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CHAPTER XIII

PHASING OUT COAL-FIRED POWER PLANTS IN THE EUROPEAN UNION

Examples from the Netherlands and Germany

Lolke BRAAKSMA and Ruven FLEMING

1. INTRODUCTION

The European Union (EU) is committed to ambitious climate targets.¹ Member States of the EU (hereinafter: Member States) are required to meet legally binding targets by 2020, 2030 and 2050, aiming to progressively reduce the emissions of greenhouse gas. Three targets are particularly relevant in the EU. For 2020, the 20-20-20 targets of the climate and energy package of 20 per cent greenhouse gas emissions reduction, 20 per cent of energy consumed coming from renewables, and a 20 per cent increase in energy efficiency. For 2030, the targets of the climate and energy framework,² which require the EU as a whole to reduce greenhouse gas emissions by 40 per cent by 2030 compared to 1990 levels³

¹ E.g. the United Nations Climate Pact of 1992, which has been transposed into clear targets in the Kyoto Protocol of 1997 (COP 3). The Kyoto Protocol is still relevant since it consists of two phases – the first was relevant for the period up to 2012 and the second covering the period 2013–2020. Under the second phase of the Kyoto Protocol, the EU as a whole needs to reach a reduction of greenhouse gas emissions of 20 per cent by 2020, compared to 1990 levels. This goal has been included in the EU's 'Climate and Energy package'. Another example is the Paris Agreement of 2015 (COP 22), ratified by 181 parties, which contains objectives to halt global warming to 2°C, and preferably 1.5°C in 2100 compared to pre-industrial levels. To reach this goal every party has to develop Nationally Determined Contributions (NDCs) every five years (article 4, paragraph 2 of the Agreement).

² Communication of the Commission, 'A Clean Planet for all – A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy' COM/2018/773 final.

³ 43 per cent greenhouse gas emissions reduction in sectors covered by the EU Emission Trading Scheme (hereinafter: EU ETS) and 30 per cent greenhouse gas emissions reduction in the non-EU ETS sector.

and the long-term strategic vision of the EU to achieve at least 80 per cent greenhouse gas emissions reduction by 2050.⁴

Realising these objectives, however, turns out to be challenging. Many Member States are in the process of (partially) phasing out electricity production from coal as a measure to cut their CO₂ emissions.⁵ Nevertheless, a comprehensive EU coal exit strategy is not provided in current legal frameworks and/or packages. Coal-fired power plants still account for nearly a quarter of electricity generation in the EU, offering jobs to an estimated 240,000 people, whilst serving the security of energy supply.⁶

In this context, the societal and legal debates regarding the phase-out processes of coal-fired electricity production will be analysed in two Member States: the Netherlands and Germany. These countries have long but different relationships with coal-fired power plants as a means for electricity production. We focus on identifying and discussing the (legal) implications, bottlenecks and safeguards, both at EU level and the national level, that are relevant when phasing out coal for electricity production in these countries.⁷ To this end, we start by analysing the legal framework relevant to the phase-out of coal-fired power plants at the EU level (Section 2). After that, we describe the examples of the Netherlands (Section 3) and Germany (Section 4). Finally, general observations and conclusions are made (Section 5).

2. PHASING OUT COAL-FIRED POWER PLANTS FROM A EUROPEAN UNION PERSPECTIVE

2.1. INTRODUCTION

In this section, we are exploring to what extent the EU has competence – according to EU primary legislation – to decide whether Member States can use coal for electricity production and whether they can decide about a coal phase-out (para. 2.2). After that, an overview of how the emissions of coal-fired power plants are regulated under secondary EU law is provided and the relevance

⁴ Council Conclusions on EU position for the Copenhagen Climate Conference (7–18 December 2009) 2968th ENVIRONMENT Council meeting Luxembourg, 21 October 2009: https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/envir/110634.pdf; II 8.

⁵ For a comprehensive overview on the status of the phase-out of coal-fired power plants in the Member States in September 2018 see: <https://beyond-coal.eu/wp-content/uploads/2018/09/Overview-of-national-coal-phase-out-announcements-Europe-Beyond-Coal-September-2018.pdf>.

⁶ See: https://ec.europa.eu/clima/citizens/eu_en.

⁷ Issues of competition law when closing coal-fired power plants will not be addressed in this chapter.

of these regulations for Member States that want to phase out electricity production with coal as the primary source is shown (para. 2.3). We conclude the section by analysing whether financial compensation should be provided to owners and/or investors if a coal-fired power plant is closed down (para. 2.4).

2.2. THE PRIMARY LAW COMPETENCE OF THE EUROPEAN UNION

Due to the division of powers between the EU and its Member States,⁸ it is necessary for the EU to have competence to act on a certain issue.⁹ A competence that shall provide the EU with regulatory powers in a particular area¹⁰ must have been conferred upon it¹¹ via an article in the European Treaties.¹²

The phasing out of coal usage for the production of electricity strikes at the core of two vital interests, environmental protection and energy security. Both interests are included as potential areas of EU competence in the Treaty on the Functioning of the European Union (TFEU) (article 194 TFEU for energy and article 192 TFEU for the environment). The treaty also regulates the relationship between these competences on the one hand and the permanent sovereignty of states over their natural resources on the other hand.¹³

It is settled case law of the European Court of Justice (ECJ) that the legal basis of an EU measure must be selected by the legislator on the grounds of objective reasons that can be subject to judicial review.¹⁴ The European legislator may, thus, not pick a legal basis as he sees fit. Instead, he shall look for the “centre of gravity” of a measure, which determines its legal basis.¹⁵ The “centre of gravity”

⁸ Paul Craig and Grainne de Burca, *EU Law Texts Cases and Materials*, 5th edition (Oxford University Press, Oxford 2011), pp. 75–78 (hereinafter: Craig/De Burca).

⁹ Ibid, p. 74.

¹⁰ Ibid, p. 75.

¹¹ Article 5(2) Treaty on European Union (hereinafter: TEU); Jan H Jans and Hans HB Vedder, *European Environmental Law*, 3rd edition (Europa Law Publishing, Groningen 2008), p. 10 (hereinafter: Jans/Vedder).

¹² Craig/De Burca, above n. 8, pp. 75–76.

¹³ The permanent sovereignty over natural resources is a rule of international law, originating from United Nations Assembly Resolution 1803 (XVII), as adopted on 14 December 1962.

¹⁴ Case C-45/86 *Commission of the European Communities v Council of the European Communities* [1987] ECR I-1493 paragraph 11; Case C-300/89 *Commission of the European Communities v Council of the European Communities* [1991] ECR I-2867 paragraph 10; Case C-155/91 *Commission of the European Communities v Council of the European Communities* [1993] ECR I-939 paragraphs 10–15; Case C-187/93 *European Parliament v Council of the European Union* [1994] ECR I-2857 paragraphs 22–23; Case C-268/94 *Portuguese Republic v Council of the European Union* [1996] ECR I-6177 paragraph 22; C-176/03 *Commission of the European Communities v Council of the European Union* [2005] ECR I-7879 paragraph 45.

