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**Subject: State Aid SA.42536 – Germany  
Closure of German lignite-fired power plants**

Sir, /Madam,

I am pleased to inform you that the European Commission has assessed the measure notified by Germany aimed at mothballing and subsequently closing lignite-fired power plant blocks and decided to consider the aid to be compatible with the Treaty on the Functioning of the European Union (hereafter, "TFEU").

**1. PROCEDURE: NOTIFICATION, CORRESPONDENCE, DEADLINE ETC.**

- (1) By electronic submission dated 12 November 2015, Germany notified the Commission, pursuant to Article 108(3) of the TFEU, of its intention to mothball and subsequently close eight lignite-fired power plant blocks (hereafter "lignite blocks") with a combined generation capacity of approximately 2.7 Gigawatt (hereafter, "the measure").
- (2) On 21 December 2015, the Commission requested additional information from the German authorities, which the latter provided by letters dated 20 and 27 January 2016.

**2. DETAILED DESCRIPTION OF THE MEASURE**

**2.1. The notified measure**

- (3) The measure consists of the closure of eight lignite blocks at five separate locations with a total nominal generation capacity of 2.7 Gigawatt (hereafter, "GW"). The German authorities have explained that the measure's aim is to cut CO<sub>2</sub>-emissions and contribute to Germany's national 40% CO<sub>2</sub> reduction target

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by 2020. Lignite-fired power plants are among the most CO<sub>2</sub> intensive power plants. In view of the current electricity production costs, lignite-fired power generation is competitive in the German market and hence the plants concerned operate frequently, providing base-load power. This situation is not expected to change in the near future, in particular in view of the ongoing nuclear phase-out in Germany which will remove significant base-load generation from the market.

- (4) The measure aims to realise emission savings of 12.5 million tonnes of CO<sub>2</sub> per annum as of the year 2020 when all eight lignite blocks will be mothballed. The draft law contains a provision that in mid-2018 an evaluation of the effects of the measure will be carried out. If the evaluation indicates that this target will not be reached, the operators of the plants concerned must propose additional measures to ensure the required emission reductions as of the year 2019.
- (5) The 2.7 GW constitutes 13% of total installed lignite-fired generation capacity in Germany. It consists of eight blocks operated by three companies: RWE, Vattenfall and Mibrag.
- (6) Starting with the first plant in October 2016, each lignite-fired power plant block will initially be mothballed for four years, only to be called upon in extreme emergency situations, i.e. after all market-based, emergency and other reserve measures have been applied. This period is referred to as 'Sicherheitsbereitschaft' or security readiness. Since the plants will be mothballed throughout this period, their activation will require a ten days' notice period. After the four years, the power plants will be shut down definitively and decommissioned. The last two plants will be mothballed in 2019 and decommissioned in 2023. The following table provides an overview of the plants and blocks concerned.

**Table – Overview lignite blocks and date of mothballing and decommissioning**

<b>Operator</b>	<b>Name Block</b>	<b>Nameplate Capacity</b>	<b>Date of Mothballing</b>	<b>Date of Decommissioning</b>
<b>Mibrag</b>	<b>Buschhaus</b>	<b>352 MW</b>	<b>1.10.2016</b>	<b>30.9.2020</b>
<b>RWE</b>	<b>Frimmersdorf P</b>	<b>284 MW</b>	<b>1.10.2017</b>	<b>30.9.2021</b>
	<b>Frimmersdorf Q</b>	<b>278 MW</b>	<b>1.10.2017</b>	<b>30.9.2021</b>
	<b>Niederaußem E</b>	<b>295 MW</b>	<b>1.10.2018</b>	<b>30.9.2022</b>
	<b>Niederaußem F</b>	<b>299 MW</b>	<b>1.10.2018</b>	<b>30.9.2022</b>
	<b>Neurath C</b>	<b>292 MW</b>	<b>1.10.2019</b>	<b>30.9.2023</b>

Operator	Name Block	Nameplate Capacity	Date of Mothballing	Date of Decommissioning
Vattenfall	Jänschwalde F	465 MW	1.10.2018	30.9.2022
	Jänschwalde E	465 MW	1.10.2019	30.9.2023
	<b>TOTAL</b>	<b>2.730 MW</b>		

