



EU Law and Policy on Energy Security

Streamlining of Environmental Impact Assessments
for Cross-border Electricity Infrastructure

LLM in Natural Resources Law and International Environmental Law

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Abstract

Europe's energy infrastructure is undergoing a fundamental change as the completion of the EU's internal market and the increasing integration of energy from renewables place increasing demands on the technical modernisation and interconnection of national grids.

The legal framework for the construction of such energy infrastructure is provided by the 3rd Energy Package and the TEN-E guidelines. They designate a special infrastructure category – the Project of Common Interest (PCI). A project with a PCI status enjoys certain preferential treatments in the permit granting procedure in order to facilitate and accelerate the final decision-making. This is important due to the urgent need for new infrastructure and the increased need for investment security. The construction of transboundary energy infrastructure is usually subject to environmental assessments, which are comprised of the EIA Directive and the Espoo Convention.

One overarching issue of this thesis is the conflict between the security of energy supply and the protection of the environment. Against that background, the thesis investigates the EU's legal framework for the construction of energy infrastructure in general and the Commission's Guidance document on Streamlining environmental assessment procedures for energy infrastructure PCIs in particular. A special focus is placed on the question whether or not the legal framework for the permit granting of transboundary energy infrastructure PCIs takes due account of the environmental standards of EU law.

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Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
CJEU	Court of Justice of the European Union
CNG	compressed natural gas
EA	environmental assessment
EAP	Environmental Action Programme
EC Treaty	Treaty establishing the European Communities
ECJ	European Court of Justice
ECtHR	European Court of Human Rights
ed.	editor
eds.	editors
EEA	European Economic Area
EEC Treaty	Treaty establishing the European Economic Community
<i>e.g.</i>	<i>exempli gratia</i>
EIA	environmental impact assessment
ENTSO	European Network of Transmission System Operators
ENTSO-E	European Network of Transmission System Operators for electricity
ESCS Treaty	Treaty establishing the European Coal and Steel Community
ETS	Emission Trading System
EU	European Union
f	following
ff	following
GHG	greenhouse gas
<i>ibid.</i>	<i>ibidem</i>
<i>i.e.</i>	<i>id est</i>
IPCC	Intergovernmental Panel on Climate Change
Mtoe	Mega tonne of oil equivalent
NRA	National Regulatory Agency
LNG	liquefied natural gas
OPEC	Organization of the Petroleum Exporting Countries
OJ	Official Journal of the European Union
p.	page

pp.	pages
para.	paragraph
paras.	paragraphs
PCI	Project of Common Interest
RES	renewable energy sources
RBMP	River Basin Management Plan
SAC	special area of conservation
SEA	strategic environmental assessment
TEN	Trans-European Networks
TEN-E	Trans-European Energy Networks
TEU	Treaty of the European Union
TFEU	Treaty of the Functioning of the European Union
TSO	Transmission System Operator
TWh	terrawatt hour
TYNDP	Ten Year Network Development Plan
UNCED	United Nations Conference on Environment and Development
Vol.	Volume
WFD	Water Framework Directive

1 Introduction

Energy production has been a focus of the public discourse on humankind's environmental impact for a long time. This might be because its impact is often very palpable: When firewood was the major source of energy for daily life necessities, deforestation left swaths of destruction. Similarly, open pit mining can change landscapes irreversibly and destroy habitats for flora and fauna. The combustion of fossil fuels like coal and oil pollutes the local environment and in many cases causes visible smog.

In the past decades, when the focus shifted to climate change, the public even obtained a very handy unit of measurement for the environmental impact of its energy production: the Mtoe of GHG.¹ According to the Intergovernmental Panel on Climate Change (IPCC), a substantial and sustained reduction of greenhouse gas (GHG) emissions is deemed essential to combat climate change, since the release of GHG caused by human activities was proven a significant contributor.² The environmental impact of energy transmission is often less obvious, as high voltage lines usually do not turn landscapes into deserts. However, they might cause the fragmentation of habitats and lower the environmental value of an area or even impose a threat to species, for example to birds, which bear the risk of lethal collision with power lines.³

