



EUROPEAN COMMISSION
DG Competition

***Case M.8056 - EPH /
PPF INVESTMENTS /
VATTENFALL
GENERATION /
VATTENFALL MINING***

Only the English text is available and authentic.

**REGULATION (EC) No 139/2004
MERGER PROCEDURE**

Article 6(1)(b) NON-OPPOSITION
Date: 22/09/2016

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EUROPEAN COMMISSION

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In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EC) No 139/2004 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus [...]. Where possible the information omitted has been replaced by ranges of figures or a general description.

PUBLIC VERSION

MERGER PROCEDURE

To the notifying parties

Dear Sir/Madam,

**Subject: Case M.8056 – EPH / PPF INVESTMENTS / VATTENFALL GENERATION / VATTENFALL MINING
Commission decision pursuant to Article 6(1)(b) of Council Regulation No 139/2004¹ and Article 57 of the Agreement on the European Economic Area²**

- (1) On 18.08.2016, the European Commission received notification of a proposed concentration pursuant to Article 4 of the Merger Regulation by which the undertakings Energetický a průmyslový holding, a.s. ("EPH", the Czech Republic) and PPF Investments Ltd. ("PPF", Jersey) acquire, within the meaning of Article 3(1)(b) of the Merger Regulation, joint control of the undertakings Vattenfall Europe Generation AG ("Vattenfall-G", Germany) and Vattenfall Europe Mining Aktiengesellschaft ("Vattenfall-M", Germany), by way of purchase of shares (hereafter, the "Transaction").³ EPH and PPF are designated hereinafter as the "Notifying Parties" and with Vattenfall-G and Vattenfall-M as the "Parties."

¹ OJ L 24, 29.1.2004, p. 1 (the 'Merger Regulation'). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ('TFEU') has introduced certain changes, such as the replacement of 'Community' by 'Union' and 'common market' by 'internal market'. The terminology of the TFEU will be used throughout this decision.

² OJ L 1, 3.1.1994, p. 3 (the 'EEA Agreement').

³ Publication in the Official Journal of the European Union No C 311, 26.08.2016, p. 3.

1. THE PARTIES

- (2) **EPH** is a holding company incorporated in the Czech Republic and is engaged in coal extraction, electricity and heat distribution and production from conventional and renewable sources, as well as gas distribution and supply.
- (3) **PPF** is an international private equity group with limited liability under the jurisdiction of the Island of Jersey. Its specific focus is on transitional economies in Central and Eastern Europe and Asia. [...]
- (4) **Vattenfall-G and Vattenfall-M** (the "Targets") are currently wholly-owned by the seller Vattenfall GmbH, Germany which is a holding company, incorporated under German law, engaged in energy generation, distribution and supply.

2. THE CONCENTRATION

- (5) Under the Transaction, EPH and PPF will, via their subsidiaries, acquire joint control of the Targets through the purchase of a 50% shareholding each in both Vattenfall-G and Vattenfall-M. In light of the above, the Transaction constitutes a concentration pursuant to Article 3(1)(b) of the Merger Regulation.

3. EU DIMENSION

- (6) The undertakings concerned have a combined aggregate world-wide turnover of more than EUR 5 000 million⁴ [EPH: EUR 4 571 million; PPF: [...] Targets: EUR [...]. At least two of them have an EU-wide turnover in excess of EUR 250 million [EPH: EUR [...]; PPF: [...] Targets: EUR [...]] but they do not achieve more than two-thirds of their aggregate EU-wide turnover within one and the same Member State. The concentration therefore has an EU dimension pursuant to Article 1(2) of the Merger Regulation.

4. RELEVANT MARKET

4.1. Relevant product markets

4.1.1. *Supply of lignite*

- (7) Lignite is a fossil fuel that constitutes the lowest development of coalification besides peat. Its carbon content amounts to between 25% and 35% and the material is characterised by a high inherent moisture content of between 40% to 55% with an ash content ranging between 5% and 19%.

4.1.1.1. The Notifying Parties' view

- (8) The Notifying Parties submit that the supply of lignite constitutes a separate relevant product market and claim it can be further subdivided into ortho- and meta-lignite based on the international codification system for coal⁵ and the decisional practice of the Czech Antimonopoly Office.

⁴ Turnover calculated in accordance with Article 5 of the Merger Regulation.

⁵ Laid down by the United Nations Commission for Europe referred to in Art. 2 of Council Regulation (EC) No. 1407/2002.

4.1.1.2. The Commission's assessment

- (9) In previous cases, the Commission has considered the supply of (raw) lignite as a separate product market, different from the supply of other fossil fuels.⁶ In the present case, the Commission takes the view that it is unnecessary to assess whether this market should be further subdivided as in Germany, which is the geographic area concerned by the Transaction, only ortho-lignite is excavated.

4.1.2. *Production and sale of pulverised lignite*

- (10) Pulverised lignite is produced by a lignite refinement process. In multiple steps, lignite is crushed to dried and milled grain sizes, smaller than or equal to 0.2 mm by using impact mills. The lignite must have a certain quality in order to be able to produce pulverised lignite, namely a low ash and sulphur content. It is mainly used by industrial customers in process combustion plants, for steel production in central heating plants and by companies in the asphalt, lime, cement, paper, food and chemicals industries. Only companies active in lignite mining are able to produce and sell pulverised lignite.

4.1.2.1. The Notifying Parties' view

- (11) The Notifying Parties submit that the relevant product market is broader than pulverised lignite alone as customers can easily substitute it with alternative fuels such as gas, oil, waste and hard coal.

4.1.2.2. The Commission's assessment

- (12) The Commission has not considered the production and sale of pulverised lignite in previous decisions. In the present case, the precise market definition can be left open as the Transaction will not raise competition concerns even if the market were to be defined as narrow as the production and sale of pulverised lignite.

4.1.3. *Generation and wholesale supply of electricity*

- (13) This market comprises electricity generated in power stations, traded on the wholesale market (through bilateral agreements, regulated market places and power exchanges) as well as electricity physically imported via interconnectors.⁷

⁶ See case COMP/M.402 *PowerGen / NRG Energy / Morrison Knudsen / Mibrag* (1994).