## 2.2. The beneficiaries

- (7) The three companies whose lignite blocks are affected by the measure – RWE, Vattenfall and Mibrag – are at present the only companies operating lignite-fired power plants in Germany.<sup>1</sup> Each company operates lignite facilities, whereby the mining process and the power generation take place at the same site. There are in total three different regions. RWE operates plants in the Rhine area in the West of Germany, Mibrag in the Helmstedt area in Lower Saxony and Vattenfall in the Lausitz area in the East of Germany.
- (8) In order to maximise their contribution to the national target of CO<sub>2</sub>-emissions reduction, the plants have been selected primarily on the basis of their age and degree of pollution. The German authorities explain that the selection procedure takes into account some additional criteria i.e. the employment and structural effects of closing down the plants on the regions concerned. The German authorities state that spreading the closures over the three lignite regions, rather than concentrating them all in the same area, avoids the concentration of socio-economic problems in the economically weaker regions.
- (9) An additional criterion concerns the impacts of the closures on the electricity grid. Given that the regions are located in different balancing areas, operated by three different transmission system operators (hereafter, "TSO") (50Hertz, TenneT and Amprion), spreading the closure over the three areas ensures that the grid impacts of the reduced stable feed-in of the lignite-fired power plants are distributed and thus overall more easily absorbed.
- (10) In sum, the participation of all three operators in the measure has the objective of mitigating the impact of the measure on the regional economies, employment and grid management.

## 2.3. Financing mechanism

- (11) The remuneration the operators receive is based primarily on the foregone profits that the plants would have made if they were allowed to continue to operate commercially on the electricity wholesale market, i.e. by selling electricity as well as providing services to the TSO, such as redispatch or balancing, but also by selling heat. To determine those revenues, average forward prices for each of the four years in which the plants receive the

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1 Although at the time of adoption of this decision Vattenfall is in the process of selling off its lignite-based generation assets in Germany.

compensation are used.<sup>2</sup> From these revenues, the expected expenses the plants would have had in the market, such as fuel costs or the costs for purchasing emission allowances, are subtracted. An exact formula with cost and revenue categories is laid down in the draft legislation.

- (12) To calculate the yearly remuneration, these revenues and costs are calculated per megawatt hour of power generated and subsequently multiplied by the number of hours that each individual plant was expected to run based on the average number of running hours of the plant in the years preceding the measure (2012-2014).
- (13) Finally, the remuneration includes a compensation of the costs the plants have to make to prepare the initial mothballing of the plant and the fixed costs of remaining in a mothballed state for four years. The avoided fixed costs during the mothballing phase are however subtracted from this remuneration. If the latter (avoided fixed costs) outweigh the former (mothballing costs), then no additional remuneration is due.
- (14) The exact amount of compensation is determined by Bundesnetzagentur and must be paid to the operators of the lignite blocks by their respective TSO who in turn are entitled by law to recover their costs from final electricity consumers via the transmission tariff component charged on the electricity bill. For the purpose of the "incentive regulation" (Anreizregulierung) those costs are deemed to be costs that the TSO cannot influence and that it is thus allowed to pass on.

#### **2.4. Budget**

- (15) The total cost of the measure is estimated by the German authorities to be on average EUR 230 million per year for the seven years that the measure will be in effect, or EUR 1.6 billion in total.
- (16) However, various sizable components of the remuneration described in Section 2.3 above will be based on actual costs and actual revenues to be determined by the German regulator Bundesnetzagentur.

#### **2.5. Duration**

- (17) For each of the lignite blocks the duration of the compensation period is limited to four years. The beneficiaries will receive, for each of those four years, a yearly compensation based on the formula set out in the draft legislation.
- (18) The German authorities have explained that the expected remaining operating time of the lignite blocks is on average well beyond four years and in some cases even beyond 2025. The German authorities base this expectation on scenario calculations that assess under which economic circumstances it continues to be economically sensible to continue operations. In these scenarios, that run up to the year 2030, it is assessed for each of the areas – taking into account their distinctive efficiencies and emission characteristics – whether the expected income from generating electricity at different electricity wholesale market prices cover the variable costs of generating electricity including varying price levels for emission trading allowances. The resulting values are positive,

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<sup>2</sup> The forward prices of the years 2012-2014 were used. This static approach does not take into account a possible evolution of prices, but allows for greater predictability of the amounts to be received by the operators.

indicating that from an economic operator's perspective there would be no reason to leave the market.

- (19) This conclusion is further reinforced by the fact that there are currently no notifications of the operators to the Bundesnetzagentur about intended closure as prescribed in the context of the network reserve.
- (20) In sum, the remuneration aims at compensating primarily for foregone profits but does so for a period shorter than the expected remaining lifetime of the lignite blocks.

## **2.6. Legal basis**

- (21) The lignite measure is part of a broader package of measures aimed at revising the rules governing the functioning of the German electricity market.<sup>3</sup> The German authorities intend to amend Article 13 of the Energy Act (Energiewirtschaftsgesetz)<sup>4</sup> by adding a specific Section 13g. The formula to calculate the compensation is laid down in an annex to this Act. The measure also amends the electricity security of supply ordinance ("Verordnung") to ensure that TSOs call upon the lignite blocks during their mothballing phase only in case it enables them to mitigate an extreme threat to the security of electricity supply.

