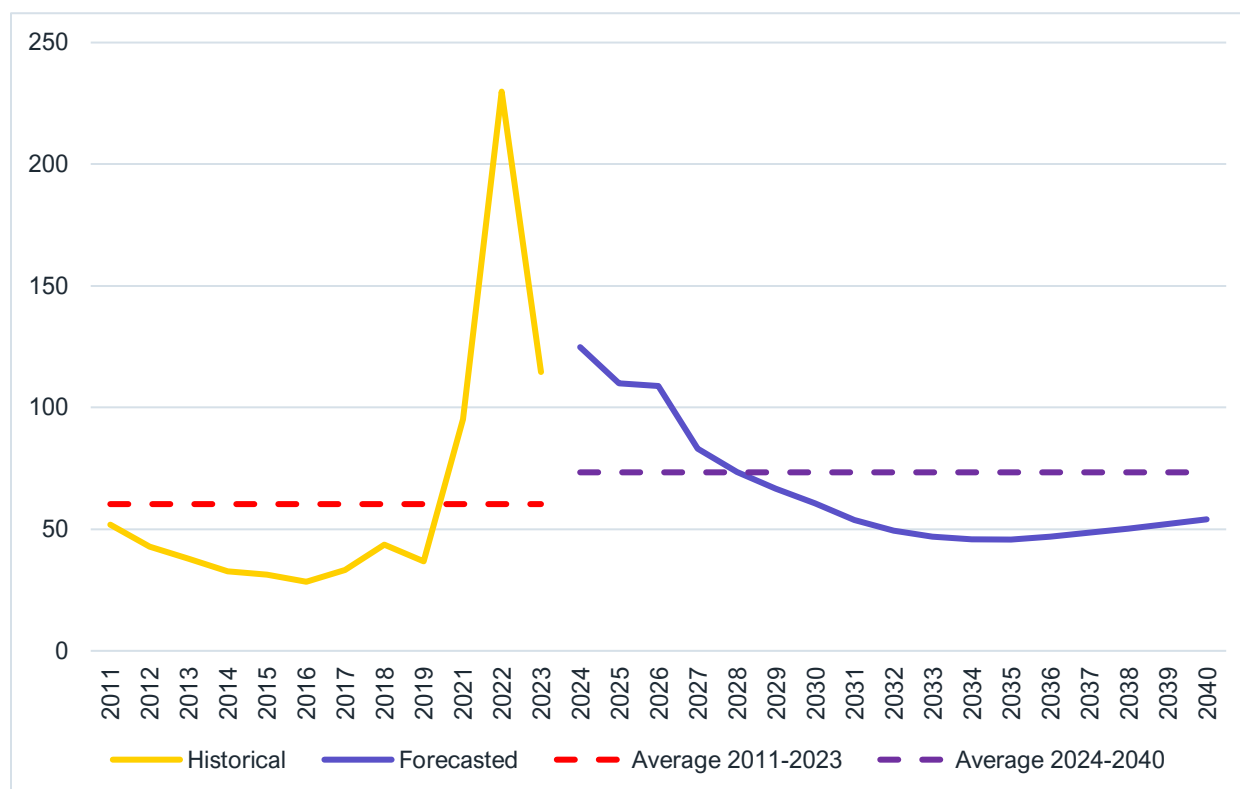
<sup>3</sup> Handelsblatt (translated). [Germany's fifth-largest energy company is considering sale of entire business](#). 1 August 2022.

<sup>4</sup> Asterion. [Asterion Industrial Partners acquires energy utility STEAG](#). 25 August 2023.

**Figure 2: STEAG Annual Power Production (in gigawatt-hours), Including Iqony Assets**

Source: Enerdata.

The drop in coal power generation from 2016 to 2020 was driven by multiple factors: Large growth of renewable generation displacing coal, low gas prices causing coal-to-gas switching, and high CO<sub>2</sub> prices, resulting in coal being marginally dispatched fewer and fewer hours a year. 2021 and 2022 saw a sharp increase in production from coal, primarily due to the European energy crisis—a lack of availability of gas and high gas prices meant that coal was once again competitive in the merit order.