⁷ See case COMP/M.6984 *EPH / Stredoslovenska Energetika* (2013).

4.1.3.1. The Notifying Parties' view

- (14) The Notifying Parties submit that there is no distinction between different sources of energy such that the generation and wholesale supply of electricity market includes electricity from both conventional and renewable sources.

4.1.3.2. The Commission's assessment

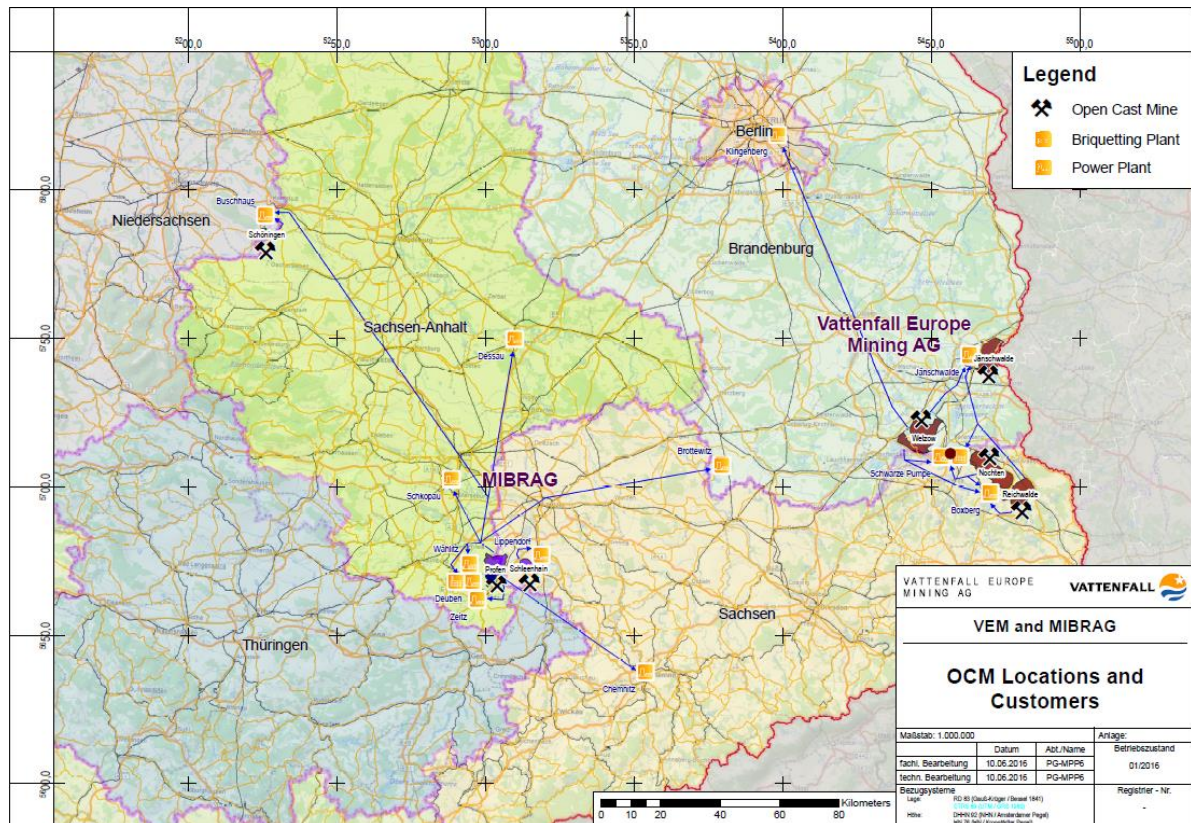
- (15) In previous cases, the Commission has considered the generation and wholesale supply of electricity to be a single relevant product market because the generation of electricity is not a market activity as long as the electricity is not sold, which is retained for this case.⁸

4.2. Relevant geographic markets

4.2.1. Supply of lignite

- (16) The Parties are both active in the excavation and supply of lignite in Eastern Germany; EPH via its subsidiary Mibrag operates open cast mines (OCMs) in Central Germany ("Mitteldeutsches Revier"), while Vattenfall's activities are limited to the Lusatia region ("Lausitzer Revier").

Figure 1: Map of the open cast mines and customers' power plants locations



⁸ See cases COMP/M.6984 *EPH / Stredoslovenska Energetika* (2013); COMP/M.5979 *KGHM / Tauron Wytwarzanie / JV* (2012); COMP/M.6540 *Dong Energy Borkumriffgrund I Holdco / Boston Holding / Borkum Riffgrund I Offshore Windpark* (2012); COMP/M.6225 *Molaris / Commerz Real / RWE / Amprion* (2011); COMP/M.3696 *E.ON / MOL* (2005).

4.2.1.1. The Notifying Parties' view

- (17) The Notifying Parties submit that the geographic scope of the market should be defined as a radius of 80-100 km around the mines in the respective lignite areas for the following reasons.
- (18) First, lignite is not economical to transport over long distances due to its high moisture content and susceptibility to spontaneous combustion. Lignite mines and lignite-fired power plants are generally located in close proximity to each other. Owing to the high water content, lignite can freeze over long distances in the winter. Also, a continuous supply is needed where there is limited volume in coal shelters. Consequently, over longer distances, the price of lignite plus transport costs usually exceeds the price of a higher efficiency fuel. Additionally, switching supplier would require substantial investment into a suitable transport infrastructure as it is not normally possible to transport large lignite volumes via public road or railway; where public railway is used, the transport costs increase significantly. The transport costs, which are generally paid by the mine,⁹ reflect the volume to be transported, the duration of the contract, the configuration of the transport infrastructure and the distance. Vattenfall-M estimates that, for their internal supply to Vattenfall-G, the average proportion of transport costs in relation to total costs is approximately [5-10]% where its own railway infrastructure and conveyor belt is used. As regards Mibrag, there are [0-5]% transport costs for the Lippendorf plant as it is supplied by conveyor belt directly from the mine. However, when public rail is used, transport costs increase in relation to total costs to up to [40-50]%.¹⁰
- (19) Second, the existing transport infrastructure also limits the area that can be supplied from the Parties' lignite mines.
- (20) Third, the quality of lignite from different mines, and especially from different mining areas, differs significantly and the lignite-fired power plants are adapted to lignite of a specific quality. The lignite extracted from the Parties' mines is of a different quality based on calorific value, and moisture, ash and sulphur content. The calorific value of Mibrag's mines in Central Germany is higher than those of Vattenfall's mines in the Lusatia region.¹¹ Since the lignite-firing plant is designed for a specific range of lignite mixtures, any change in the lignite quality would involve substantial and economically unreasonable modifications to switch to another lignite supply. A change of the technical lay-out is not impossible but comes at a significant financial and time investment including adaptation of the boiler unit, mills, burners, internal transport routes, and flue gas treatment facilities, along with updated permits. Furthermore, in order to maintain the same furnace thermal output capacity, larger lignite volumes would have to be purchased. The Parties estimate that Vattenfall-M's lignite has a calorific value 20% lower than Mibrag's therefore 20% higher volumes would need to be purchased to achieve the same electricity output and the higher volumes would increase transport costs.