## **3. ASSESSMENT OF THE MEASURE**

### **3.1. Qualification of the measure as State aid**

- (22) According to Article 107(1) TFEU, *"save as otherwise provided in the Treaties, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market"*.
- (23) The qualification of a measure as State aid requires the following conditions to be met cumulatively: a) the measure must be financed through State resources; b) it must grant a selective advantage liable to favour certain undertakings or the production of certain goods; c) the measure must distort or threaten to distort competition and d) the measure must have the potential to affect trade between Member States.
- (24) Germany has argued that the measure does not constitute State aid, based on two arguments. In the first place, it argues that no State resources are involved. Secondly, it argues that there is no advantage for the companies concerned given that the remuneration merely constitutes a compensation for damages.

#### *3.1.1. Imputability and the involvement of State resources*

- (25) In order for an advantage to be categorised as being granted by a Member State or through State resources in any form whatsoever, it must (i) be given directly or indirectly through State resources and (ii) be imputable to the State.

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<sup>3</sup> BMWi, Ergebnispapier des Bundesministeriums für Wirtschaft und Energie (Weißbuch) 'Ein Strommarkt für die Energiewende', July 2015, <http://www.bmwi.de/BMWi/Redaktion/PDF/Publikationen/weissbuch,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf>

<sup>4</sup> Gesetz über die Elektrizitäts- und Gasversorgung (Energiewirtschaftsgesetz - EnWG). Current version (without the foreseen amendments) : [http://www.gesetze-im-internet.de/bundesrecht/enwg\\_2005/gesamt.pdf](http://www.gesetze-im-internet.de/bundesrecht/enwg_2005/gesamt.pdf)

- (26) Germany holds that in view of the fact that the measure is financed via increased network tariffs levied on the electricity consumers there are no State resources involved in the measure and that therefore the measure cannot constitute State aid. The increased network tariff is collected by the TSOs who subsequently transfer it to the beneficiaries without any intervention by the State.
- (27) It however results from the case-law of the Court that it is not necessary to establish in every case that there has been a transfer of money from the budget of the State or from a public entity in order to find a transfer of State resources.<sup>5</sup> This has been confirmed by the Court in the *Vent de Colère* case<sup>6</sup>, where the Court ruled that a mechanism, developed by the State, for offsetting in full the additional costs imposed on undertakings because of an obligation to purchase wind-generated electricity at a price higher than the market price, by passing on those costs to all final consumers of electricity in the national territory, constitutes an intervention through State resources. In other words, the Court found State resources where funds for a measure were financed through compulsory contributions imposed by State legislation and managed/allocated in accordance with the provisions of that legislation.
- (28) A similar reasoning is applied by the General Court in its judgment of 10 May 2016 in Case T-47/15, *Germany v Commission* regarding the German renewable surcharge 'EEG', in which it was confirmed that the EEG involves State resources even if the support for renewables did not come from the general budget but from the EEG surcharge paid eventually by the final costumers without passing through the State budget and thus did not involve any burden on the general budget.<sup>7</sup> The General Court considered that for state resources to be involved it is sufficient that the TSOs had been designated by the State to manage the system of aid for the production of EEG electricity and that the obligation on the TSOs that additional payments be made to producers of EEG electricity was compensated by means of the funds generated by the EEG surcharge, administered by the TSOs and allocated exclusively to financing the support and compensation schemes set up by the EEG 2012.
- (29) In the present case it is indeed the German State that has established via legislative and regulatory provisions the remuneration for the lignite blocks and the obligation for the TSOs to disburse it. It is also the State that has developed the mechanism to finance the measure through an increase of the grid tariff on the electricity bill to be paid by the final electricity consumers. It has decreed by law that the costs of the measure can be passed on to all consumers through an increase in tariffs, collected by the TSOs and to be passed onto the beneficiaries. In other words, the State has established a mechanism for offsetting in full the additional costs imposed on the TSOs because of the obligation to pay to the concerned lignite blocks a certain remuneration, by passing on those costs to all final consumers of electricity in the national territory.
- (30) The concept of "intervention through State resources" is moreover intended to cover not only advantages which are granted directly by the State but also "those granted through a public or private body appointed or established by that State

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<sup>5</sup> *Doux Elevage*, EU:C:2013:348, paragraph 34, *France v Commission*, EU:T:2012:496, paragraph 36; Judgement in *Bouygues Telecom v Commission*, C-399/10 P et C-401/10 P, EU:C:2013:175, paragraph 100; *Vent de Colère*, C-262/12, EU:C:2013:851, paragraph 19.

<sup>6</sup> *Vent de Colère*, EU:C:2013:851.

<sup>7</sup> Judgment in *Germany v Commission*, Case T-47-15 , ECLI:EU:T:2016:281, paragraphs 81- 128.

to administer the aid".<sup>8</sup> In this sense, Article 107(1) TFEU covers all the financial means by which the public authorities may actually support undertakings, irrespective of whether or not those means are permanent assets of the public sector.<sup>9</sup>

(31) In that respect, the Commission notes that, since the TSOs are mandated to collect and attribute the funds by law, the financial flows are constantly under the control of the State although they take place between private parties. Since the State can control, direct and influence the administration of the funds, the funds must be categorised as State funds.