**Figure 3: Average Historic and Forecast German Power Prices (€/MWh)**

Source: IHS (Forecasts), EEX (Historical).

The charts above show the average German spot power price was on average 60 euros per megawatt-hour (€/MWh) between 2011 and 2022 (since KSBG acquired STEAG) and is expected to be 73 €/MWh on average between 2023 and 2040, according to IHS forecasts (a 21% increase).

Despite rather low wholesale power prices during the past decade, STEAG has been able to operate (albeit with some losses). With the current consensus price forecast, it is possible that STEAG coal-fired plants could operate with some profits beyond 2030. We would assume that any increase in fixed operation and maintenance (O&M) costs due to aging plants and tighter environmental regulations could at least in part be offset by organisational restructuring of staff costs, which private investors would typically do. Meanwhile, variable O&M costs, driven by coal prices, are unlikely to increase (ample international supply and collapsing demand for coal in Europe should maintain Amsterdam Rotterdam Antwerp (ARA) coal prices at low levels). By contrast, headwinds could come in the shape of higher carbon prices, or competition from cheaper generation sources (e.g. more renewables or lower gas prices). Considering these assumptions and their inherent uncertainty, **any STEAG coal assets that are not decommissioned might remain profitable beyond 2030**, making this investment possibly appealing to a private buyer, especially at a low acquisition price (STEAG net debt, as of 30 June 2022, stands at €303 million, which could be considered as the minimum price acceptable by KSBG).



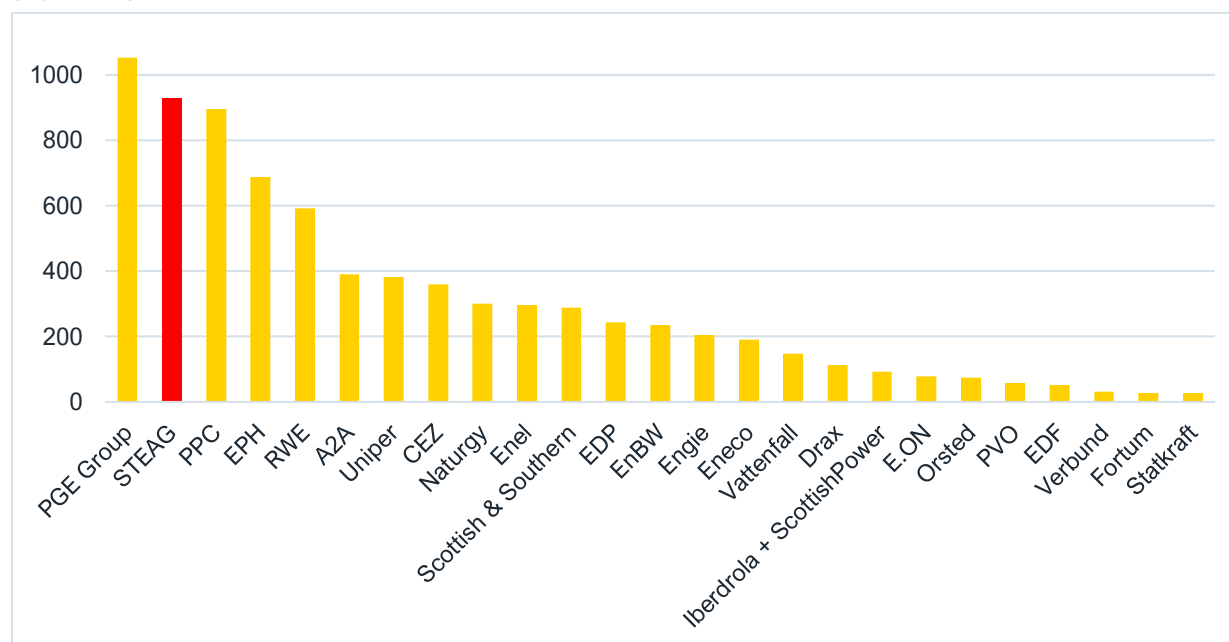
## STEAG Current Fleet: Description and CO<sub>2</sub> Emission Factors Benchmarking