⁹ [...].

¹⁰ However, in this case, Buschhaus is an intra-group sale.

¹¹ The calorific value of lignite in Mibrag's OCMs ranges between 10 000 kJ/kg (Profen) and 10 500 kJ/kg (Schleenhain) while the calorific value of lignite in Vattenfall-M ranges between 8 400 kJ/kg (Reichwalde and Jänschwalde) and 8 800 kJ/kg (Welzow-Süd).

- (21) Fourth, in general, long-term supply agreements are concluded between the mine operators and their customers because of the interdependency between them. This limits the possibility of switching suppliers but secures the suitable lignite quantity required. Currently, Vattenfall-M has two supply agreements in place. One is with Vattenfall Europe Wärme AG for the supply of CHP Berlin-Klingenberg, [confidential information on contractual arrangements].¹² The other is the intra-group contract which entered into force on [confidential information on contractual arrangements] with an initial term of 40 years subject to automatic prolongation for an additional 5 years unless terminated with 5 years prior notice. On the other hand, Mibrag has a more varied contract duration with customers and it depends on the expected or remaining operational lifetime of the power plant, along with the volumes contracted. Currently, the remaining duration of contracts is between one and 26 years and there is generally an automatic extension period with prior notice.¹³ The two customers whose contracts terminate in [...] and [...] together purchase less than [0-5]% of Mibrag's lignite output.¹⁴ The customer with a contract until 2040 purchases more than half of the output.¹⁵ Therefore, for the reasons detailed above, the demand-side substitutability is limited.

4.2.1.2. The Commission's assessment

- (22) In a previous decision,¹⁶ the Commission considered that the market for the supply of lignite is regional in scope, encompassing Eastern Germany, due to the high proportion of the transport costs in the overall cost of supply. The geographic market definition was nevertheless left open.
- (23) In the present case however, the market investigation indicated that the geographic market is narrower, confirming the Parties' claim of a local market.
- (24) First, the actual supply streams show that lignite is not transported over long distances. Indeed more than [90-100]% of the lignite excavated by Mibrag, is supplied to customers within a radius of 35 km. As for Vattenfall-M, [90-100]% of the lignite is supplied within a radius of 50 km.¹⁷ The only two instances where lignite is supplied over a distance of 100 km are due to exceptional circumstances.¹⁸

¹² Lignite firing at CHP Berlin-Klingenberg will finish by the end of 2019 at the latest.

¹³ The only contract that expires on a specific date without any automatic extension is with [...] and this expires in [...].

¹⁴ The two customers referred to are Dessau and Brottewitz. However, [...].

¹⁵ The customer referred to is Lippendorf.

¹⁶ See case M.402 *PowerGen / NRG Energy / Morrison Knudsen / Mibrag* (1994).

¹⁷ Apart from the combined heat and power (CHP) plant at Berlin Klingenberg and unit R of Lippendorf, each of Vattenfall's power plants and refinement plant are supplied by multiple Vattenfall mines. The calculation is based on the average distance of the mines. For transparency, the only two individual distances greater than 50 km are to the Jänschwalde power plant, which is 55.1 km from the Welzow-Süd mine and 80.6 km from the Reichwalde mine.

¹⁸ First, Mibrag currently supplies its internal power plant Buschhaus, which is 205 km away from the [...] mine, as the nearby [...] mine does not have sufficient remaining capacity and there was no alternative despite it not being economically efficient to do so. However, the mine will be decommissioned in [...] and the Buschhaus power plant will be transferred into security reserve in October 2016. Second, Vattenfall-M currently supplies its internal plant, CHP Berlin-Klingenberg, which is 183 km away from the Welzow-Süd mine. However, there is an efficient railway and waterway connection between CHP Berlin-Klingenberg and the Welzow-Süd mine, which facilitates

- (25) Second, the market investigation confirmed that the long-distance transport of lignite is technically difficult. The market investigation indicated that the transport radius could be even smaller than the 80-100 km submitted by the Parties. The market participants suggested that the maximum supply distances are significantly shorter than 80-100 km. In their view, the typical transport distances were 20 km,¹⁹ 30 km²⁰ or 50 km²¹.
- (26) Third, all except for two customers (Stadtwerke Chemnitz, Südzucker Brottewitz) did not switch and never considered switching between the lignite mines of the Parties in the East German region. The circumstances under which these customers switched between the Parties were rather exceptional (see in section 5.1.1.2).
- (27) Finally, a customer-centric analysis, detailed in section 5.1.1.2 finds that no customer within each of the catchment areas would consider switching to an alternative supplier. The market investigation, therefore, has shown that there is no potential competition between the Parties with regard to their external customers, which supports a narrow geographic market definition.
- (28) For the above-mentioned reasons, the Commission considers that the market for supply of lignite is local in scope, encompassing a catchment area of not more than 100 km around each mine.

4.2.2. *Production and sale of pulverised lignite*

- (29) Both Parties are active in the production and sale of pulverised lignite in Germany and somewhat on the export market, where Vattenfall-M has more significant activities than Mibrag.