(32) In line with its decision on other measures similarly administered by the German TSOs, notably the aforementioned EEG-2012, the Commission therefore finds that the measure is financed through State resources.

### 3.1.2. *Existence of a selective advantage*

(33) Germany furthermore argues that the measure should be viewed as constituting a compensation for damages resulting from an act of the State and therefore in principle as excluding the existence of a selective advantage for the companies involved.

(34) The notion that compensation for damages incurred as a result of State action does not confer an advantage on the recipients of the compensation follows from the judgment of the Court of Justice in joined cases C-106 to 120/87 (*Astéris*) in which it stated:

(23) "(...) that State aid, that is to say measures of the public authorities favouring certain undertakings or certain products, is fundamentally different in its legal nature from damages which the competent national authorities may be ordered to pay to individuals in compensation for the damage they have caused to those individuals."<sup>10</sup>

(35) The German authorities also refer to Commission Decision SA.32225 of 2 October 2013<sup>11</sup>:

"The same reasoning may apply in cases where the public authorities, without having recourse to the formal expropriation procedure, nevertheless wish to facilitate the relocation of an undertaking in the public interest and to that end grant the undertaking compensation calculated along the lines of the expropriation laws or other generally applicable rules on compensation for damages suffered as a result of acts by the public authorities."

(36) The Commission considers that while the facts examined by the Court in Joined Cases C-106 to 120/87 concerned compensation for the result of an unlawful

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<sup>8</sup> Judgement in *Steinike & Weinlig v Germany*, Case 76/78, EU:C:1977:52, paragraph 21; Judgement in *PreussenElektra*, C-379/98, EU:C:2001:160, paragraph 58; Judgement in *Doux Elevage and Cooperative agricole UKL-ARREE*, C-677/11, EU:C:2013:348, paragraph 26; Case *Vent de Colère*, C-262/12, EU:C:2013:851, paragraph 20; *Sloman Neptune*, joined cases C-72/91, C-73/91, EU:C:1993:97, paragraph 19.

<sup>9</sup> Judgement in *Doux Elevage*, EU:C:2013:348, paragraph 34, Judgement of 27 September 2012, *France v Commission*, T-139/09, EU:T:2012:496, paragraph 36, *Vent de Colère*, C-262/12, EU:C:2013:851, paragraph 21.

<sup>10</sup> Judgment of the Court of 27 September 1988 in joined cases C-106 to 120/87 *Asteris AE and others v Greece and European Economic Community* [1988] ECR 05515, paragraphs 23 and 24

<sup>11</sup> Commission Decision SA.32225, *Nedalco*, paragraph 29

State measure, the domestic legal order may apply the same principle as regards compensation for damages suffered as the result of lawful State measures. The fact that no selective advantage is conferred upon an undertaking does not depend on the lawfulness or unlawfulness of the measure but rather on the fact that compensation under general principles of national law does not confer a selective advantage on an undertaking.

- (37) Therefore, in its decision on Akzo Nobel<sup>12</sup>, the Commission considered compensation for damages resulting from a lawful State measure (in the case at hand a lawful repeal of a permit) as not involving a selective advantage. The Commission stated that:

*"compensation for damages granted by the state are usually not regarded as state aid to the extent they serve purely to compensate the damages incurred as a result of the intervention of the state, whereby the compensation is the direct consequence of the intervention and determined on the basis of the applicable legislation regarding property."*

- (38) It also depends on the domestic legal order whether the application of this principle is restricted to situations where a national court has already awarded damages. The notion of selective advantage in the sense of Article 107(1) TFEU does not distinguish in any way what part of the State (legislature or judiciary) is responsible for a measure. It is therefore only relevant whether in substance an undertaking receives a selective advantage not available to other undertakings. In order to conclude that the measure does not provide an advantage to the three operators of the lignite blocks, it would therefore need to be established that the measure in itself gives rise to an obligation on the part of the German State to pay compensation to these operators, in accordance with German expropriation rules and the wider legal framework governing compensation for damages suffered as a result of acts by the State and that the amount reflects the amount of the expropriation (here foregone revenues).
- (39) In this respect, the German authorities explain that under Article 14 of the German constitution natural and legal persons are guaranteed protection of their property, including the use thereof. The content and limits of this protection are determined in more specific legislation. German law provides rules on both compensation for unlawful and for lawful State measures. As a general principle expropriations generally give rise to the obligation to compensation. Interventions that do not expropriate but only limit the exercise of property rights can in principle be proportionate also without any financial compensation awarded to the property owner whose property rights are affected by the measure.
- (40) However, the German authorities furthermore explain that under German law, also for acts that limit the exercise of property rights there can be circumstances in which financial compensation is warranted. This is for instance the case when the limitation of the exercise of the property rights is particularly intrusive and results in exceptional hardship or unreasonable burden on the owner. While the measures are taken in the general interest, the negative effects are borne by certain entities only, which can be disproportionate. In these cases, general legal principles of German law require the State to include in the measure from the outset a compensation mechanism in order to ensure the proportionality of the