¹⁵ Jans/Vedder, above n. 11, p. 68; Mathew L Schemmel and Bas de Regt, ‘The European Court of Justice and the Environmental Protection Policy of the European Community’ (1994) 17(1)

is the area on which the anticipated measure has most bearing.¹⁶ If the “centre of gravity” is protection of the environment measures should be brought under article 192 TFEU.¹⁷ If the measure is mainly dealing with energy, article 194 TFEU is the applicable legal basis.¹⁸

Energy regulation has been traditionally singled out by the legal literature as an area of minimum harmonisation, where Member States might establish their own legislation within the framework provided by the EU.¹⁹ Several decisions of the ECJ assert that Member States indeed have the right to legislate in the field of energy if the EU has not, not yet, or not comprehensively exercised its right to do so.²⁰

The literature commonly agrees that today article 194 TFEU provides the central EU competence in energy matters.²¹ Coal, after all, is a form of energy that may be produced in individual Member States. While article 194(1) TFEU is providing the EU with a general competence to regulate matters in the area of energy, this competence is curtailed in article 194(2) TFEU, which says: “measures shall not affect a Member State’s right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply, without prejudice to Article 192(2)(c).”²² This paragraph is the so-called sovereignty clause, which says that decisions concerning the national energy mix remain the prerogative of Member States. In other words: the Member States are in charge when it comes to the decision whether or not coal shall be exploited and/or used for electricity generation, but equally if coal should be phased out as a source of electricity production.

This picture does not substantially change when looking at the environmental competence of the EU in article 192 TFEU. Article 192(1) TFEU is essentially giving the EU institutions the right to take action to serve environmental protection objectives that are laid down in article 191 TFEU. While the EU has taken several measures that might have an indirect bearing on the phase-out of the use of coal for electricity production (see section 2.3 on

Boston College International and Comparative Law Review 53; Ronald van Ooik, ‘Cross-Pillar Litigation Before the ECJ: Demarcation of Community and Union Competences’ (2008) 4(3) *European Constitutional Law Review* 399.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Angus Johnston and Guy Block, *EU Energy Law* (Oxford University Press, 2012) paragraph 1.05 (hereinafter: Johnston/Block).

¹⁹ Ibid, paragraph 15.03.

²⁰ Such as Case 6/64 *Flaminio Costa v E.N.E.L.* [1964] ECR I-585 at 593; for a discussion of this and further cases see Christian Calliess and Matthias Ruffert, *EUV/AEUV Kommentar*, 4th edition (Beck, München 2011) article 194 AEUV, paragraph 23 (hereinafter: Calliess/Ruffert); Carl-Otto Lenz and Klaus Dieter Borchardt, *EU Verträge Kommentar*, 5th edition (Bundesanzeiger Verlag, Köln 2010) Vorbemerkungen zu Artikel 191–193 AEUV paragraph 3.

²¹ Johnston/Block, above n.18, paragraphs 1.05/1.08.

²² Article 194(2) TFEU.

secondary law below), it has not issued an act that is explicitly prescribing all Member States to phase out coal for electricity production in power plants. The theoretical discussion on whether or not such an act of the EU might in the future be based on article 192 TFEU falls outside the scope of this chapter and is, thus, not pursued.

What emerges from this brief observation is that the Member States, not the EU, would be allowed to decide whether or not coal can be used for electricity production. Nevertheless, the EU has the power to issue environmental legislation that may have indirect impacts on the phasing out of coal-fired power plants for electricity production. As the next section will show, the EU has, in fact, put into place a comprehensive secondary law framework that affects the use of coal as a primary energy source for electricity generation.

2.3. THE LEGAL FRAMEWORK IN THE EUROPEAN UNION

Since the EU initiated its policy to create an internal energy market in the early 1990s, the energy sector has been regulated by an extensive set of EU laws. In this context, three directives are particularly relevant when regulating the use of coal as a primary energy source for electricity production, namely the Electricity Directive,²³ the Industrial Emissions Directive (hereinafter: IE Directive)²⁴ and the EU Emission Trading Scheme Directive (hereinafter: the ETS Directive), which we will discuss below.

The Electricity Directive from 1996 and the subsequent Electricity Directives, provide that Member States have to adopt an authorisation procedure – in accordance with objective, transparent and non-discriminatory criteria – when new electricity-generating capacity is constructed.²⁵ When authorising new generating facilities, the public authorities have to consider, for example, the protection of the environment, energy efficiency, emissions and the nature of the primary energy sources, such as the use of wind, coal or gas.²⁶

²³ Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity. On 5 June 2019 the new Electricity Directive came into force (Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity), recasting Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market. Directive 2009/72/EC, in turn, repealed Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity. In the following, Directive 2019/944 will be used as point of reference and called the “Electricity Directive”.

²⁴ Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions.

²⁵ See article 8 of the Electricity Directive.

²⁶ See article 8(2) of the Electricity Directive. This list of criteria has been expanded with the introduction of the EU ETS Directive (Directive 2003/87/EC of the European Parliament

Member States have transposed this obligation differently in their national legal orders. Some imposed an electricity permit for building (large) coal-fired power plants, such as the United Kingdom and Denmark, whilst others, such as the Netherlands, did not (see section 3).²⁷

The emissions of coal-fired power plants, which consist of carbon dioxide (CO₂), sulfur dioxide (SO₂), carbon monoxide (CO), but also fine particles (PM₁₀) emissions, are primarily regulated on the EU level by the IE Directive and the ETS Directive.

The IE Directive – which is based on article 192(1) TFEU – prescribes an integrated approach on combating industrial emissions, aiming to achieve effective protection of the environment as a whole, resulting in an obligatory environmental permit for activities listed in Annex I IE Directive, such as coal-fired power plants.²⁸ This permit contains conditions and specific emission limit values, based on best available techniques (BAT), which should be achieved by the installation.²⁹ BATs are, in short, the most effective and advanced techniques that are economically and technically viable.³⁰ According to the latest BAT conclusions,³¹ Member States can impose an energy efficiency rate of 32.5 per cent to 44 per cent for large combustion plants, such as coal-fired power plants.³² Setting stricter conditions than those achievable by the use of BAT can be required in order to achieve environmental quality standards. In that case, additional measures shall be included in the permit.³³

and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community) and the Energy Efficiency Directive (Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency).

²⁷ For the United Kingdom, this permit is the Development Consent Order (DCO) on the basis of the Planning Act 2008, see: <http://www.legislation.gov.uk>. See for Denmark: ens.dk. More information about both regimes can be found in: Martha M Roggenkamp, Catherine Redgwell, Anita Rønne and Iñigo del Guayo (eds.), *Energy Law in Europe – National, EU and International Regulations* (Oxford University Press, Oxford 2016), (hereinafter: Roggenkamp, Redgwell, Rønne and del Guayo), Chapters 6 and 14.

²⁸ See for a critical appraisal on the procedure on how BAT conclusions are set: Lolke Braaksma and Hanna Tolsma, 'Integrated Pollution Prevention and Control – A critical legal perspective on all-inclusive integration' in Marjan Peeters, Mariolina Eliantonio, *Research Handbook on EU environmental law* (Edward Elgar, Cheltenham 2020) (to be published, reference is to final draft chapter).

²⁹ See article 3(5) of the IE Directive for the definition of Installation used in this Directive and for an overview of the relevant procedures: Suzanne Kingston, Veerle Heyvaert and Aleksandra Čavoški, *European Environmental Law* (Cambridge University Press, Cambridge 2017), Chapter 9.

³⁰ Article 3(10) of the IE Directive.

³¹ BAT conclusions are adopted by the Commission as Implementing Decisions in accordance with the examination procedure and function as the reference for setting the permit conditions procedure, see article 13 of the IE Directive.

³² Best Available Technique Reference Document for Large Combustion Plants (BREF LCP), available at: http://eippcb.jrc.ec.europa.eu/reference/BREF/LCP/JRC_107769_LCPBref_2017.pdf.

³³ See article 18 IE Directive.