4.2.2.1. The Notifying Parties' view

- (30) The Notifying Parties submit that the market for pulverised lignite is likely to be broader than national. This is because pulverised lignite is largely dehumidified and can thus be transported over longer distances.
- (31) Furthermore, both Vattenfall-M and Mibrag export pulverised lignite to the Czech Republic and Austria, and it is imported into Germany from Sokolov, a Czech company.

4.2.2.2. The Commission's assessment

- (32) The Commission has not analysed the market for pulverised lignite in previous decisions. However, the exact geographic market definition can be left open as the Transaction would not raise serious doubts under the narrowest plausible alternative, i.e. a national market.

this supply over an unusually long distance. Additionally, owing to an agreement with the state of Berlin, lignite firing at, and thus lignite supply to, the plant will stop by the end of 2019 at the latest.

¹⁹ Non-confidential minutes of RWE 15/07/2016.

²⁰ Non-confidential minutes of E.ON 11/07/2016.

²¹ Non-confidential minutes of Romonta 20/07/2016.

4.2.3. *Generation and wholesale supply of electricity*

4.2.3.1. The Notifying Parties' view

- (33) The Notifying Parties submit that the geographic market definition for the generation and wholesale supply of electricity can be left open as there will be no competitive concerns post-transaction regardless of how the market is defined.

4.2.3.2. The Commission's assessment

- (34) In previous cases, the Commission has considered the relevant geographic market to be national in scope, which is retained for the purpose of the present case.²²

5. **COMPETITIVE ASSESSMENT**

- (35) The Parties' activities could potentially overlap horizontally on the markets for the supply of lignite and the market for the supply of pulverised lignite in Germany. Moreover, the Transaction gives rise to a vertical link between the Parties' activities on the (i) supply of lignite (upstream) and (ii) the generation and wholesale supply of electricity (downstream).

5.1. **Non-coordinated horizontal effects**

- (36) The Transaction will potentially give rise to the following horizontally affected markets: (i) the supply of lignite in Germany and (ii) the supply of pulverised lignite in Germany.

5.1.1. *Supply of lignite*

- (37) Although the Parties' activities do not horizontally overlap as they are active in two different geographic markets, the Commission has taken a cautious approach and assessed the possible effects of the Transaction on potential competition. This customer-centric approach was done as a complement to the geographic market definition analysis detailed in section 4.2.1.2.

- (38) It should be noted that Vattenfall-M currently has only internal customers, and post-transaction, would have only one external customer, namely the CHP Berlin-Klingenberg which represents [0-5]% of its total supply. On the other hand, Mibrag has mainly external customers, the intra-group sales²³ amount to [10-20]%. Mibrag's external customers are:

- power plant Lippendorf
- power plant Schkopau;
- power plant Dessau;
- power plant Chemnitz;
- Südzucker's sugar factory in Zeitz; and
- Südzucker's sugar factory in Brottewitz.

²² See cases COMP/M.5979 *KGHM / Tauron Wytwarzanie/JV* (2012); COMP/M.6540 *Dong Energy Borkumriffgrund I Holdco/Boston Holding / Borkum Riffgrund I Offshore Windpark* (2012); COMP/M.6225 *Molaris/Commerz Real / RWE / Amprion* (2011); COMP/M.5519 *E.On / Electrabel Acquired Assets* (2009); COMP/M.5467 *RWE / Essent* (2009); COMP/M.5604 *DONG / KOM-STROM* (2009); COMP/M.5512 *Electrabel / E.On* (2009); COMP/M.5496 *Vattenfall / Nuon Energy* (2009); COMP/39.388 *German Electricity Wholesale Market* (2008).

²³ Power plants Wähltitz, Deuben and Buschhaus.

5.1.1.1. The Notifying Parties' view

- (39) The Parties submit that their activities do not horizontally overlap as they are active on two distinct markets where switching is not a viable option. The reasons for this were developed in support of the geographic market definition in the section 4.2.1.1 above and can be summarised as follows.
- (40) First, lignite is not economical to transport over long distances due to its high moisture content and susceptibility to spontaneous combustion. Second, the existing transport infrastructure also limits the area that can be supplied from the Parties' lignite mines. Third, the quality of lignite from different mines, and especially from different mining areas differs significantly and the lignite-fired power plants are adapted to lignite of a specific quality, therefore the demand-side substitutability is limited. Fourth, long-term supply agreements concluded between the mine operators and their customers, because of the interdependency between them, limit the possibility of switching suppliers.
- (41) Furthermore, switching is not a valid option due to capacity constraints. Both Vattenfall-M and Mibrag have limited lignite volume extraction capacities available for alternative supplies as most of the extracted lignite must be supplied to the current external customers or intra-group. Vattenfall-M has a maximum lignite capacity of approximately 62-63 million tons per year.²⁴ Currently, all the lignite is supplied internally.²⁵ Post-transaction, the majority ([95-100]%) will continue to be supplied internally to Vattenfall-G.²⁶ Between [...] and [...], spare capacity might be available when two blocks of the Jänschwalde power plant will be transferred into security reserve and the lignite supply to CHP Berlin-Klingenberg will cease. However, there is a lack of suitable infrastructure to supply external customers and the period is too short to carry out such an investment, which would ultimately be unusable from [...] when the Jänschwalde mine will no longer be operational and the remaining capacity ([50-60] million tons) will be used to supply its internal customers. A long-term supply of additional customers would require a new OCM to be opened or an existing OCM to be extended. However, this is unrealistic as the planning and development of lignite OCMs takes a long time due to the many permits, authorisations and operating plans required, along with the large investment.²⁷ Furthermore, lignite is a highly controversial energy choice in Germany and the current political landscape envisages the phasing out of lignite generation in the future. Mibrag's lignite production capacity is 19-20 million tons per annum.²⁸ Currently, approximately [20-40]% of the lignite is supplied internally.²⁹ Mibrag could expand production to approximately 20-

²⁴ OCMs: Jänschwalde [...] tons; Welzow-Süd [...] tons; Reichwalde and Nochten [...] tons approximately.

²⁵ Power plants: Jänschwalde [...] tons; Schwarze Pumpe [...] tons; Boxberg [...] tons; Refinement plant [...] tons; CHP Berlin-Klingenberg [...] tons.

²⁶ CHP Berlin-Klingenberg will remain with the seller post-Transaction.