Table 1: STEAG Operational Coal-Fired Power Plants in Germany

Year Commissioned (COD)	Plant Name	Unit Name	Net Capacity (MW)	Production 2022 (GWh)	Load Factor 2022 (%)
1976	Weier	Weier-3	656	329	6%
1981	Bergkamen-A	Bergkamen-A	717	2117	34%
1982	Völklingen-Fenne MKV	Völklingen-Fenne MKV	179	467	30%
1983	Bexbach-1	Bexbach-1	726	740	12%
1989	Herne	Herne-4	*460	1615	40%
1989	Völklingen-Fenne HKV	Völklingen-Fenne HKV	*211	599	32%
2013	Duisburg-Walsum	Duisburg-Walsum-10	725	3324	52%

Source: Enerdata, STEAG. \*Herne and Völklingen-Fenne HKV are combined heat and power plants.

Figure 4: STEAG Average CO<sub>2</sub> Emission Factor and Comparisons Versus European Utilities (kg/MWh)



Source: PWC 2020 Europe large utility report, Enerdata 2021 data for STEAG.

Out of 25 European utilities analysed, STEAG has the **second-highest average CO<sub>2</sub> emission factor** per MWh (927 kg/MWh) over its fleet in 2021.

## Uncertainty About Decarbonisation Strategy: Coal Phasing-out Targets and Upcoming Company Sale

STEAG has made a firm commitment to phase out coal at all its power plants in Germany by mid-2026, but no granular plant-by-plant timeline has been provided.

On 25 May 2023, STEAG published its intention to decommission six of its seven German coal units and fuel-switch the remaining plant by mid-2026, within its Sustainability Report.<sup>5</sup> STEAG has been awarded three decommissioning auctions but so far only Walsum-9 has been decommissioned.

Bergkamen and Völklingen-Fenne, the other two plants that received awards, were both prevented from shutting down by the Federal Networks Agency, due to their relevance to the system during the energy crisis. This regulated extension runs until 31 March 2024, after which they may or may not be shut down, depending on system needs.<sup>6</sup>

STEAG's Bexbach and Weiher plants re-entered market operation in October last year, having previously been in grid reserve status (NetzResV).<sup>7</sup> Grid reserve means that the plants are no longer free to operate commercially on the market and can only operate when instructed by the Federal Network Agency and relevant transmission system operator, for system security.<sup>8</sup> If these two plants re-enter grid reserve, that will leave Herne-4 and Walsum-10 operating commercially. If Herne-4 is not shut down in 2026, it would face regulatory shutdown from 2027, though the exact timing is uncertain. As Walsum-10 is a relatively new power plant, we expect it would not face regulatory shutdown until years later, even beyond 2030.

According to the Sustainability Report 2023, STEAG is evaluating options for a future "fuel switch" at Walsum-10, possibly to biomass. However, there would be a cost to this, and it is unclear how there could be an economic case for that without additional subsidies. There is also the question of how sustainable biomass-fired power generation is in practice, given its local emissions and associated supply chain risks.

STEAG owners have decided to sell all parts of the company together (including Iqony). The six municipalities owning STEAG do not view it as a strategic asset. The new coal phase-out target could be very short-lived as the new buyer has not committed to meet it.

<sup>5</sup> STEAG. [Sustainability Report 2023](#). 25 May 2023.

<sup>6</sup> [German Federal Office](#).

<sup>7</sup> Reuters. [Germany's STEAG. Uniper detail coal plant plans to boost power supply](#). October 2022.

<sup>8</sup> German Federal Office. [Netzreserveverordnung – NetzResV](#).

## Call for Action to Reconsider Upcoming Sale of the Company

Under the current circumstances:

- STEAG's fleet is almost entirely coal-based, and it has the second-worst average CO<sub>2</sub> emission factor of all European utilities.
- STEAG will still have 1.2 GW of coal power operating beyond 2025, and 0.75 GW beyond 2030.