The ETS Directive is based on article 192(1) TFEU and covers around 45 per cent of the EU's greenhouse gas emissions, such as CO₂.³⁴ The scheme is primarily based on a cap and trade system which, in short means that: (a) greenhouse gas emissions of large emitters are capped by allocating emission allowances; and (b) the trading of those allowances is made possible to create an incentive to reduce greenhouse gas emissions in a cost-effective manner.³⁵ To achieve the 2030 targets, the ETS Directive was revised, to increase the pace of emission cuts in the period 2021–2030 by reducing the overall number of emission allowances.³⁶

To clarify the relationships between the ETS Directive and the IE Directive, article 26 ETS Directive stipulates that the environmental permit cannot contain emission limit values for CO₂, clarifying the relationships with the IE Directive.³⁷ The rationale behind this rule is to prevent a duplication of regulation, as stricter emission limit values in environmental permits would interfere with the market-based cap and trade system of the EU emission trading scheme leading to less cost-effective CO₂ emission reduction.³⁸ Multiple authors have pointed to the debate on whether Member States can still impose more stringent protective measures on the basis of article 193 TFEU, which encompasses a legal basis for Member States to pursue more ambitious environmental goals than measures based on article 192 TFEU to achieve the objectives under article 191 TFEU, for example by limiting CO₂ emissions in environmental permits which are regulated by the IE Directive.³⁹ This could be relevant when trying to close coal-fired power plants, as only the EU can alter the cap in the ETS Directive. Nevertheless, it seems difficult to reconcile imposing (strict) CO₂ emission limitations under the IE Directive on the bases of article 193 TFEU with the system from the EU ETS and the aim to be cost-effective.

The above shows that (secondary) EU law also does not provide for a direct legal basis to ban coal-fired power plants for Member States. Member States do have the possibility to prescribe an energy efficiency rate of 32.5 per cent to 44 per cent for coal-fired power plants. Prescribing more stringent CO₂ emission

³⁴ See: https://ec.europa.eu/clima/policies/ets_en.

³⁵ Edwin Woerdman, Martha Roggenkamp and Marijn Holwerda, *Essential EU Climate Law* (Cheltenham: Edward Elgar 2015), Chapter 3.

³⁶ Directive 2018/410 of the European Parliament and of the Council of 14 March 2018 amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments, and Decision (EU) 2015/1814. See: https://ec.europa.eu/clima/policies/ets/revison_en.

³⁷ See also article 9(1) IE Directive.

³⁸ Frans Oosterhuis and Marjan Peeters, "Limits to integration in pollution prevention and control" in Marjan Peeters and Rosa Uylenburg (eds), *EU Environmental Legislation. Legal Perspectives on Regulatory Strategies* (Edward Elgar, Cheltenham 2014) p. 100.

³⁹ See for a comprehensive overview e.g.: Lorenzo Squintani, *Beyond Minimum Harmonisation. Gold-Plating and Green-Plating of European Environmental Law* (Cambridge University Press, Cambridge 2019), paragraph 1.3.

limitations in the environmental permit than necessary on the basis of the EU ETS is more than likely not possible as a result of the relationship between the IE Directive and the ETS Directive, and the cap and trade system prescribed in the latter directive.

2.4. A NEED FOR FINANCIAL COMPENSATION?

A highly relevant question for Member States and for any owner of a coal-fired power plant (hereinafter: the owner) is whether, and if so, the extent to which, financial compensation is required from a EU perspective when a coal-fired power plant is closed ex officio. In this regard, two articles come to mind that provide safeguards for the rights of the owners: article 1 First Protocol of the Convention for the Protection of Human Rights and Fundamental Freedoms (hereinafter: Article 1 First Protocol) in which the protection of property is regulated, and article 13(1) Energy Charter Treaty (hereinafter: ECT), which aims to improve (international) collaboration between authorities and companies regarding energy by protecting investments in the energy sector.⁴⁰

Article 1 First Protocol stipulates that:

Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law.

The preceding provisions shall not, however, in any way impair the right of a State to enforce such laws as it deems necessary to control the use of property in accordance with the general interest or to secure the payment of taxes or other contributions or penalties.

Closing down a coal-fired power plant will most likely be considered as an interference with the property of owners. Such a decision needs to have a proper legal basis and needs to be taken in the general interest. Furthermore, a fair balance needs to be struck between the general interest involved in closing coal-fired power plants, and the property rights of the owners of the plant. Member States do have a margin of appreciation when assessing whether a fair balance has been struck. Relevant in this regard are the foreseeability of the measure, the transitional time that has been given to earn back investments, but also whether a transition towards electricity production from biomass or Carbon Capture and Storage (CCS) is subsidised.⁴¹

⁴⁰ The Energy Charter Treaty is a multilateral trade and investment agreement.

⁴¹ CCS is the process of capturing CO₂ emissions from (usually large) point sources, such as a coal-fired power plant or a biomass power plant, transporting it to a storage site, and depositing it in a place where it will not enter the atmosphere, normally underground.

Article 13(1) of the ECT stipulates that:

Investments of Investors of a Contracting Party in the Area of any other Contracting Party shall not be nationalized, expropriated or subjected to a measure or measures having effect equivalent to nationalization or expropriation (hereinafter referred to as 'Expropriation') except where such Expropriation is:

- (a) for a purpose which is in the public interest;
- (b) not discriminatory;
- (c) carried out under due process of law; and
- (d) accompanied by the payment of prompt, adequate and effective compensation (...).

This article could be relevant for investors from non-EU countries investing in Dutch and/or German power plants and for investors from certain EU countries. The possibility to bring a claim on this basis depends on the country of origin of the investor. For non-EU investors in Dutch and/or German coal-fired power plants coming from countries that are parties to the ECT this could theoretically be a possibility.

There are also investors from other EU countries (German RWE invested in the Netherlands; Swedish Vattenfall in Germany). For these cases 22 Member States signed an agreement to make the ECT inapplicable intra-EU.⁴² Nevertheless, investors from Sweden, Hungary and other Member States that did not sign the agreement, might still be able to use this basis in the ECT to get compensation when closing a coal-fired power plant, but this will depend on the circumstances of each individual case.⁴³ We will now turn to two Member States to illustrate the issue.

3. THE EXAMPLE OF THE NETHERLANDS⁴⁴

3.1. INTRODUCTION

The Dutch Parliament agreed to a motion in 2015 to phase out all coal-fired power plants in the Netherlands.⁴⁵ Coincidentally, this was the same year that

⁴² See for this agreement: https://ec.europa.eu/info/sites/info/files/business_economy_euro_banking_and_finance/documents/190117-bilateral-investment-treaties_en.pdf, which was proposed after Case C-284/16 *Slovak Republic v Achmea* 6 March 2018.

⁴³ In Sweden, the *Novenergia II* case is pending by the Svea Court of Appeal in which the applicability of the ECT is discussed, see: www.italaw.com/cases/6613.

⁴⁴ This section is partly based on Lolke Braaksma, Kars de Graaf and Martha Roggenkamp, "Afscheid van kolen(centrales): waar een wil is, is een wet?," *Ars Aequi* 2019/68, 6, pp. 449–458.

⁴⁵ With the passing of the motion Van Veldhoven and Van Weyenberg (*Parliamentary Papers II* 2016/17, 34627, No. 15, p. 12), the Dutch government committed to shut down all coal-fired power plants. This obligation is – however – not bound to a specific date.

the share of electricity produced with coal as the primary fuel was the highest it had ever been, totalling 35.3 per cent of actual production.⁴⁶ At that time, 10 coal-fired power plants were relevant in the Netherlands. Five plants were built in the 1970s and 80s, and would be closed soon,⁴⁷ two dated from the 1990s and three plants were permitted in 2007 and only became fully operational in 2015/2016. These last five coal-fired power plants currently provide almost 1500 jobs and account for a large part of the Dutch electricity production, but will all be closed before 2030 when the Bill “Prohibiting the Use of Coal in Electricity Production” is adopted.⁴⁸ This Bill was proposed in order to follow up on the Paris Agreement and in that light, to achieve a 49 per cent CO₂ emission reduction by 2030 compared to 1990 levels.⁴⁹

3.2. BACKGROUND

The Netherlands has a long history of using coal as an important domestic energy source.⁵⁰ Not only that, the Netherlands had vast coal mining production in its most southern province, Limburg, which lasted until 1974.⁵¹ By that time, fundamental changes had taken place, such as the discovery of the largest natural gas field in Europe, the Groningen gas field in 1959 and international shifts in demand for coal and petroleum resources. After the oil and energy crises in 1973 and 1979, the Dutch government decided to reduce its dependency on gas and oil – which accounted for around 80 per cent of the total share of electricity production then – and to diversify its energy production by investing in electricity generation with coal and other fuels.⁵²

By the year 2000, the electricity production sector was fully liberalised and also predominantly privatised. As a result, there were few possibilities for government interventions in this sector.⁵³ After power outages in Northeastern America and Ontario, the Netherlands and other Member States of the

⁴⁶ Available at: <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/80030ned/table?fromstatweb>.