²⁷ The Parties estimate that the investment alone to extend an existing mine would cost a [...] euro sum and a new lignite field would cost [...] euro, including the relocation of residents. Furthermore, the process takes approximately 5 years for the implementation or adaptation of lignite plans and framework operating plans and another 5 to 7 years for other public permissions and the approval for regional operational planning.

²⁸ OCMs: Schleenhain [...] tons; Profen [...] tons.

²⁹ This takes account of EPH's 41.9% share in Schkopau.

21.5 million tons per year, however, this would be conditional on new transport infrastructure being built to supply a new customer and several new working-hour agreements with trade unions. These investments are unlikely given the current energy policy in Germany.

5.1.1.2. The Commission's assessment

- (42) The Parties' activities do not overlap with regard to the supply of lignite as they are active on different local markets. As mentioned in section 4.2.1.2, the market investigation has confirmed the Parties' claims that they do not exert a significant competitive constraint on each other.
- (43) Since the costs of supplying lignite to internal customers can be subsumed into the parent company accounts, in order to evaluate the potential competition effects of the Transaction, an assessment of each external customer of both Parties is carried out on a plant-by-plant basis.³⁰

CHP Berlin-Klingenberg

- (44) This CHP plant is currently owned by Vattenfall and supplied by public rail and waterway from Vattenfall-M's mine at Welzow-Süd. It purchases [...] tons of lignite per annum, which corresponds to [0-5]% of Vattenfall-M's capacity. Its contract ends on [...] and [confidential information on contractual arrangements].
- (45) Post-Transaction, this power plant will remain with the seller and will therefore become an external customer of Vattenfall-M.
- (46) Given that the lignite firing, and hence the lignite supply, will cease at the end of 2019 at the latest, it is highly unlikely that a switch in supplier could be considered for such a short timeframe, especially given the costs that would be required to adapt the boiler to a different lignite quality and the nearest Mibrag mine is around 280 km away.
- (47) Hence, the Commission considers that the Transaction does not reduce potential competition between the Parties as regards this customer.

Lippendorf

- (48) This lignite-fired power plant is currently supplied by conveyor belt from Mibrag's Schleenhain mine, 14 km away. It consists of two units; one is owned by Vattenfall (unit R) and the other by EnBW (unit S). The plant purchases [...] tons of lignite per year (one-half each), which is more than [...] of Mibrag's overall capacity and is valued at more than EUR [...] million.³¹ Mibrag began supplying Lippendorf in 1999 and the current contract runs until 2040 [confidential information on contractual arrangements]. To date, termination has not been requested by either of the parties.
- (49) The Commission considers that switching supply to Vattenfall-M is highly unlikely for a number of reasons. First, given the geographic market definition, the supply

³⁰ The plant-by-plant analysis is possible due to the fact that only a limited number of customers – six – have to be assessed in this case.

³¹ Based on an average price over the last 10 years of [...]€/t.

from Vattenfall-M, at 179 km away, would be uneconomical. Purchasing from there would require a large increase in transport costs and a new transfer station from the public railway system to be built as Lippendorf is currently supplied by conveyor belt at a [0-5]% transport cost. The Parties estimate that the transport cost from Vattenfall-M would be approximately [...]€/t entailing a cost increase of EUR [...] million per year (i.e. an increase of [80-100]%) thereby shifting Lippendorf's position to the right in the merit order. Furthermore, the long distance would subject the lignite to possible freezing during the winter season and require special defrosting technical equipment and larger storage facilities to ensure a continuous supply of the increased volume of lignite.

- (50) Second, the firing chamber and technical equipment would need to be adapted to the lower lignite quality. The Parties estimate that this would cost EUR [...] million for each plant and would require the plants to be shut down for 4 to 5 months during the reconstruction process. Additionally, a higher quantity of the lower quality lignite would be required in order to maintain the thermal output of the power plants. The Parties estimate that the volume would need to be increased by 20% and this would subsequently require larger processing capacity in the plant and a higher storage capacity.
- (51) Third, presently, although there are [confidential information on contractual arrangements] run until 2040 [confidential information on contractual arrangements].³² [confidential information on contractual arrangements],³³ ³⁴ so Mibrag would not be able to increase prices unilaterally. Furthermore, Lippendorf has never considered switching in the past, not even unit R owned by Vattenfall-G, which would have subsequently been an internal supply.
- (52) Fourth, Vattenfall-M will only have spare capacity between [...] and [...], which would be too short duration to make the infrastructure investment worthwhile and administrative permissions would be needed in order to change the lignite quality owing to environmental effects. Also, there is a considerable interdependency between Mibrag and Lippendorf as [80-100]% of Mibrag's Schleenhain mine is supplied to Lippendorf. Any attempt to increase prices would risk Mibrag's sales to Lippendorf, which are needed to amortise the high fixed costs of the mine. The excavation from Schleenhain has been planned and approved in order to correspond to the specific demand requirements of Lippendorf for the entire contractual period to 2040. Lippendorf's technical requirements, transport infrastructure and residue disposal have been planned and constructed solely for supply by Schleenhain thereby increasing their dependency.
- (53) Therefore, owing in particular to the required investments in infrastructure and technical adaptation of the plant, the greater volume of lignite, the price agreements in the contract, the interdependency of both companies and the lack of capacity at Vattenfall-M, the Commission considers that the Transaction does not reduce potential competition between the Parties with regard to this customer.

³² [...].

³³ [...].

³⁴ [...].