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<sup>12</sup> Commission Decision 16 June 2004, on aid to Akzo Nobel, C(2004) 2026fin. [http://ec.europa.eu/competition/state\\_aid/cases/138128/138128\\_460621\\_53\\_2.pdf](http://ec.europa.eu/competition/state_aid/cases/138128/138128_460621_53_2.pdf)



measure.<sup>13</sup> To determine whether such exceptional circumstances are applicable to a particular case, the severity, intensity and duration of the State intervention must be taken into consideration. It must furthermore be determined whether an 'exceptional burden to provide a public good' ('Sonderopfer') has been imposed on the affected party. It also needs to be considered whether instead of a financial compensation, the proportionality of the measure could not have been achieved via alternative measures, such as for instance transitional arrangements.

- (41) The German authorities have explained that, under German law, the legal title to a claim for expropriation or 'Sonderopfer' can only be awarded by the German judiciary, which must furthermore set the limits of the compensation. The authorities have however brought forward that if the measure did not contain compensation arrangements, the power plant operators would have made potentially successful claims for such compensation in court. They further add that the reason to include the compensation has been based partly on the need – in order for the measure to have the intended environmental effects already before 2020 – to prevent the affected companies from challenging the measure in court and obtaining potentially long-lasting interim measures which would endanger reaching the national emission target (40% CO<sub>2</sub>-reduction by 2020).
- (42) The Commission notes that while German legal principles do contain the principle of 'Sonderopfer' on the basis of which the German State is liable to pay compensation in case a limited number of operators suffers a special burden compared to others as a consequence of an act of the State which limits their property rights in the general interest, it cannot be concluded with certainty that the measure at hand gives rise to such legal obligation on the German State to provide compensation in the amount calculated on the basis of the formula of the draft measure in the absence of a court ruling on that measure.
- (43) The Commission further notes that the measure at hand is indeed targeted at a limited number of owners and operators of a specified number of lignite-fired power plant blocks. The measure impinges on their property rights, since it obliges the plants to mothball and thus close prematurely, in order to reduce CO<sub>2</sub>-emissions in Germany in the public interest, even though these plants comply with existing environmental legislation, the EU Emissions Trading System ETS and do not exceed the emission limits currently generally applicable in Germany. The plants were moreover expected to continue operating for a number of years to come generating profits according to the scenario assessments of the German electricity market as described in Section 2.5. The measure therefore imposes a special burden on the owners and operators of the plants that were selected for the measure.
- (44) On this basis, the Commission concludes that in the present case a limited number of operators suffer a special burden compared to others as a consequence of an act of the State in the general interest which strongly limits their property rights.
- (45) The German authorities have furthermore demonstrated that the compensation itself is primarily based on a formula that calculates the profits the selected plants would likely have generated in a period of four years implies that it is not the intention of the German authorities to grant their owners/operators an

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<sup>13</sup> Referred to in German law as the principle of 'ausgleichspflichtige Inhalts- und Schrankenbestimmung'

advantage but merely a compensation for the effects of the measure. The compensatory period is moreover limited to four years, which, as demonstrated in Section 2.5 of this Decision, is less than the average period during which the concerned plants would have continued operating in the market. On the other hand the remuneration of the extra costs the companies will bear during the mothballing phase (i.e. the costs for realising the mothballing state and the costs for producing electricity in case the TSO instructs the operators to do so (costs of "security readiness")) reflects the actual costs and does not seem to affect the degree of the compensation for damages. In any event this part of remuneration seems not to affect the principle enshrined in German expropriation law that the affected parties should not be better off than they would have been absent the measure (i.e. if they had continued to operate in the market).

- (46) Moreover, the Commission considers that it is reasonable that the German State wishes to prevent lengthy court proceedings by concluding an out-of-court settlement with those parties directly within the legislation.

### 3.1.3. *Impact on competition and on trade between Member States*

- (47) The closure of the eight lignite blocks means that the electricity these plants would have produced will now have to be produced by other generators, which is likely to affect the merit curve and hence the electricity wholesale price.
- (48) In view of the fact that the German market is well-connected and coupled with the bidding areas of neighbouring countries, the Commission considers that the measure must be assumed to impact competition and trade between Member States.