⁴⁷ The Amer-8, the Gelderland-13 and the Borssele-12 plants were closed in 2015 as a result of the Agreement on Energy for Sustainable Growth (het Energieakkoord) in 2013, see section 3.3 below.

⁴⁸ *Parliamentary Papers II* 2018/19, 35 167, No. 2.

⁴⁹ Ibid, pp. 1–3. The Dutch government set a higher target than the EU target of 40% CO₂ emission reduction by 2030 and strives to achieve a 55% CO₂ emission reduction by 2030. The Bill is also important to achieve the 2020 goals, see paragraph 3.4.

⁵⁰ Roggenkamp, Redgwell, Rønne and del Guayo, p. 726. The base-load of electricity in the Netherlands is primarily supplied by a mixture of coal-, nuclear- and gas power plants.

⁵¹ *Parliamentary Papers II* 1965/66, 8424, No. 2; *Parliamentary Papers II* 1969/70, 10312, No. 2.

⁵² See: *Parliamentary Papers II* 1979/1980, 15 802 No. 8, p. 2; *Parliamentary Papers II* 1979/1980, 15 802 No. 11 and 12, pp. 44/45.

⁵³ Roggenkamp, Redgwell, Rønne and del Guayo, pp. 731–733.

EU in 2003,⁵⁴ the Dutch government wanted to know whether the security of supply in the Netherlands was sufficiently guaranteed in the future. In 2003, the then Minister of Economic Affairs (L.J. Brinkhorst) sent a letter to the House of Representatives concerning the Security of Energy Supply.⁵⁵ In this letter, the Minister mentioned the possibility that there could be an increasing structural shortage of domestic means of production relative to domestic demand after 2007. Taking into account the rising demand for electricity (around 2 per cent per year at that time), the limited growth of Dutch production capacity and the expected supply and demand developments elsewhere in the EU, the Minister concluded that large investments in the electricity production sector were needed to secure future security of supply. A new policy implementing this strategy was laid down in the Energy Reports of 2005 and 2008.⁵⁶

Both Energy Reports concluded that the construction of new power plants, including coal-fired power plants, is inevitable. In addition, the Dutch government pointed out that realising new coal-fired power plants would not conflict with existing environmental and climate policies, as these power plants would be accompanied by the capture and permanent geological storage of CO₂ (CCS), thus neutralising their environmental impact in the near future.⁵⁷

The policy in the Energy Reports to invest more in the electricity production sector has been successful to construct new power plants, including coal-fired power plants. A number of the planned coal-fired power plants would be required to invest in CCS or participate in demonstration projects for CCS. In the end, the decision-making processes for three new coal-fired power plants were completed in 2007, two on the Maasvlakte Rotterdam (Engie and Uniper) and one at the Eemshaven in Groningen (RWE).⁵⁸ These plants became operational in 2015/2016 and are capable of co-firing biomass, but were met with continuous opposition. The decision-making processes were met with continuous opposition.⁵⁹ However, given the absence of an electricity production license

⁵⁴ See for example: <http://edition.cnn.com/2003/US/08/14/power.outage/>.

⁵⁵ In Dutch: “Voorzienings- en leveringszekerheid van Energie”; *Parliamentary Papers* 2002/03, 29 023, No. 1, p. 4. This position is reiterated by the Minister in a letter to the House of Representatives, see: *Parliamentary Papers II* 2003/04, 29 023, No. 4, p. 5.

⁵⁶ *Parliamentary Papers II* 2004/05, 29 023, No. 14 (Attached file); *Parliamentary Papers II* 2007/08, 31 510, No. 1.

⁵⁷ *Parliamentary Papers II* 2007/08, 31 510, No. 1 (Attached file), pp. 11–13.

⁵⁸ *Parliamentary Papers II* 2006/07, 28 240 and 29023, No. 77.

⁵⁹ See for example: <https://www.nrc.nl/nieuws/2007/07/04/die-kolencentrales-zijn-niet-nodig-11352350-a624911>. And several procedures at the court, see for example: The Administrative Jurisdiction Department of the Council of State (*Afdeling Bestuursrecht van de Raad van State*), 30 November 2011, ECLI:NL:RVS:2011:BU6363.

in Dutch legislation, or any other legal basis to directly influence the primary energy source used, a legal basis to deny the request to develop a coal-fired power plant was, and still is (largely) missing in the Netherlands.⁶⁰

The idea of combining the new coal-fired power plants with CCS (onshore) was later abandoned because of the cost of CCS in relation to the price of CO₂ emission allowances under the EU ETS and because underground storage of CO₂ on land has become virtually impossible because of societal and political opposition.⁶¹

3.3. PHASING OUT COAL-FIRED POWER PLANTS: SOCIETAL AND LEGAL DEBATE

In order to reach the EU 2020 targets, the Dutch government together with 47 organisations, concluded the Agreement on Energy for Sustainable Growth (*het Energieakkoord*) in 2013,⁶² resulting in a variety of measures to reduce CO₂ emissions and increase the share of renewable energy sources and also energy efficiency.⁶³ At that moment, the share of renewable energy was just 4.5 per cent of total energy consumption, lagging behind most other Member States.⁶⁴ Closing the (older) coal-fired power plants which dated from the 1970s and 1980s was included as one of the measures mentioned in the Energieakkoord.⁶⁵ The agreement also included ambitions to create 15,000 new jobs and to provide education- and work-to-work facilities for employees who lost their jobs as a result of the closure.⁶⁶

The legal basis for the closure of these power plants was found in the Dutch Environmental Protection Act (*Wet milieubeheer*). The Dutch government imposed stricter efficiency requirements for industrial power plants running on coal or a combination of coal and other fuels, leading to a shutdown of these “older” coal-fired power plants, which could not achieve an energy efficiency rate of 40 per cent.⁶⁷

⁶⁰ It can be questioned whether the Electricity Directive has been transposed correctly in the Netherlands by not including a legal basis to deny a permit requested for building a coal-fired plant (see section 2.2 above).

⁶¹ See also chapter 20 in this book.

⁶² The Agreement on Energy for Sustainable Growth can be found on: www.energieakkoordser.nl.

⁶³ Ibid, p. 29.

⁶⁴ Ibid, p. 2.

⁶⁵ Ibid, pillar 6.

⁶⁶ Ibid, pillar 8.

⁶⁷ See Article 5.12a(3) and Article 5.14(1) of the Activities Decree (*Activiteitenbesluit*). This rate was first upped to 38 per cent by 1 July 2017, and became 40 per cent after that date.