Renewable energy sources (RES), including solar, wind and hydropower, have emerged as a solution with a GHG footprint that is much lower than that of conventional sources such as fossil fuels.⁴ However, due to their special characteristics, the production of energy from RES is often tied to their natural location. The decentralization of energy production and the requirements RES place on energy infrastructure lead to an increased need for technical energy system development and energy infrastructure construction.⁵

¹ This means mega tonne of oil equivalent of greenhouse gas. Toe (tonne of oil equivalent) is a conventional standardised unit to measure different types of energy. It is based on the measurement that one tonne of oil has a value of 41 868 kilojoules/kg. See *European Commission, EU Energy in Figures – Statistical Pocketbook 2014*, Luxembourg, Publications Office of the European Union, 2014, p. 256.

² IPCC, 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, p. 15 and p. 19.

³ S. Bagli, D. Geneletti and F. Orsi, "Routeing of power lines through least-cost path analysis and multicriteria evaluation to minimise environmental impacts" in *Environmental Impact Assessment Review* 31 (2011), pp. 234f.

⁴ Commission White Paper, *Energy for the Future: Renewable Sources of Energy*, COM(97) 599 final of 26 November 1997, pp. 4f.

⁵ To adequately integrate energy from RES into the grids, it is necessary to provide the grids with smart technologies, which are able to react to volatile energy input as well as to changing energy demand. This has been underlined in Commission, *Energy Roadmap 2050*, COM(2011) 885 final of 15 December 2011, p. 15.

But the rise of RES is not the only factor contributing to a growing public interest in energy infrastructure: increasing political interconnection in the European Union (EU) requires a tight technical interconnection of the Member States' energy grids.⁶ Energy infrastructure has been described as the backbone of the internal market, and as a prerequisite for pan-European energy trade and the accessibility of energy for the EU's citizens.⁷ However, as the energy supply has been a matter of national security in the Member States before the relatively recent introduction of a common energy security policy,⁸ national energy grids have largely been developed independently and not been interconnected across national borders.⁹

Against this background, the thesis addresses the relation between energy security and environmental protection and analyses how the EU has developed its legal framework for energy infrastructure.

1.1 The current energy situation in the EU

Energy consumption within the EU increased until the 1990s,¹⁰ when growth rates suddenly stagnated and reached a stable level to this day. The European Commission publishes annual energy information which shows that consumption, including all fuels, rose by only 3%; from 1078.7 Mtoe in 1995 to 1104.5 Mtoe in 2012.¹¹ Various reasons have been suggested as responsible for this stagnation, such as improvements in energy efficiency due to technological progress, followed by increased awareness in society on how to save energy. Furthermore, many energy-intensive industries have been outsourced to areas outside the EU and are no longer included in the consumption statistics. This popular strategy, also known as *carbon leakage*,¹² gained public attention in relation to GHG emission schemes and their

⁶ Commission Green Paper, *A 2030 framework for climate and energy policies*, COM(2013)169 final of 27 March 2013, p. 5.

⁷ This expression is taken from the title of Chapter 4 in C. Sikow-Magny, "The energy infrastructure, the backbone of the internal market" in *EU Energy Law, Volume VI, The Security of Energy Supply in the European Union*, J.-A. Vinois (ed.), Claeys & Casteels 2012, pp. 61-74.

⁸ Important steps in the EU's energy security policy have been the primary law amendment of Article 194(1)(b) of the Treaty of the Functioning of the European Union, Consolidated Version, OJ C 326, 26.10.2012, pp. 47-390 (hereinafter TFEU) and the adoption of Directive 2005/89/EC of the European Parliament and of the Council of 18 January 2006 concerning measures to safeguard security of electricity supply and infrastructure investment, OJ L 33, 4.2.2006, pp. 22-27 (hereinafter Security of Electricity Supply Directive).

⁹ The Commission has referred to the isolation of certain regions from the internal energy market as "energy islands". The interconnection is deemed essential for the secure supply with energy. See Communication from the Commission, *Priority Interconnection Plan*, COM(2006) 846 final/2 of 23 February 2007, p. 5.

¹⁰ <http://ourfinetworld.com/2012/03/12/world-energy-consumption-since-1820-in-charts/> (accessed 10 December 2014).

¹¹ For the figures on final consumption, see further the *European Commission, EU Energy in Figures – Statistical Pocketbook 2014*, p. 80.