### 3.1.4. *Conclusion regarding existence of State aid*

- (49) Based on the foregoing, the Commission considers that where a measure solely grants to the affected undertaking the compensation for damages incurred, this compensation does not provide it with an advantage and hence does not constitute State aid in the meaning of Article 107(1) TFEU. The Commission also considers that a legal framework is in place in German law that may entitle operators whose rights as owners are affected to a compensation and that it cannot be excluded that such right to compensation exists.
- (50) However, for the measure at hand the Commission concludes that on the basis of the information provided by the German authorities in the present case it cannot be concluded with a sufficient degree of certainty that a right to compensation of an amount resulting from the formula adopted in annex to Article 13g EnWG for the operators exists. Therefore, it cannot be excluded that the measure confers State aid on the undertakings concerned.
- (51) In any event, in the present case a definitive conclusion as to whether the measure provides the operators with an advantage and thus constitutes State aid pursuant to Article 107(1) TFEU does not have to be drawn because even if State aid were involved the Commission considers that the measure is compatible with the internal market for the reasons explained in the following section.

## 3.2. **Compatibility assessment**

- (52) On the basis of Article 107(3)(c) TFEU, the Commission may consider compatible with the internal market State aid to facilitate the development of certain economic activities within the European Union, where such aid does not adversely affect trading conditions to an extent contrary to the common interest.

- (53) The Commission has assessed the compatibility of the measure directly under Article 107(3)(c) TFEU because no Guidelines have been adopted that provide guidance as to the Commission's assessment of similar measures. In particular, the German lignite measure is not covered by any of the categories described in Section 1.2 of the Guidelines on State aid for environmental protection and energy 2014-2020<sup>14</sup> (hereafter, "EEAG" or "Guidelines") as there are no provisions for aid to compensate for the closure of electricity generation plants.
- (54) In the absence of specific guidance by the EEAG, the measure must be assessed directly under Article 107(3)(c) TFEU.
- (55) To assess whether an aid measure can be considered compatible with the internal market, the Commission generally analyses whether the design of the aid measure ensures that the positive impact of the aid towards an objective of common interest exceeds its potential negative effects on trade and competition. It does so by assessing the following criteria:
- a) contribution to a well-defined objective of common interest (Section 3.2.1);
  - b) need for State intervention (Section 3.2.2);
  - c) appropriateness of the aid measure (Section 3.2.3);
  - d) incentive effect (Section 3.2.4);
  - e) proportionality of the aid (Section 3.2.5);
  - f) avoidance of undue negative effects on competition and trade between Member States (Section 3.2.6);

Where the assessment demonstrates that the measure meets all of these criteria, the measure can be considered compatible with the internal market.

### 3.2.1. *Common objective*

- (56) In order to be compatible with Article 107(3)(c) TFEU, an aid must contribute to a well-defined objective of common interest.
- (57) The primary objective of the measure is the reduction of 12.5 million tonnes of CO<sub>2</sub>-emissions in Germany by 2020. Due to their mothballing and subsequent closure, the selected lignite-fired power plant blocks – which constitute the most polluting technology for the generation of base-load power – will no longer be allowed to run and will thus cease to emit CO<sub>2</sub>.<sup>15</sup> Electricity will be generated by other, less polluting plants instead. The plants concerned have indeed been selected primarily on the basis of their age and degree of pollution. Moreover, the German authorities have demonstrated that on average the plants would continue to operate and thus continue to emit beyond their mothballing date and even beyond their definitive closure date.
- (58) The German authorities have also demonstrated that the ceasing of operations of the eight lignite blocks has effects on the emission of SO<sub>x</sub>, NO<sub>x</sub> and mercury, the total yearly emissions of which in Germany would be reduced by respectively 2.4%, 0.5% and 2%.

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<sup>14</sup> OJ C 200, 28.6.2014, p. 1.

<sup>15</sup> Unless the unlikely event occurs in which the TSO calls upon the plants to run during their mothballing phase.

- (59) The EU has set itself objectives for reducing its greenhouse gas emissions in all sectors progressively over time to achieve transformation towards a low carbon economy. Complementing EU objectives, Germany has set a national target of 40% reduction of CO<sub>2</sub>-emissions by 2020.
- (60) The Commission takes note of the fact that Germany also considers security of electricity supply to be an objective pursued by the measure ("security readiness"). The Commission however has serious doubts as to whether the measure can be justified under security of supply considerations, but considers that this question is not decisive in the case at hand given the fact that the measure, including its mothballing phase, is fully justified by the objective of CO<sub>2</sub>-emission reductions.
- (61) Consequently, the Commission considers that the measure at hand contributes to an objective of common interest, namely the reduction of CO<sub>2</sub>-emissions and of the air pollution in Germany. This conclusion is not contradicted by a possible reduced environmental impact at European compared to German level due to the common market in emission allowances in which German power plants participate.