Despite the Energy Agreement, the process to implement measures to reach the climate goals was still deemed insufficient by many, including the non-governmental organisation (NGO) Urgenda, which filed a lawsuit against the Dutch government. The result is the world-renowned *Urgenda* case, in which the District Court in The Hague ordered the Netherlands to reduce CO₂ emissions by 25 per cent by the end of 2020 compared to emission levels in 1990.⁶⁸ This decision was upheld by the Appeal Court in The Hague in 2018 and is cause for concern for the Dutch government. The Environmental Assessment Agency (*Planbureau voor de Leefomgeving*) projected that binding energy and climate targets, including the decision in the *Urgenda* case to reduce CO₂ emission by 25 per cent by the end of 2020, were not going to be met.⁶⁹ In order to comply with the *Urgenda* verdict, the Dutch government announced it would take additional measures for the short term, including a 28 million Euros subsidy to accelerate CO₂ emission reductions in industry.⁷⁰

On 28 May 2019, the Dutch Climate Act (*Klimaatwet*)⁷¹ was approved by the Dutch Senate which sets a dot on the horizon: a binding obligation to reduce greenhouse gas emissions by 95 per cent in 2050 in comparison with 1990 levels, with an intermediate target in 2030 of 49 per cent reduction (article 2(1) and article 2(2) Climate Act).⁷² On 28 June 2019, the Dutch government has presented its definitive national Climate Agreement (*Klimaataakkoord*) to parliament. This agreement functions as the Dutch strategy to achieve the intermediate target of 2030 set in the Climate Act.⁷³

In order to achieve the new and intensified climate goals, the Dutch government has agreed to phase out all remaining coal-fired power plants by 2030.⁷⁴ Although this closure is not a part of the Climate Agreement, it does (also) contribute to the 2030 targets.⁷⁵

In contrast to the five older coal-fired power plants, the decision to close the new coal-fired power plants cannot be based on stricter energy efficiency requirements, as this would be at odds with EU regulations. As discussed above,

⁶⁸ Court of The Hague (*Rb. Den Haag*) 24 June 2015, ECLI:NL:RBDHA:2015:7145; see for a comprehensive overview of this case: Roy Suryapratim, 'Distributive Choices in Urgenda and EU Climate Law' in Martha M Roggenkamp and Catherine Banet (eds), *European Energy Law Report XI* (Cambridge, Intersentia 2017), pp. 47–68.

⁶⁹ The Hague Court of Appeal (*Gerechtshof Den Haag*) 9 October 2018, ECLI:NL:GHDHA:2018:2591; *Parliamentary Papers II* 2018/19, 32 813, No. 267.

⁷⁰ *Parliamentary Papers II* 2018/19, 32 813, No. 341; *Governmental Gazette* 2019, 37 424.

⁷¹ *Governmental Gazette* 2019, 253.

⁷² These obligations cannot be enforced before a court, but are binding for the Dutch government.

⁷³ See the Climate Agreement, to be found at: www.klimaataakkoord.nl, p. 4.

⁷⁴ This is stipulated in the latest government agreement 2017–2021 "Vertrouwen in de toekomst", literally translated as: "trust in the future", to be found at: www.kabinetsformatie2017.nl, p. 38.

⁷⁵ See the Climate Agreement, to be found at: www.klimaataakkoord.nl, p. 149.

the IE Directive requires that emission limit values in the environmental permit are based on the application of the BATs, which must be technically and economically feasible. Imposing stricter energy efficiency rates than the 44 per cent mentioned in the BREF LCP (see section 2.3 above) is therefore not an option.⁷⁶ These newest plants are the most efficient coal-fired power plants ever constructed.⁷⁷ The Dutch government thus had to find another route to phase out the remaining five coal-fired power plants, which will be discussed below.

3.4. THE BILL “PROHIBITING THE USE OF COAL IN ELECTRICITY PRODUCTION”

The Dutch government issued a draft legislative proposal on the “Prohibition on the Use of Coal in Electricity Production” (hereinafter: the Bill), which was published online for public consultation in May 2018.⁷⁸ On 4 July 2019, a new version of the Bill was approved by the House of Representatives, which is currently under debate in the Dutch Senate.⁷⁹ This Bill bans the use of coal as a primary fuel for electricity production and will not only apply to coal-fired power plants that make use of coal but also to power plants that use coal in combination with biomass and plants that use coal in combination with CCS.⁸⁰

The prohibition will become immediately effective once the Act comes into force in 2020.⁸¹ Nevertheless, the Bill does provide for transitional periods based on the electrical efficiency rates of the coal plants.⁸² In total, three categories can be identified. The first category consists of coal-fired power plants, which have an electrical efficiency rate of less than 44 per cent. These plants need to be closed before 1 January 2025.⁸³ Coal-fired power plants with an electrical efficiency rate of over 44 per cent fall into the second category and need to be closed before 1 January 2030.⁸⁴ The last (third) category is specifically

⁷⁶ With the exception of article 18 of the IE Directive, see section 2.2 above.

⁷⁷ Prescribing stricter emission limit values in the environmental permit would be at odds with the system in the ETS Directive (see section 2.2 above).

⁷⁸ In Dutch the: “Wet verbod op kolen bij elektriciteitsproductie”. To be found at: www.internetconsultatie.nl/kolencentrales. *Parliamentary Papers* II 2017/18, 32 813, No. 600. A (non-official) translation of the Act can be found at: ec.europa.eu.

⁷⁹ See: https://www.eerstekamer.nl/wetsvoorstel/35167_wet_verbod_op_kolen_bij for the current state of affairs.

⁸⁰ Article 2 of the Bill.

⁸¹ Ibid.

⁸² Electrical efficiency is the ratio between the net electricity revenue and the energy input of a specific fuel/raw material, in this case coal. See the decision dated 31 July 2017 of the European Commission, No. 2017/1442, table 2. The energy efficiency is calculated when the coal plant is operated at maximum capacity, which is often not the case, and the efficiency is less when operated at sub maximum capacity.

⁸³ Article 3(1)(a) of the Bill.

⁸⁴ Article 3(1)(b) of the Bill.

designed for the older Hemwegcentrale and requires this plant to shut down by 1 January 2020 in an effort by the Dutch government to comply with the *Urgenda* verdict.⁸⁵ The Dutch Emission Authority (*Nederlandse Emissieautoriteit*) has to monitor whether the plants will comply with the scheduled phase-out, which is supplemented with a legal basis for the Minister of Economic Affairs and Climate to enforce the prohibition by issuing penalty payments.⁸⁶

Article 4 of the Bill provides a possibility for the Minister to award financial compensation to the owner of a coal-fired power plant when it can demonstrate that it is affected disproportionately by the prohibition compared to the other owners. Whether this article complies with article 1 First Protocol and article 13(1) ECT, is not yet clear.⁸⁷ According to the Dutch government, there is no need to compensate the owners on the basis of article 1 First Protocol, as there is no disproportionality between the general interest in closing the coal-fired power plants and the interest of the owners in operating their coal-fired power plants.⁸⁸ In the Explanatory Memorandum of the Bill, the government substantiates this claim by arguing that this interference in the property rights falls within the margin of appreciation of Member States to determine whether a fair balance is struck.⁸⁹ This is the case according to the government, as the premature closure has been foreseeable since 2005 when the Energy Report stated that further CO₂ reduction measures would be implemented within 10 years.⁹⁰ Next to that, a transitional period has been granted, to allow the owners of the three recently built coal-fired power plants to earn back part of their investment, as well as the possibility to switch to other fuels – such as biomass – that are supported by the SDE+ subsidy.⁹¹ This again, is different for the Hemwegcentrale. The government is currently in discussion with the owner of this plant to agree on the amount of compensation as the transitional period of this plant is significantly shorter than that of other plants.⁹²

This Bill is – not entirely surprisingly – met with resistance from the owners⁹³ and employees of the plants involved.⁹⁴ In the Climate Agreement, the government states that a “coherent and future-oriented approach” is required

⁸⁵ *Parliamentary Papers II* 2018/19, 35 167, No. 3, p. 13.

⁸⁶ Article 5 and article 6 of the Bill; *Parliamentary Papers II* 2018/19, 35 167, No. 3, para 9.