Schkopau

- (54) This lignite-fired power plant is currently supplied by Mibrag's own rail and the public rail system from Mibrag's Profen mine, 35 km away. EPH holds an indirect stake of 41.9% through Saale Energie³⁵ and the rest is owned by Uniper Kraftwerke GmbH ("Uniper"). The plant purchases [...] tons of lignite per year, which is more than [...] of Mibrag's overall capacity and is valued at approximately EUR [...] million.³⁶ Mibrag began supplying Schkopau in [...] and the current contract runs until [...]. [Confidential information on contractual arrangements]. To date, termination has not been requested by either of the parties.
- (55) The Commission considers that switching to Vattenfall-M is unlikely for a number of reasons. First, Vattenfall-M is outside the geographic market definition, at 212 km away. The Parties estimate that such switching would involve an increase in transport costs of almost EUR [...] million (i.e. an increase of [50-70]%), along with an additional EUR [...] million for adaptations to the transport infrastructure such as a diesel locomotive and rail infrastructure. Likewise for Lippendorf, this longer transport distance for the lignite would be subject to freezing in the winter and necessitate special equipment and larger storage facilities at the power plant.
- (56) Second, as explained for Lippendorf, the firing chamber and technical equipment would need to be adapted to the lower lignite quality.
- (57) Third, there is [confidential information on contractual arrangements and price structure]. Thus, the new entity, will not be able to increase prices unilaterally.
- (58) Fourth, since Vattenfall-M will only have spare capacity between [...] and [...], the necessary infrastructure investment and the environmental permits required would not be economical for such a short period. Furthermore, [50-70]% of Mibrag's Profen mine is supplied to Schkopau so Mibrag is dependent on the Schkopau power plant [confidential information on cost structure].
- (59) Consequently, the Commission considers that the Transaction does not reduce potential competition between the Parties with regard to this customer.

Dessau

- (60) This is a small CHP plant which has always been, and still is, supplied by Mibrag's own railway and the public rail system from Mibrag's Profen mine, 95 km away. It is owned and operated by the Dessau municipality and primarily produces district heat and hot water; electricity generation is of minor relevance. The plant purchases only [...] million tons of lignite per year; just over [0-5]% of Mibrag's overall capacity and is valued at approximately EUR [...] million.³⁷ Mibrag began supplying Dessau in [...] and the current contract runs until [...]. [Confidential information on contractual arrangements].

³⁵ [Confidential information on contractual arrangements]. Therefore, the share has been and, post-Transaction, will be contracted by and allocated to, a third party.

³⁶ Based on an average price over the last 10 years of [...]€/t.

³⁷ Based on an average price over the last 10 years of [...]€/t.

- (61) The Commission considers that Dessau is unlikely to switch to Vattenfall-M because first, the closest Vattenfall-M connection point is approximately 190 km away by public railway and therefore outside the geographic market definition. The Parties estimate that such switching would entail an increase in the transport cost of more than EUR [...] million (i.e. an increase of [30-50]%). As before, the lignite would be subject to freezing in the winter and necessitate special equipment and larger storage facilities at Dessau's plant.
- (62) Second, as explained in paragraph 20, the firing boilers and technical equipment would need to be adapted to the lower lignite quality and an estimated 20% higher quantity of lignite would be required to maintain the thermal output of the power plant, along with a larger processing capacity and a higher storage capacity.
- (63) Third, the current contract runs until [...] and [...]. Also, any new contract will take into account the fact that the lignite firing, hence the lignite supply, will stop by [...] at the latest.
- (64) Fourth, Vattenfall-M's spare capacity corresponds to [confidential information], given the short time horizon left for lignite burning at the power plant, a new infrastructure investment would not be worthwhile.
- (65) Therefore, the Commission considers that the Transaction does not reduce potential competition between the Parties with regard to this customer.

Chemnitz

- (66) This is a small CHP plant that is currently supplied by Mibrag's own railway and the public rail system from Mibrag's Profen mine, 80 km away. It is owned and operated by the Chemnitz municipality and is similar to Dessau in that it primarily produces district heat and hot water so the generation of electricity is of minor relevance. The plant purchases [...] million tons of lignite per annum; [0-20]% of Mibrag's overall capacity and is valued at just over EUR [...] million.³⁸ Mibrag began supplying Chemnitz in [...] but between [...] and [...], Chemnitz switched to Vattenfall-M for its lignite supply, approximately 167 km away by public rail. The reason for this was because Vattenfall-M had spare capacity at the time and the [various forms of costs], were not included in the price, which is the industry practice. The exceptional nature of this supply agreement is also shown by the fact that Vattenfall-M offered a price of [...]€/t as opposed to [...]€/t now offered by Mibrag. Chemnitz switched back to Mibrag in 2010 and has a contract, including [various forms of costs] until 2022.
- (67) The Commission considers that Chemnitz is unlikely to switch again to Vattenfall-M because, first, transport from Vattenfall-M's connection point is 167 km away. The Parties estimate that the current transport cost from Profen is [...]€/t and this cost would increase to around [...] €/t in order to source lignite from Vattenfall-M. This would increase transport costs by around EUR [...] million (i.e. an increase of [40-60]%), including the increased lignite quantity. Furthermore, Mibrag uses special trains capable of moving more lignite within one trainset, which is a cost-efficient transport means.

³⁸ Based on an average price over the last 5 years (2010-2015) of [...] €/t.

- (68) Second, it would require a higher quantity of lignite, estimated at 20%, to maintain the same thermal output of the power plant and Vattenfall-M no longer has the [capacity information and price information] to make the switch profitable.
- (69) Third, the current contract runs until 2022. Furthermore, Chemnitz is launching only one last tender before switching away from lignite entirely.³⁹
- (70) Fourth, Vattenfall-M only has spare capacity between [...] and [...]. Given the long-term nature of contracts in this industry, a switch to Vattenfall-M for [very short period of time] prior to the subsequent switch away from lignite does not appear to be economically sensible for Chemnitz. New permits and environmental permissions would also need to be obtained. The Parties estimate that the process takes around 5 years for the implementation or adaptation of lignite plans and framework operating plans and another 5 to 7 years for other public permissions and the approval for regional operational planning.
- (71) Thus, the Commission considers that the Transaction does not reduce potential competition between the Parties with regard to this customer, especially since this customer will launch only one more tender.