### 3.2.2. *Need for State intervention*

- (62) In order to demonstrate the necessity of the measure it needs to be established that the measure is targeted towards a situation where aid can bring about a material improvement that the market alone cannot deliver.
- (63) Without State intervention the electricity market itself would not achieve equivalent savings. As underlined in Section 2.5 due to their low production costs, lignite-fired power plants currently have many operating hours in the electricity market and would continue to produce frequently, even at times of low electricity prices. As nuclear power generation is phased out in Germany, the position of lignite-fired power plants in the merit curve is expected to remain price-competitive. As set out in Section 2.5, even in a scenario of a higher price for EU emission allowances and lower income from electricity sales due to depressed prices, the plants would still be able to recoup at least their variable and part of their fixed costs. Given this situation and their compliance with environmental standards, there is no incentive for the operators of these plants to close down before 2020.
- (64) It is important to underline that also the intermediate mothballing phase contributes to the targeted situation of lower CO<sub>2</sub>-emissions, given that the plants will cease to emit as soon as they enter their state of mothballing. Moreover, the gradual nature of the implementation of the measure also has a mitigating effect on the social consequences of the closure, which is an important side-effect of the measure as outlined in Section 2.2.

### 3.2.3. *Appropriateness of the measure*

- (65) The Commission notes that Germany has assessed alternative measures aimed at achieving the same amount of emissions reduction in the same timeframe, i.e. 12.5 million tonnes of CO<sub>2</sub> by 2020.
- (66) On 3 December 2014, the German government determined that the power sector should contribute with additional savings of 22 million tonnes of CO<sub>2</sub>-emissions until the year 2020. On the basis of this overall target, the Federal Ministry for Economic Affairs and Energy (hereafter, "BMWi") assessed the power sector as

a whole and came to the conclusion that in addition to other measures<sup>16</sup> in particular power generation from lignite should make a considerable contribution in view of the fact that it is the most polluting technology for the generation of electricity measured by output of energy produced. Significant savings could be made in the lignite segment in view of the fact that over the past 15 years the lignite-fired power plants had not significantly reduced their relative emissions whereas gas and coal power plants had.

- (67) In order to reduce the contribution of lignite to the power generated in Germany various measures have been considered, such as the introduction of a generally applicable emission standard for fossil fuel, the introduction of a national emission budget applicable to individual power plants, the auctioning of a national emission budget and a so-called climate contribution which would make it more expensive for power plants to emit. The climate contribution had indeed been proposed in March 2015 but according to the German authorities they abandoned this plan in favour of the measure at hand because of the potentially disruptive impact of an uncoordinated and sudden closure of the eight lignite blocks on local employment and grid management.
- (68) The present measure moreover has an effect on CO<sub>2</sub>-emissions in Germany that can be forecasted relatively accurately on the basis of expectations on the number of hours the plants would operate. In fact, the number of plants that have been selected and their combined volumes have been calculated on the basis of the need to reduce 12.5 million tonnes of CO<sub>2</sub>-emissions by 2020. Given that the closure of the lignite blocks does not affect the demand of electricity, the electricity that would have been generated by the lignite blocks will instead be generated by other, though less polluting, power plants (the so-called 'rebound-effect'). This effect has been taken into account when calculating the total reduction in CO<sub>2</sub>-emissions.
- (69) The measure moreover contains a clause that in case the expected emissions reduction is not achieved, the operators of the plants must propose additional measures to ensure the required savings as of the year 2019.
- (70) The Commission notes that the measure does not take into account emission effects on other sectors than the German power sector. If the lignite blocks continue to operate and emit, they would have to buy emission allowances under the EU Emission Trading System. Now that the plants will close down, the allowances that they would have bought will stay in the ETS allowances market. The decreased demand may decrease the price for allowances and may make it cheaper for other emitters to emit CO<sub>2</sub>.
- (71) The German authorities put forward that whilst it cannot be excluded that the price effect on the ETS allowances will lead to increased emissions elsewhere, it expects these effects to be minimal in view of the current oversupply in the allowances market and the already low prices. They exclude in any event that the substantial savings made by the lignite blocks can be offset by additional emissions in Germany, because they have taken into account the aforementioned rebound effect. Any additional emissions would therefore have to come from other sectors which are unlikely to partially or completely offset the emissions reduction. The German authorities are therefore convinced that the measure

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For instance related to increased CHP support and energy efficiency.

contributes to Germany's national emission target of 40% less CO<sub>2</sub>-emissions by 2020.

- (72) Germany moreover notes that when it takes other measures that contribute to the reduction of CO<sub>2</sub>-emissions, for instance by supporting the development of renewable energy sources through a levy, it also does not remove an equivalent amount of CO<sub>2</sub>-allowances from its overall budget.
- (73) Based on the foregoing, the Commission considers that Germany has assessed alternative measures and that the present measure is targeted at the environmental aim pursued whilst mitigating the impact on electricity market functioning and employment. Therefore, the Commission considers the measure to be an appropriate instrument to achieve CO<sub>2</sub>-emissions reduction that contributes to the national German target of 40%.