⁸⁷ See the advice of the Advisory Division of the Council of State, *Parliamentary Papers II* 2018/19, No. 4; See also: J.A.M.A. Sluysmans, “Compensatie voor kolencentrales” (2019) 119, *Tijdschrift voor Bouwrecht*.

⁸⁸ *Parliamentary Papers II* 2018/19, 35 167, No. 3, p. 13.

⁸⁹ *Ibid.*

⁹⁰ *Ibid.*, p. 19.

⁹¹ Switching to other fuels, such as gas or hydrogen is also possible. See section 3.3 above.

⁹² *Parliamentary Papers II* 2018/19, 32 813, No. 303.

⁹³ These reactions can be found at: www.internetconsultatie.nl/kolencentrales/reacties.

⁹⁴ See for example: <https://nos.nl/artikel/2168068-eigenaar-kolencentrale-wil-stoppen-met-steenkool.html>.

to enable employees working in the fossil fuel sector to transition to other economic sectors.⁹⁵ A special committee has been assigned by the Dutch Socio-Economic Council (*Sociaal-Economische Raad*) to investigate and advise on the possibilities and risks for such a transition. Alongside that, the Government announced that 22 million Euros will be made available for work-to-work guidance and education of people who might lose their jobs in the fossil fuels sectors.⁹⁶

3.5. CONCLUSION ON THE NETHERLANDS

Not so long ago, the Dutch government pursued a policy aimed at obtaining new investments in electricity production capacity and diversification of primary energy sources. This policy resulted in the realisation of three new coal-fired power plants. Since then, social and political ideas have shifted quickly leading to the Bill “Prohibiting the Use of Coal in Electricity Production” to end the use of coal as a primary fuel for electricity production in the Netherlands before 2030. Questions remain. Is, for example, the closure of the ultra-modern coal-fired power plants that became operational in 2015/16 a good idea from an EU point of view? National CO₂ emission reductions as a result of this measure might be emitted elsewhere in the EU by less clean and efficient power plants under the EU ETS cap and trade system. Decommissioning the Dutch coal-fired power plants would be a purely nationally oriented measure in this regard. It is known that gas-fired power plants will help to secure the future Dutch security of energy supply, but where will this primary fuel come from when the gas extractions from the Groningen fields are expected to be halted in 2022?⁹⁷ Another question is whether the owners of, and investors in, the coal-fired power plants will receive financial compensation when the Bill is passed.⁹⁸ As can be seen, a lot is still unknown. One thing, however, remains

⁹⁵ This letter can be found at: <https://www.rijksoverheid.nl/ministeries/ministerie-van-economische-zaken-en-klimaat/documenten/kamerstukken/2019/06/28/kamerbrief-voorstel-voor-een-klimaatakkoord>, p. 20.

⁹⁶ To be found at: <https://www.rijksoverheid.nl/actueel/nieuws/2019/06/13/kabinet-trekt-ruim-20-miljoen-uit-voor-werkgelegenheidseffecten-energietransitie>.

⁹⁷ To be found at: <https://www.rijksoverheid.nl/documenten/kamerstukken/2019/09/10/kamerbrief---gaswinningsniveau-groningen-in-2019-2020>. See: <https://www.reuters.com/article/us-netherlands-gas/netherlands-to-halt-groningen-gas-production-by-2022-idUSKCN1VV1KE>.

⁹⁸ Solutions in this regard are to smarten the grid and promote more storage options, see e.g. Lea Diestelmeier, *Unlocking Flexibility with Law: developing a Legal Framework for Smart Electricity Systems*, Thesis, Rijksuniversiteit Groningen 2019. See on the role of gas-power plants in the Netherlands: Martha M Roggenkamp, ‘Reducing Gas Production from the Groningen Field: The Need to Balance Safe Production with Supply Security’ in Martha M Roggenkamp and Catherine Banet (eds), *European Energy Law Report Volume XI* (Intersentia, Cambridge 2017), pp. 301–316.

clear: the days of the last five coal-fired power plants in the Netherlands are numbered once the Bill is adopted.

4. THE EXAMPLE OF GERMANY

4.1. INTRODUCTION

It might come as a surprise to some that Germany, well-known for its energy transition, has been (and still is) a coal country, with respect to both production and usage of coal. In 2018, more than one-third of electricity generation in Germany was still based on coal.⁹⁹ Some 146 terawatt-hours of that came from lignite, the most polluting form of coal. At the same time 20,800 people were working in the lignite industry alone and more than 50 per cent of employees are 50 years and older, making them very vulnerable in case of redundancies.¹⁰⁰

However, redundancies are very likely in the German coal sector in the near future. Germany is obliged to achieve the climate goals at international and European level that have been discussed earlier in this chapter. But in addition, Germany also fixed targets at the national level for the time-horizons 2020, 2030 and 2050 that are even more ambitious than those of the EU or the international community. Germany set itself the goal to achieve 40 per cent emission reduction compared to 1990 levels by 2020.¹⁰¹ Germany also has specific 2030 aims, that are designed for sectors not currently covered by the EU ETS (so called non-EU ETS sectors) and that come on top of EU commitments. In particular, Germany needs to reduce greenhouse gas emissions by 55 per cent by 2030 compared to 2005 levels under this policy.¹⁰² Finally, Germany unilaterally decided on certain reductions by 2050 in its “Klimaschutzplan 2050” of 2016: until 2050 80–95 per cent of greenhouse gas emissions, compared to 1990 levels, need to be reduced nationally.¹⁰³

⁹⁹ Bundesministerium für Wirtschaft und Energie, “Rahmen und nächste Schritte für die Kohleausstiegsgesetzgebung”, available at: https://www.bmwi.de/Redaktion/DE/Downloads/P-R/rahmen-und-naechste-schritte-kohleausstiegsgesetzgebung.pdf?__blob=publicationFile&v=10 (hereinafter: Next Steps).

¹⁰⁰ Umweltbundesamt, “Beschäftigungs-entwicklung in der Braunkohleindustrie: Status quo und Projektion”, available at: https://www.umweltbundesamt.de/sites/default/files/medien/3521/publikationen/2018-07-25_climate-change_18-2018_beschaeftigte-braunkohleindustrie.pdf, p. 11.

¹⁰¹ Energiekonzept für eine umweltschonende, zuverlässige und bezahlbare Energieversorgung, 28 September 2010, p. 4, available at: <https://archiv.bundesregierung.de/resource/blob/656922/779770/794fd0c40425acd7f46afacbe62600f6/energiekonzept-final-data.pdf?download=1>.

¹⁰² Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit, “Klimaschutzplan 2050”, p. 7, available at: https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Klimaschutz/klimaschutzplan_2050_bf.pdf.

¹⁰³ Ibid.

4.2. BACKGROUND

Coal mining is not simply relevant for German electricity production. It is deeply entrenched in German culture, society and politics. “*Glück Auf*”, the traditional greeting of coal miners, is used as a way to say hello or wishing success in some parts of Germany. “*Der Steiger kommt*”, a traditional coal-miners song, is used by (amongst others) Schalke 04 and Erzgebirge Aue, two major football clubs from West and East Germany, as club anthem.¹⁰⁴ This epitomises how coal mining culture can unite an otherwise often still separated country. But it does not stop at football: even one of the two parties that are forming the current German government is using the song in its party gatherings to create a sense of community. Two crossed hammers, the symbol of coal mining in Germany, are used to sell beer, as an emblem for music bands and even (in gold) on wedding rings.

In a country that features very little domestic gas reserves and even less oil, coal was the only energy source that could be produced domestically for two centuries, enabling a country that is otherwise scarce of natural resources to get a glimpse of what energy security means. During the peak of the “Cold War” (1962–1979), coal was used to reassure the German population that, in case of extreme crisis, energy independence might be possible.