Zeitz

- (72) This small-sized power plant is exclusively operated to generate electricity for the sugar factory of Südzucker and is not commercially active on the generation and wholesale supply of electricity market. It has been always supplied by truck from Mibrag's Profen mine, 13 km away. The plant purchases [...] tons of lignite per annum; [0-5]% of Mibrag's overall capacity and is valued at just over EUR [...] million.⁴⁰ Mibrag began supplying Zeitz in [...] and the current contract runs until [...]. [confidential information on contractual arrangements].
- (73) The Commission considers that switching to Vattenfall-M is extremely unlikely for a number of reasons. First, transport from Vattenfall-M's closest mine is 235 km away by public railway and therefore beyond the geographic market definition. The Parties estimate that such switching would involve a very significant increase in the transport cost of EUR [...] million (i.e. an increase of [300-400]%). As before, the lignite would also be subject to freezing in the winter and necessitate special equipment and larger storage facilities at Zeitz's plant.
- (74) Second, the power plant's technical equipment and boiler is specifically set for Mibrag's lignite quality as the supply from Mibrag has been planned since the start of the power plant's construction.
- (75) Third, the current contract runs until [...] and Zeitz has never considered switching in the past as their lignite plant is designed specifically for Mibrag's lignite quality. Furthermore, the market investigation indicated that Zeitz has no intention of switching supplier.⁴¹

³⁹ Non-confidential minutes of Chemnitz 20/07/2016.

⁴⁰ Based on an average price over the last 10 years of [...]€/t.

⁴¹ Non-confidential minutes of Südzucker 07/07/2016.

- (76) Fourth, since Vattenfall-M will only have spare capacity until [...] and Zeitz would only be looking into a new contract after [...] [duration period indicating no overlap], switching supplier, even in theory, would not be possible.
- (77) Therefore, the Commission considers that the Transaction does not reduce potential competition between the Parties with regard to this customer.

Brottewitz

- (78) This is a very small-sized power plant that is also exclusively operated to generate electricity for Südzucker's sugar factory and is not commercially active on the generation and wholesale supply of electricity market. It operates continuously but only for 3 months per year following the sugar beet harvest in September-October. It is currently supplied by truck from Mibrag's Schleenhain mine, approximately 100 km away. The plant purchased [...] tons of lignite in 2015⁴²; [0-5]% of Mibrag's overall capacity and is valued at almost EUR [...] million.⁴³ Mibrag began supplying Brottewitz in [...]. Between [...] and [...], Brottewitz was supplied by Vattenfall-M, approximately 117 km away by public railway.⁴⁴ The reason Brottewitz switched to Mibrag is due to the increase in transport costs when *Deutsche Bahn* raised the price of the public railway usage, the higher quality lignite that is more cost efficient, the waste removal of ash being included in the lignite price along with the better service quality provided by Mibrag.⁴⁵ A prolongation of the current contract until [...] has been negotiated and [confidential information on contractual arrangements].
- (79) The Commission considers that switching back to Vattenfall-M is unlikely for a number of reasons. First, transport from Vattenfall-M's closest mine is 117 km away by public railway. The Parties estimate that the current transport cost from Schleenhain by truck is [...]€/t. The unit cost would in fact fall to around [...]€/t if Vattenfall-M were supplied by rail. However, despite the decrease in the unit price, the increased quantity necessary to maintain the same thermal output would raise the overall transport costs by almost EUR [...] per year (i.e. an increase of [0-20]%).
- (80) Second, the firing boilers and technical equipment would need to be re-adapted to the lower lignite quality and an estimated 20% higher quantity of lignite would be required to maintain the same thermal output of the plant thereby increasing the costs of the sugar plant. The plant also needs to have a continuous secure supply of lignite during the 3-month period when it is operational; this has been performed by Mibrag without issue.⁴⁶
- (81) Third, once the contract is signed, it will run until [...] and this negotiation has been carried out without issuing a new tender. Furthermore, the market

⁴² Only [...] tons of lignite had been purchased during the first half of 2016.

⁴³ Based on an average price over [...] the last 2 years (2014-2015) of [...] €/t.

⁴⁴ Between [...] and [...], the average price of lignite from Vattenfall-M to Brottewitz was [Price structure] [...] €/t

⁴⁵ Non-confidential minutes of Südzucker 07/07/2016 & 06/09/2016.

⁴⁶ Non-confidential minutes of Südzucker 06/09/2016.

investigation indicated that Brottewitz is not concerned about the Transaction as it will only provide a better supplier with a better knowledge of the lignite business.⁴⁷

- (82) Fourth, there will be no spare capacity at Vattenfall-M after [...] when Brottewitz could, in theory, next need a new supplier and the market investigation showed that Südzucker is not considering switching supplier as the package offered by Mibrag is considered better than that of Vattenfall-M.⁴⁸
- (83) Overall, the Commission considers that the Transaction does not reduce potential competition between the Parties with regard to this customer.

Gas-fired power plants

- (84) Furthermore, the Commission has also considered that switching to another technology, namely to gas firing, would at least put a significant competitive constraint on the Parties.
- (85) The market investigation indicated that, based on the energy policy adopted in Germany and even taking a conservative approach with regard to the boiler efficiency i.e. estimating the gas boiler efficiency to be lower and the lignite-fired boiler to be higher than the actual boilers, electricity generated by gas rather than lignite-fired power plants likely becomes less costly as from the period 2021-2026.

Table 1: Parameters, which were taken into account in order to calculate the price of lignite/gas power in future

Parameter of lignite/gas price model	2014	2020	2021-2026	2030	2040	2050
Market price of natural gas, €/MWh	31	35	35.3	36	38	38
Market price of lignite, €/MWh	9	14	14.6	16	17	18
CO2 emissions tax, €/t	5	10	19.6	42	68	80
CHP gas boiler efficiency, %	45	45	45	45	45	45
Lignite boiler efficiency, %	35	35	35	35	35	35
Gas CO2 emissions, t/MWh	0.2	0.2	0.2	0.2	0.2	0.2
Lignite CO2 emissions, t/MWh	0.37	0.37	0.37	0.37	0.37	0.37
CHP support for auto-consumption (gas), €/MWh	18	18	18	18	18	18
Greenhouse Gas Emission Trading Law (TEHG), €/MWh	3	3	3	3	3	3
Replacement of existing coal or lignite plant, €/MWh	6	6	6	6	6	6

- (86) The calculation was based on market price predictions, CO2 taxes, power plant efficiencies and the German State support for CHP generation. CO2 taxes will make gas power more competitive in the near future despite its higher market price. Lignite-fired power plant efficiencies have remained almost the same for the last two decades, while gas power plant efficiencies have improved significantly. Even a conservative approach shows that gas-powered plants emit much less CO2 per

⁴⁷ Non-confidential minutes of Südzucker 07/07/2016.