It is reasonable to assume selling the company to a private equity buyer is neither timely nor helpful to pave the way for an early coal exit. Such investment strategies (i.e., the acquisition of thermal power assets at the end of their lifetime for a symbolic low price with the target to extend the plants' operations as much as possible) have been observed in Europe over last decade:

- In 2015, EPH (a Czech private power utility) acquired 4.5 GW of EoN Italy's coal and gas generation assets, spread over the Italian peninsula and Sardinia.<sup>9</sup> EPH still operates 4.1 GW of thermal generation in Italy.
- In 2016, EPH bought Vattenfall's lignite assets in Germany for a price of around €29 million, (Vattenfall incurred a loss estimated between US\$2.7 billion and \$3.3 billion). The acquisition gave EPH four large German coal-fired power plants with a combined capacity of about 8,000 MW and five brown coal mines in Saxony and Brandenburg, and it transferred the assets to the newly formed LEAG company.<sup>10</sup> In 2021, LEAG was due to receive (jointly with RWE) €4.35 billion in payments from the German federal state for accelerating the phasing out of the plants acquired in 2016.<sup>11</sup>
- In 2019, Engie sold 2.34 GW of coal-fired generation to Riverstone Holdings (a private equity firm) in the Netherlands and Germany for approximately €200 million.<sup>12</sup> In 2021, Onyx (the company operating these assets and fully owned by Riverstone) was awarded a decommissioning payment of €212.5 million for its Rotterdam coal plant. The remaining plants have yet to be retired, indicating Riverstone's strategy to combine power generation revenues with decommissioning awards.

<sup>9</sup> Power Europe. [EPH has completed the transaction for the purchase of E.ON Italia coal and gas generation assets in Italy](#). 1 July 2015.

<sup>10</sup> Reuters. [Vattenfall sells German lignite assets to Czech EPH](#). 18 April 2016.

<sup>11</sup> Reuters. [EU to investigate German payout for RWE, LEAG coal phase-out](#). 2 March 2021

<sup>12</sup> Engie. [ENGIE to sell its German and Dutch coal assets and boosts the implementation of its strategy](#). 26 April 2019.

Alternative strategies, ensuring a defined coal exit, could be:

1. Postponing the company sale until all plants have a binding latest decommissioning date.

This solution would allow KSBG to secure STEAG's coal exit—instead of handing over the responsibility to a private owner—to ensure German national targets set in the *Energiewende* are met.

Below are the government's official goals for ending coal-fired power generation:

“The draft legislation lays down the interim objectives to be achieved along the road to a complete phase-out of the use of coal to generate electricity, following the recommendations of the Coal Commission.

In practice this means that by 2022, the power generated from anthracite and lignite will each be reduced to around 15 GW.

By 2030, this figure is to be reduced further to an output of about 8 GW for anthracite-fired power stations and 9 GW for lignite-fired power stations.

By 2038 at the latest, the use of coal-fired power stations is to be completely ended.”

(Source: German Federal Government announcement, Bundesregierung)<sup>13</sup>

Since KSBG is owned by municipalities (and therefore by the state), it has the responsibility to implement these targets. STEAG could theoretically operate its Walsum-10 power plant (725 MW) beyond 2030.

2. Only selling the company conditional to a firm, public commitment from the buyer to implement STEAG's coal exit commitments

The new buyer should honour STEAG's announced commitments to phase out coal at its plants in Germany by mid-2026.

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<sup>13</sup> The Federal Government. [Ending coal-generated power](#).

## Conclusion

Power market fundamentals and operational flexibility mean that a new private owner with a profit maximisation goal could potentially operate STEAG's coal fleet in a financially profitable manner for longer than planned under STEAG's new coal exit commitment, with 1.2 GW likely to continue operating beyond 2025 and 0.75 GW beyond 2030. In this case, forced regulatory shutdown would be needed beyond 2027 to suspend STEAG's coal-fired operations, as envisaged under the German coal exit law. In this context, the most responsible course of action for STEAG's current owners would be to ensure that the company is only sold to a buyer who is able to commit, firmly and publicly, to adhering to the new coal exit strategy as a minimum, which would mean that coal is phased out at all STEAG's plants in Germany before 2027.

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The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. [www.ieefa.org](http://www.ieefa.org)

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