¹² The Commission refers to carbon leakage as "[...] the term often used to describe the situation that may occur if, for reasons of costs related to climate policies, businesses were to transfer production to other countries which

loopholes.¹³ As Figure 1 indicates, the today per-capita consumption in the EU is 2.3 times higher than the world average. While this is considerably high compared to less developed countries, it is rather low compared to countries with a comparable living standard, such as the USA. Within the EU, however, the deviations from the mean are considerable. The highest per capita consumption is found in northern Europe. Cold climate, small populations, and low urban density are likely contributing factors. Still, densely populated countries, located in climatically mild areas, like Luxembourg and Belgium also hold high consumption rates. Those results are often explained by relatively large transportation sectors and the overall high standards of living and technology.¹⁴

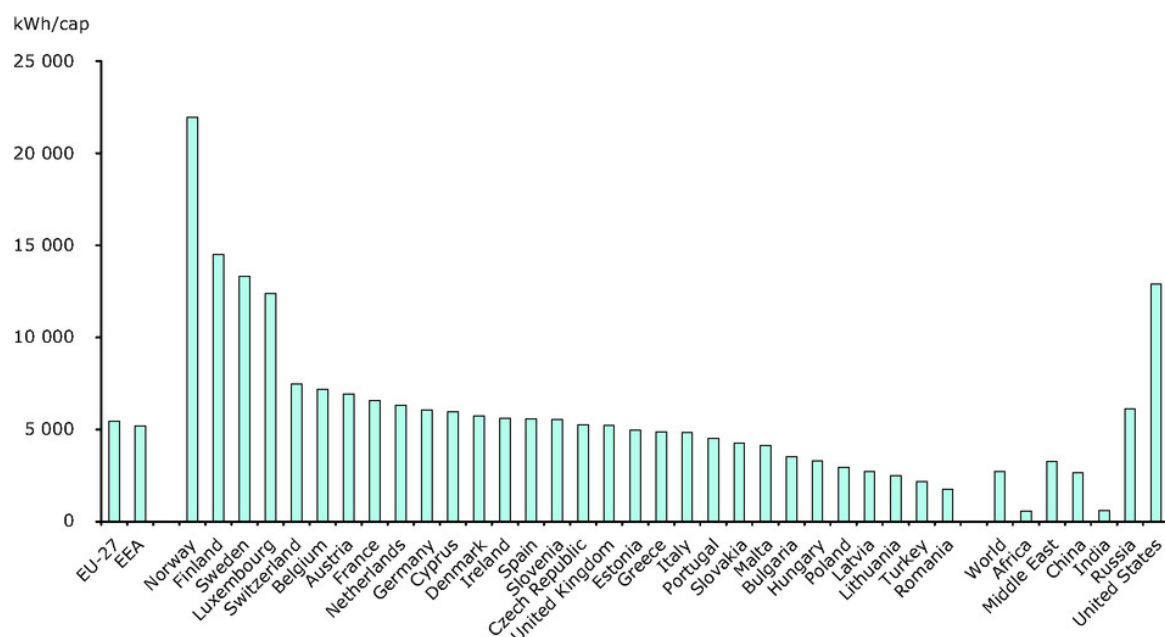


Figure 1. Electricity consumption per capita (in kWh/cap) in 2009¹⁵

However, the overall trend in the EU, as evident in Figure 2, is a declining production volume. Energy production fell from 943 Mtoe in 1990 to 818 Mtoe in 2009. Within this total amount of produced energy, the relative shares of gas and RES increased remarkably,¹⁶

have laxer constraints on greenhouse gas emissions. This could lead to an increase in their total emissions. The risk of carbon leakage may be higher in certain energy-intensive industries.” See http://ec.europa.eu/clima/policies/ets/cap/leakage/index_en.htm (accessed 27 August 2014).

¹³ See J.H. Jans and H.H.B. Vedder, *European Environmental Law After Lisbon*, 4th Edition, Europa Law Publishing 2012, p. 437.

¹⁴ For information on the GDP per capita at current market prices for Luxembourg and Belgium see *European Commission, EU Energy in Figures – Statistical Pocketbook 2014*, p. 151.