4.3. SOCIETAL DEBATE

Coal has always been the number one source of base-load electricity in Germany. It also served as the backbone of West German industry, which settled in the *Ruhrgebiet* precisely because of its vast coal reserves. The *Ruhrgebiet* also forms the most prominent part of the biggest of the 16 German *Länder*, North-Rhine Westphalia. This meant that coal always played a central role in West German politics. However, this was by no means restricted to the West. In the former DDR¹⁰⁵ (East Germany) coal was also produced in bulk and viewed as a vital “enabler” of the creation of industrial production in East Germany. The fact that several *Länder* both in East and West Germany have traditionally been “coal producing areas” makes them key players and movers/shakers in the current legal set-up concerning the German coal phase-out, as will be discussed throughout this part of the chapter.

¹⁰⁴ Emotional accounts of what this is looking like can be obtained for Erzgebirge Aue at: <https://www.youtube.com/watch?v=08eCUENnePM> and Schalke 04 at: <https://www.youtube.com/watch?v=zrxUOnDyHjc>.

¹⁰⁵ Deutsche Demokratische Republik, the official name of East Germany until 1989.

Other than nuclear power, which has been controversial for its environmental impacts in Germany since the 1980s,¹⁰⁶ coal has mainly been controversial because of its economics and costs, not (at least not until very recently) because of its environmental footprint. The “war” about domestic coal production that raged in the late 1980s and early 1990s in many European countries, like the UK also reached Germany. However, unlike the Thatcher-government in the 1980s that embarked on a confrontational course with the aim of ending domestic coal production in the UK,¹⁰⁷ Germany opted for a smoother transition. It decided to heavily subsidise the domestic German coal industry and stretch the phase-out of uneconomic domestic hard coal production over 30 years, from 1989 to the end of 2018. On 21 December 2018 the German President, Frank-Walter Steinmeier was present when the coal mine “*Prosper Haniel*” produced the last German hard coal.¹⁰⁸ This approach of gradually lowering production over decades has nevertheless been seen as a success, setting the traditional coal-producing country Germany apart from other traditional coal-producing countries such as the UK, where the phasing out of domestic coal production led to societal unrest and protests.¹⁰⁹

4.4. LEGAL DEBATE

While the debate over the final phase-out of coal-fired power plants and lignite coal has been present in some areas of society for a decade now, no government dared to touch the toxic issue until very recently, in order not to anger German voters that are proud of their remaining pieces of coal industry. However, in the run-up to the last German general elections, the pan-European movement towards a final coal phase-out also reached Germany and politicians were no longer able to simply ignore this. After the troubled elections of September 2017, it took almost half a year for German parties to create a new government. When the new government was finally installed, the coalition agreement postponed or circumvented some of the most contentious issues, such as the coal phase-out. The government “outsourced” the decision about coal to an expert

¹⁰⁶ Christian Joppke, *Mobilizing Against Nuclear Energy: A Comparison of Germany and the United States* (University of California Press, Berkeley 1993), pp. 91 et seq.

¹⁰⁷ Earl A. Reitan, *The Thatcher Revolution* (Rowman & Littlefield Publishers, Oxford 2003), p. 61 et seq (hereinafter: Reitan).

¹⁰⁸ Bundespräsidialamt, “Zentrale Abschiedsveranstaltung für den deutschen Steinkohlenbergbau”, available at: <https://www.bundespraesident.de/SharedDocs/Reden/DE/Frank-Walter-Steinmeier/Reden/2018/12/181221-Abschied-Steinkohlebergbau.html%22>.

¹⁰⁹ Reitan, above n. 107, pp. 61 et seq.

commission, the government's commission on "growth, structural transformation and employment", colloquially referred to as the "Coal Commission". It consisted of all relevant societal stakeholders, from environmental NGOs and Trade Unions to the energy industry,¹¹⁰ and was asked to come up with a suggestion for Germany's coal phase-out. The idea behind it was to organise the phase-out of domestic lignite coal production and coal-fired power plants along the lines of the successful earlier phase-out of hard coal. It would be organised in one big societal effort where all stakeholders, from industry to environmental activists, from coal miners to Prime-Ministers of the *Länder*, agree to one big compromise.¹¹¹

Importantly, the *Länder* also participated in the coal commission. While their formal role was similar to that of other stakeholders, they were at the very least *primus inter pares*. This specific role is anchored in German law, or more specifically in the German constitution (*Grundgesetz*). Article 74 No. 11 of the German constitution includes the right to regulate the mining sector and energy activities. This right is shared (or as it is more aptly called in the German jurisdiction: "competing") between the federal government (*Bund*) and the *Länder*. The general rule is that *Länder* have the general right to regulate these areas, according to article 72(1) German constitution. This right is subject to the condition that the federal government has not used its law-making competence in the respective area. The competence of the federal government, however, is curtailed by article 72(2) German constitution, which prescribes that the federal government can only act if and to the extent that similar living conditions in all parts of the country or the preservation of legal and economic unity of the country requires a federal act. A substantial part of public law education at German universities is dedicated to the correct interpretation of these conditions. For this chapter, however, it suffices to say that the *Länder* are in a strong position when it comes to mining law and a coal phase-out would not be possible without their place.

The Coal Commission started working on 6 June 2018 and published its final report and recommendations in January 2019.¹¹² While these recommendations are not legally binding, the German government issued a document on 3 July 2019 in which it pledged to act accordingly.¹¹³ According to this information,

¹¹⁰ "Kommission, Wachstum, Strukturwandel und Beschäftigung – Abschlussbericht" (Bundesministerium für Wirtschaft und Energie, Berlin 2019), pp. 6–7, available at: https://www.bmwi.de/Redaktion/DE/Downloads/A/abschlussbericht-kommission-wachstum-strukturwandel-und-beschaeftigung.pdf?__blob=publicationFile (hereinafter: Final Report).

¹¹¹ Ibid, pp. 6–7.

¹¹² Ibid.

¹¹³ Bundesministerium für Wirtschaft und Energie "Rahmen und nächste Schritte für die Kohleausstiegsgesetzgebung", available at: https://www.bmwi.de/Redaktion/DE/Downloads/P-R/rahmen-und-naechste-schritte-kohleausstiegsgesetzgebung.pdf?__blob=publicationFile&v=10 (hereinafter: Next Steps).

the German government is currently translating the recommendations into a Bill that will be presented to the German parliament by the end of 2019/beginning of 2020.¹¹⁴

Very broadly speaking, the measures are twofold. One part is dealing with the technicalities of actually ending electricity production from coal-fired power plants, while other measures are concerned with structural, monetary support for those *Länder* where the coal-fired power plants are located (again, showing the important leverage of the *Länder* in this process). The latter part is, to some extent, also a political decision to ease resistance amongst coal-producing regions, because their approval will be required in the second chamber of parliament (*Bundesrat*), due to the competing legislative competence for mining, as discussed earlier. It is the aim of the Coal Commission to create a broad societal consent, also including the energy companies, to avoid expropriation claims.¹¹⁵ Below is a list of the most important recommendations.

4.4.1. *Final End Date 2038*

The main recommendation of the Coal Commission is to phase out electricity production from coal in Germany by 2038 at the latest.¹¹⁶ However, the Commission also considers 2035 as the possible end date, subject to technological and economic developments. The developments and the exact end date will be reassessed in 2032.¹¹⁷

4.4.2. *Gigawatts Count, not Power Plants*

The Coal Commission is suggesting a quick start of the phase-out. In 2017, a total of 42 gigawatts of electricity produced from coal-fired power plants were made available to the market (20 gigawatts from lignite-fired plants and 22 gigawatts from hard-coal-fired plants).¹¹⁸ In addition there was the German electricity capacity reserve that consisted of 4.3 gigawatts of electricity, produced from coal, that were not made available to the market.¹¹⁹

¹¹⁴ Ibid.