⁴⁸ Non-confidential minutes of Südzucker 06/09/2016.

unit of power, due to its higher efficiency, which makes this energy source more cost competitive.⁴⁹

Table 2: Price predictions for gas power according to CHP power plant efficiency and for lignite power

Price prediction according to efficiency	2014	2020	2021-2026	2030	2040	2050
Price of gas power 40%, €/MWh	53	65.5	71.05	84	102	108
Price of gas power 45%, €/MWh	44.11	55.22	60.16	71.67	87.67	93
Price of gas power 47%, €/MWh	41.09	51.72	56.45	67.47	82.79	87.89
Price of gas power 50%, €/MWh	37	47	51.44	61.8	76.2	81
Price of lignite power, €/MWh	31	50.57	62.43	90.11	120.46	136

- (87) The Commission notes that the calculation does not take into account several factors such as the positive effects of heat production, taxes, transportation costs or the costs of changing the boiler. However, given that the life expectancy of a lignite boiler is roughly 40 years, customers have to invest in a new boiler independent from a technology change, and according to the Heat and Power Cogeneration Act⁵⁰, the costs of such switching can be subsidised by up to 50% by the German Federal State, which covers a very significant part of the additional costs of changing the technology.

Conclusion on the market for the supply of lignite in Germany

- (88) Therefore, the Commission considers that the Transaction does not raise serious doubts as to its compatibility with the internal market.

5.1.2. Production and sale of pulverised lignite

- (89) The Transaction leads to an affected market with regard to the production and sale of pulverised lignite in Germany.⁵¹

5.1.2.1. The Notifying Parties' view

- (90) The Parties submit that there is no horizontal overlap in the market as the different quality of the pulverised lignite means that, to a large extent, the products are not substitutable. In the cement and lime industry, the products are substitutable however, customers can also switch to other fuel sources.

⁴⁹ Market price predictions were provided in the study for the German Federal Ministry of Economic Affairs and Energy – "Potenzial- und Kosten-Nutzen-Analyse zu den Einsatzmöglichkeiten von Kraft-Wärme-Kopplung (Umsetzung der EU-Energieeffizienzrichtlinie) sowie Evaluierung des KWKG im Jahr 2014"; Power plant efficiencies were provided in the Ecofys study – International comparison of fossil power efficiency and CO2 intensity - Update 2014; CO2 emission rates available at http://www.volker-quaschning.de/datserv/CO2-spez/index_e.php; all information about German State support is publicly available.

⁵⁰ Gesetz für die Erhaltung, die Modernisierung und den Ausbau der KWK.

⁵¹ Vattenfall-M sells pulverised lignite under the brand 'LignoPlus'.

5.1.2.2. The Commission's view

- (91) The market investigation has confirmed the Parties' claims that there is a difference in the lignite quality as Mibrag's pulverised lignite has a high sulphur content which limits its applications.⁵² However, if one were to look at the entire market for the production and sale of pulverised lignite, the Transaction will not raise serious doubts as to its compatibility with the internal market.
- (92) The market share of the Parties and their competitors in Germany are the following:

Table 3: Market shares for pulverised lignite in Germany

2015	National (Germany)	
	Volume (kt)	Market share (%)
Vattenfall-M	[...]	[20-30]
Mibrag	[...]	[5-10]
<i>Combined</i>	<i>[...]</i>	<i>[30-40]</i>
RWE	[...]	[60-70]
Sokolov	[...]	[0-5]
Total	[...]	[100]

- (93) The combined market share is [30-40]% in Germany with a small increment of [5-10]% brought about by Mibrag. In addition, due to the calorific value differences of the pulverised lignite, Vattenfall-M and Mibrag's products are not substitutable therefore one cannot easily switch suppliers.⁵³ Furthermore, RWE, as the clear market leader, with a market share of [60-70]% would continue to exert a competitive constraint on the merged entity post-Transaction.
- (94) For the above-mentioned reasons the Transaction [...] raise serious doubts as to its compatibility with the internal market with regard to the production and sale of pulverised lignite.

5.2. Non-horizontal effects

- (95) The Transaction gives rise to vertically affected markets with regard to the (i) supply of lignite (upstream) and (ii) the generation and wholesale supply of electricity (downstream).

5.2.1.1. The Notifying Parties' view

- (96) The Parties submit that the merged entity would neither have the ability nor the incentive to foreclose its downstream customers given the interdependence of the lignite suppliers and their customers. Mibrag is currently the only commercially

* Should read: "does not".

⁵² Non-confidential minutes of RWE 15/07/2016.

⁵³ Non-confidential minutes of RWE 15/07/2016.

reasonable lignite supplier but has not foreclosed its customers in the past, independent of the Transaction.

5.2.1.2. The Commission's view

- (97) The Commission has analysed whether, post-transaction, the merged entity would have the ability and incentive to foreclose access on the generation and wholesale supply of electricity.
- (98) Both Parties are active on the German market for generation and wholesale supply of electricity, achieving a combined market share in net generation of [10-20]%, with a small increment of [0-5]% brought about by Mibrag.
- (99) The market investigation confirmed that it is indeed unlikely that the merged entity would engage in foreclosing behaviour for the following reasons.
- (100) First, the long-term supply agreements would prevent the merged entity from raising its raw lignite prices [Price structure].
- (101) Second, as assessed in Section 5.1.1, the Vattenfall mines do not constitute a viable supply option for Mibrag's customers. It follows that any ability to foreclose existed pre-transaction does not change with the Transaction. In any event, Mibrag – and the merged entity – would not have the incentive to raise its raw lignite prices because it is also dependent on its customers, as there are no alternative undertakings to which to sell its lignite.
- (102) Based on the above, it the Transaction does not raise serious doubts as a result of non-horizontal effects.

6. CONCLUSION

- (103) For the above reasons, the European Commission has decided not to oppose the notified operation and to declare it compatible with the internal market and with the EEA Agreement. This decision is adopted in application of Article 6(1)(b) of the Merger Regulation and Article 57 of the EEA Agreement.

For the Commission

(Signed)

Margrethe VESTAGER

Member of the Commission