¹⁵ <http://www.eea.europa.eu/data-and-maps/figures/electricity-consumption-per-capita-in-2> (accessed 27 August 2014).

¹⁶ The volume of electricity generated from RES increased from 1995: 382.2 (TeraWatt hour) TWh to 2012: 798.7 TWh. Also the gross electricity generation increased from 1995: 2742.7 TWh to 2012: 3295.2 TWh, see

whereas former main energy carriers such as coal and oil have declined. This development was politically driven and initiated by the EU and the Member States to counteract the alarming figures¹⁷ that were presented at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro.¹⁸ National and European programmes, which aimed to reduce GHG emissions mainly caused by the combustion of fossil fuels, proclaimed a new energy era. Additionally, the utilisation of so-called climate-neutral energy carriers was strongly promoted. However, the emerging sector of renewable energies cannot yet compensate for the declining production from fossil fuels.¹⁹

The production performance of the Member States is unequal,²⁰ both the total production power and the mix of energy sources. Due to the diverging size and economic power of the countries, their contribution to the EU's total energy volume varies tremendously, which is considered to be a further challenge for the transmission systems.²¹

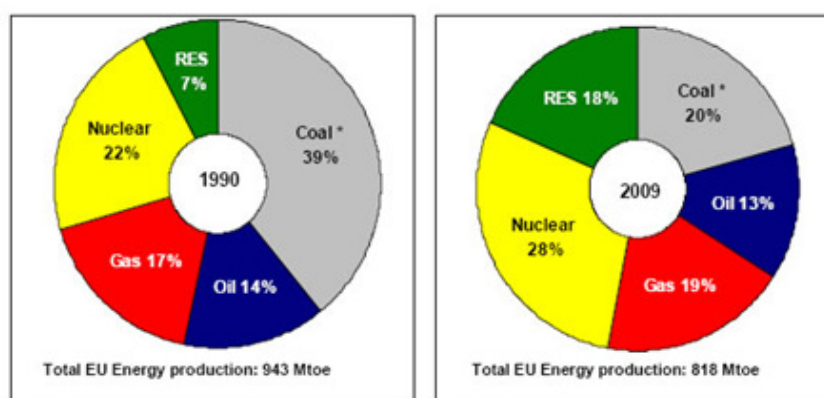


Figure 2. EU energy production by fuel in 1990 and in 2009²²

table on Final Energy Consumption in *European Commission, EU Energy in Figures – Statistical Pocketbook 2014*, p. 175.

¹⁷ The numerous reasons which are suspected to cause and to speed up the climate change have been assessed in the *Climate Change: The IPCC Scientific Assessment (1990)*, Report prepared for Intergovernmental Panel on Climate Change by Working Group I, J.T. Houghton, G.J. Jenkins and J.J. Ephraums (eds.), Cambridge University Press, Cambridge, Great Britain, New York, NY, USA and Melbourne, Australia 1990.

¹⁸ The members of the UNCED adopted the Report of the United Nations Conference on Environment and Development, adopted by the United Nations Conference on Environment and Development at Rio de Janeiro, 12 August 1992, UN Doc. A/CONF.151/26 (vol. I); 31 ILM 874 (1992).

¹⁹ This can be deduced from the Figure 2, which shows that the increase in RES in 2009 is still considerably less than the decrease in fossil fuels such as coal and oil.

²⁰ See the Table 2.3.1: Primary energy production by fuel in *European Commission, Energy, transport and environment indicators – Eurostat Pocketbook 2013*, Luxembourg, Publications Office of the European Union, 2013, p. 40. The 2013 Pocketbook is based on calculation of the EU-28, although Croatia was not a member until 1 July 2013.

²¹ J.-A. Vinois, “The security of energy supply, one of the three pillars of the European energy policy” in *EU Energy Law, Volume VI, The Security of Energy Supply in the European Union*, Jean-Arnold Vinois (ed.), Claeys & Casteels 2012, p. 32.

²² http://ec.europa.eu/energy/energy2020/smart_grid/images/graph/electricity-generation.jpg (accessed 27 August 2014).