¹¹⁵ Ibid, p. 2.

¹¹⁶ Final Report, p. 65.

¹¹⁷ Ibid.

¹¹⁸ Kraftwerksliste Bundesnetzagentur (bundesweit; alle Netz- und Umspannebenen), Stand: 19.11.2018; Anlagen "in Betrieb zzgl. Endgültig stillgelegt 2018".

¹¹⁹ The capacity reserve has been installed by an ordinance of the German government of 28 January 2019 (*Kapazitätsreserveverordnung*), available at: https://www.bgbl.de/xaver/bgbl/start.xav#_bgbl_2F2F2F5B40attr_id%3D27bgbl119s0058.pdf275D1568192101617.

In 2022 coal-fired power plants with a capacity of 12.7 gigawatts will be switched off.¹²⁰ Until 2030, only those with a 17 gigawatts capacity shall remain in production; by 2038 this number must come down to 0.¹²¹ However, the recommendations leave it to politicians to negotiate with the plant owners which plants have to go first and which last. In theory Germany's climate goals for 2030 could be met with this compromise, but because there is no detailed road map for the period between 2022 and 2030, a situation could occur where a significant number of power plants are switched off "at the last minute" by 2029 to meet the 17 gigawatts obligation in 2030. This practice, however, would likely result in a situation where Germany misses its 2030 climate goals, as such "last minute" decisions might not result in a timely phase-out.

4.4.3. *Electricity Price shall be Stabilised*

The Coal Commission recommends that end consumers should not be burdened with the cost of the coal phase-out. Taking coal-fired power plants off the electricity markets is anticipated to shorten the supply of electricity and wholesale electricity prices could soar as a result.¹²² This shall be countered by an increase in electricity production from renewable energy sources. However, this production is associated with additional, different costs, for instance concerning grid-extension.¹²³ These increasing costs would need to be borne by transmission and distribution system operators, who, however, could pass these costs on to the final consumer (industry but also household consumers) in the form of increasing transmission/distribution grid charges. To prevent burdening end consumers of electricity with these costs, the Coal Commission recommends a subsidy. From 2023 onwards private and industrial end consumers shall receive a subsidy from the government to ease the increase in grid charges. The Commission suggests that 2 billion Euros per year will be necessary.¹²⁴

This raises the issue whether such a subsidy could be classified as state aid, and if the answer is yes, then the next question would be whether such state aid is allowed or illegal under EU and German law. This would heavily depend on the concrete guise of the subsidy. The Commission appears to be very aware of this issue and remains vague on what exactly is planned. The Final Report of the Coal Commission advocates a government subsidy or an "alternative measure of equal effect".¹²⁵ Parliament, when translating this into a law, will face substantial challenges not to infringe state aid rules.

¹²⁰ Final Report, p. 62.

¹²¹ Ibid, pp. 63–64.

¹²² Ibid, p.66.

¹²³ Ibid.

¹²⁴ Ibid.

¹²⁵ Ibid.

4.4.4. *Structural Transformation*

One of the burning issues for those *Länder* with considerable coal reserves is what comes after coal? A contract between the national and *Länder* governments is envisaged by the Coal Commission, in which the federal government pledges to give a total of 40 billion Euros to the *Länder* in addition to current subsidies to keep workers going (1.3 billion Euros every year – for a period of 20 years).¹²⁶ This money shall be used to realise measures that are listed in a chapter in the Final Report.¹²⁷ Measures are specific and tailor-made for the respective coal-mining districts and include mobility and digitalisation projects to improve physical and digital infrastructure with the aim to get new investors into the region.¹²⁸

4.4.5. *Avoid Expropriation Claims*

The (largely) successful approach of the hard coal and nuclear phase-outs, to create a consensus with companies to avoid expropriation claims, shall be replicated.¹²⁹ The Commission, thus, recommends coming to a negotiated solution with the power plant owners. During these negotiations compensation is one of the options on the table, but legal challenges afterwards should be avoided as much as possible. The government and parliament now have to make up their mind on how exactly this is supposed to take place, as the Commission did not provide further details.

4.5. CONCLUSION ON GERMANY

While the Coal Commission finished its work, the government and parliament will have to put this compromise into a legally binding document and execute it. However, signs are emerging that pushing the compromise through in its current form could be difficult. The debate on whether 2038 as an end date is too late is rife in Germany. The Fridays for Future movement is creating a lot of pressure to fast-forward the end date for the phase-out of electricity produced from coal in Germany. Increasingly, politicians from the entire political spectrum are

¹²⁶ Bundesregierung, “Der Einstieg in den Kohleausstieg”, available at: <https://www.bundesregierung.de/breg-de/aktuelles/der-einstieg-in-den-kohleausstieg-1574264>.

¹²⁷ Final Report, chapter 5.

¹²⁸ Ibid, pp. 73–81.

¹²⁹ One exception is Vattenfall, which launched expropriation claims in the context of the German nuclear phase out, both before the German Constitutional Court and in international arbitration fora, see BVerfGE 1 BvR 2821/ 11, 1 BvR 1456/12, 1 BvR 321/12; ICSID Case No. ARB/12/12.

trying to tap into these sentiments, demanding an earlier end date for the coal phase-out in Germany.¹³⁰ All in all, the debate in Germany is slowly progressing and legally binding decisions are expected by the end of 2019 or the beginning of 2020.

5. CONCLUSION

The phase-out of coal as a primary fuel for electricity production purposes is starting in some countries. The assessment of the process in two EU Member States, the Netherlands and Germany, flagged up four broader legal observations.

First, Member States and not the EU are in charge of deciding on a coal phase-out. While it might be tempting for proponents of such a coal-phase out to demand a “European solution”, we found that the EU likely lacks the competence to directly impose a coal phase-out upon Member States. In secondary EU law, there are a number of instruments touching upon certain aspects of coal-usage for the production of electricity, but there is also no EU Directive or Regulation (the two most important, legally binding EU law instruments for energy regulation) that would address a coal phase-out directly. As a consequence, the Member States are in charge when it comes to the use of coal and a potential phase-out of coal to reach the EU climate targets.

Second, the regulation of coal as a primary energy source for electricity production is strongly dependent on political trends – which might be reversed at very short intervals. The Netherlands has taken a kind of “flip-flop” approach towards coal. While coal was seen as a great opportunity around the millennium, only a couple of years later sentiment changed and with it its regulation, which is now very much against the use of coal in the Netherlands. Germany’s approach to regulation was less erratic, but the downside is a protracted and more cumbersome process.

Third, when engaging in a phase-out of coal, Member States try to avoid expropriation claims. We looked at two Member States and found similar efforts in both to design the phase-out process in an all-encompassing manner that takes all relevant societal stakeholders “on board”, including the owners of coal-fired power plants. However, the litmus test will now be the design of concrete laws in both countries and the concrete measures that shall give effect to the aim of avoiding expropriation claims.

¹³⁰ Unexpected, for instance, was the current intervention of the strictly-conservative Prime-Minister of Bavaria, Markus Söder, who demanded 2030 as an end date, see *Tagesschau* “Söder will Kohleausstieg schon 2030”, available at: <https://www.tagesschau.de/inland/soeder-kohleausstieg-101.html>.

Fourth and finally, the phase-out of coal needs to be seconded by (legal) measures that enable successful transitions in those regions that rely on coal sector-related employment. Those regions tend to be neglected regions, especially in Germany, that have a long history of suffering from economic downturns. Law-makers seem to have understood the power of distributive justice instruments to organise and retain social cohesion by allocating monetary and other benefits to the people that are going to be “hit hard” by a coal phase-out.