#### 3.2.4. *Incentive effect*

- (74) To establish whether the measure has an incentive effect, it must be demonstrated that it changes the behaviour of the undertaking concerned in such a way that it engages in activity which it would not carry out without the aid or which it would carry out in a restricted or different manner.
- (75) The Commission recalls the arguments described in Sections 2.5 and 3.2.2. and on that basis considers that in view of the current and expected future market conditions the lignite blocks concerned would not cease operations. Given that the measure forces them to do so, in exchange for compensation, there is a clear incentive effect on the concerned operators.

#### 3.2.5. *Proportionality of the aid*

- (76) Under Article 107(3)(c) TFEU the aid amount must be limited to the minimum needed to incentivise the additional investment or activity in the area concerned.
- (77) In the present case, it therefore must be demonstrated that the beneficiaries are not over-compensated.
- (78) The Commission notes that Germany has not applied a competitive procedure, such as an auction or a tender, to select the operators of lignite-fired power plants contributing to its target of a reduction of 12.5 million tonnes CO<sub>2</sub>-emissions by 2020.
- (79) In Section 2.5 the selection procedure and the relevant considerations leading to the selection have been set out. Germany puts forward that there are only three operators of lignite-fired power plants in Germany and that therefore a competitive procedure would have been prone to a non-cost efficient outcome. Instead, the formula prescribed in the draft legislation, which is based on foregone profits based on actual revenues and actual costs over the past years, appears an objective method that, also through its limitation in time, excludes overcompensation.
- (80) The Commission agrees that where a selection needs to be made of power plants operated only by three operators a tender process may not be an appropriate process to ensure a cost-efficient procurement of the required capacities, in particular in order to mitigate the side-effects of the measure as referred to in Section 2.2.
- (81) The Commission moreover agrees that compensation which, as concluded in Sections 2.3 and 3.1.2, is based on actual costs and actual expenditure is an appropriate means to ensure proportionate remuneration, because it ensures that

no overcompensation is granted. This conclusion is not contradicted by the fact that some elements of the remuneration such as electricity or carbon prices may change in the future and the power plants may have earned different profits if they had continued to operate. Given that the operators generally sell a considerable share of their generation under forward contracts and that the power plant operators need to have upfront certainty about their compensation for closing the power plants, the chosen approach appears suitable to calculate a proportionate compensation.

3.2.6. *Avoidance of undue negative effects on competition and trade between Member States*

- (82) The negative effects of the measure on competition and trade must be sufficiently limited, so that the overall balance of the measure is positive.
- (83) As underlined in Section 3.1.3 the measure has an effect on the competition on the internal electricity market. However, it appears from the assessment of the impact of the measure that these effects are limited due to the design of the measure and the current state of the electricity market.
- (84) Whilst the mothballing and closure of the plants makes a considerable contribution to the environment, the plants constitute no more than 2.5% of total German generation capacity. Their gradual market exit means that they will be gradually replaced by other generators, selected on the basis of the price signal on the wholesale electricity market.
- (85) The German electricity market is currently characterised by generation overcapacity. In particular in the Northern part of Germany, where most of the lignite-fired power plants are located, the rapid increase in renewable generation, most notably offshore wind, has resulted in a situation in which existing conventional fuel generators are experiencing a reduction in their running hours. Depending on their marginal costs, these plants may replace the closed lignite blocks in the merit curve. This replacement has a price-effect on the wholesale market, but this effect is considered to be limited in view of the current situation of overcapacity, the historically low wholesale market electricity prices and the relatively small size of the lignite blocks that will exit (i.e. around 1.45% of installed capacity). Also, the overcapacity and low prices have led to a 'flatter' merit curve, thanks to efficiency improvements of gas and coal-fired power plants as well as low commodity prices for both fuels. This means that plants that take over will not result in significantly higher clearing prices. Germany underlines that this can be demonstrated from the fact that future prices for the most liquid years to come have already factored in the lignite measure and that nevertheless these prices have continued their downward trend.
- (86) Therefore, the Commission finds that the aid does not lead to undue negative effects on competition and trade between Member States.

3.2.7. *Conclusion regarding compatibility with the internal market*

- (87) Consequently, the Commission concludes that, in view of the limited distortions of competition and trade resulting from the envisaged measure, the overall balance with regard to the increased level of environmental protection in the form of CO<sub>2</sub>-emissions and air pollution reductions from lignite-fired power plants is positive.

#### 4. CONCLUSION

The Commission accordingly concludes that the measure consisting in the remuneration for mothballing and closure of lignite-fired power plant blocks planned by Germany is compatible with the internal market in accordance with Article 107(3)(c) Treaty on the Functioning of the European Union.

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Your request specifying the relevant information should be sent electronically to the following address:

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Yours faithfully  
For the Commission

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