Because consumption rose while production fell, the EU has continuously increased its energy imports.²³ In 2011, more than half (*i.e.* 53.8%)²⁴ of all energy consumed in the EU has been imported from abroad. This figure is the result of high increases in the import of solid fuels (21.5% → 42.2%), petroleum fuels (74.0% → 86.4%) and gas (43.4% → 65.8%),²⁵ and it is closely connected to the above-mentioned reversing production volume from solid fuels and gases.²⁶ As shown in Figure 3 below, the levels of import dependencies are very different in the EU: Italy, Portugal, Cyprus, and Ireland have alarmingly high import rates, whereas Denmark is a net exporter.

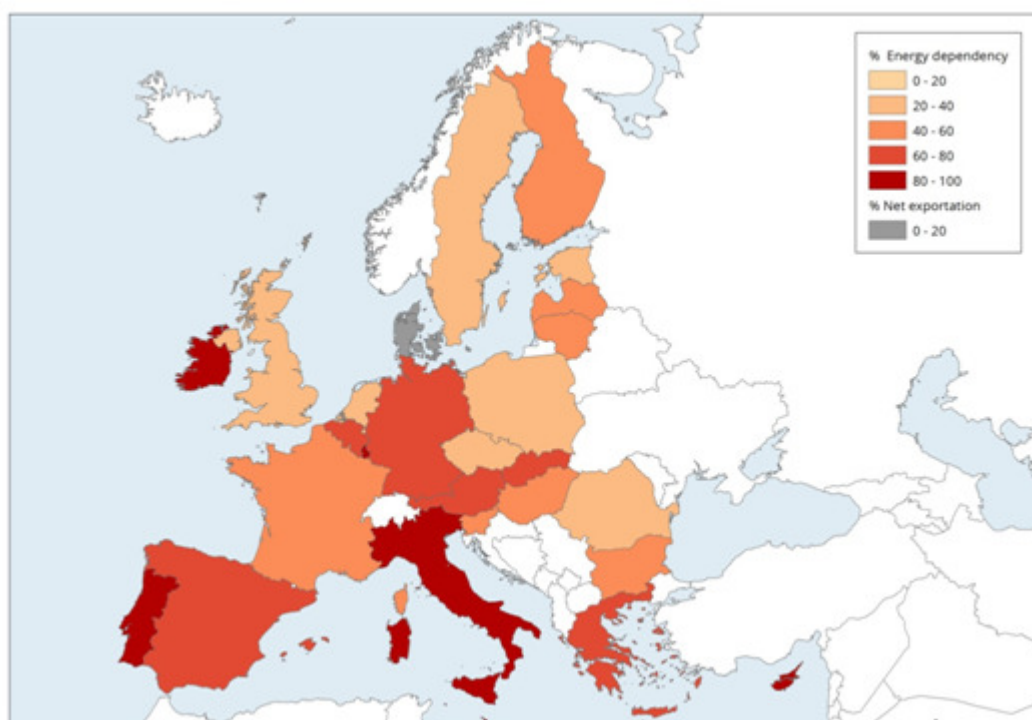


Figure 3. Dependency on energy imports into the EU – 2009²⁷

Delivering over 25% of all oil and gas consumed in the EU, Russia is the biggest single supplier.²⁸ In spite of strong economic interrelations between the Member States of the EU

²³ Net imports increased from 1995: 734.3 Mtoe to 2012: 922.8 Mtoe, see *European Commission, EU Energy in Figures – Statistical Pocketbook 2014*, p. 174.

²⁴ See further *European Commission, Energy, transport and environment indicators — Eurostat Pocketbook 2013*, p. 31.

²⁵ See *European Commission, EU Energy in Figures – Statistical Pocketbook 2014*, p. 175.

²⁶ Solid fuels such as hard coal decreased in production from 1995: 279.8 Mtoe to 2012: 167.5 Mtoe and increased in import from 1995: 78.4 Mtoe to 2012: 123.0 Mtoe; gases decreased in production from 1995: 191.4 Mtoe to 2012: 133.4 Mtoe and increased in import from 1995: 145.5 Mtoe to 2012: 258.6 Mtoe, see *European Commission, EU Energy in Figures – Statistical Pocketbook 2014*, p. 174.

²⁷ <http://www.rankia.com/blog/ecos-solares/2269617-hacia-edificios-consumo-energia-casi-nulo-traves-prefabricado-gran-escala?page=2> (accessed 27 August 2014).

²⁸ See European Commission (2010), *Market Observatory for Energy, Country File: Russia*, p. 2 (accessible on ec.europa.eu/energy/observatory/doc/country/2010_03_russia.pdf).

and Russia, the energy supply is not secure, for example the gas transportation through Ukraine and Belarus has been interrupted several times during the last decade.²⁹ These supply bottlenecks presumably had technical reasons but are also thought to be politically motivated: During the current Ukraine crisis, in which the Russian military involvement is unclear, some EU Member States have been hesitant to impose economic sanctions against Russia.³⁰ Due to the high dependency on Russian gas supplies the EU suspects that political or economic sanctions against Russia may cause the state-driven supplier Gazprom³¹ to reduce or even stop delivery to the EU: Russia has been accused of using its gas as a bargaining chip.³² Regardless of whether or not these considerations are accurate, the situation has caused some debate on the EU's inability to take political action.

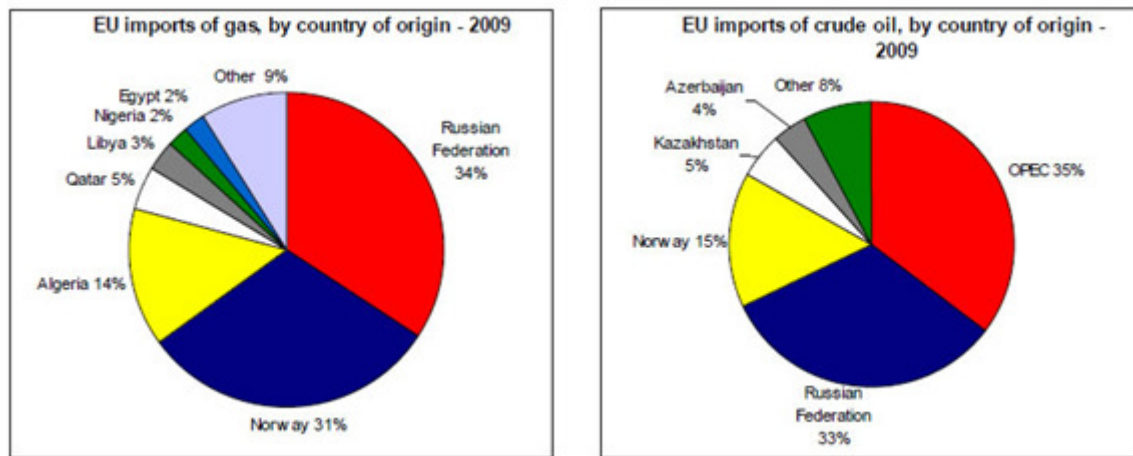


Figure 4. EU imports of gas and crude oil by country of origin – 2009³³

As Figure 4 indicates, approximately 35% of EU oil imports are from the Organization of the Petroleum Exporting Countries (OPEC) states Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela. The EU's second

²⁹ *Ibid.* The transit interruptions occurred in January 2006, March 2008 and January 2009. See P. Kaderják, "The January 2009 gas crisis in Central Eastern and South-East Europe" in *EU Energy Law, Volume VI, The Security of Energy Supply in the European Union*, J.-A. Vinois (ed.), Claeys & Casteels 2012, pp.193-219.

³⁰ <http://www.cbsnews.com/news/does-russian-oil-trump-possible-european-sanctions/> (accessed 27 August 2014).

³¹ <http://www.gazprom.com/investors/stock/> (accessed 27 August 2014).

³² P. Belkin, "The European Union's Energy Security Challenges" in *CRS Report for Congress*, 30 January 2008, p. 9 (accessible on www.fas.org/sgp/crs/row/RL33636.pdf); information in the daily news is taken from <http://www.independent.co.uk/news/world/europe/ukraine-crisis-russia-shuts-off-gas-to-ukraine-over-unpaid-debts-as-uprising-in-east-of-the-country-escalates-9541801.html> (accessed 27 August 2014).

³³ <http://ec.europa.eu/energy/energy2020/international/images/graph/eu-energy-imports.jpg> (accessed 28 August 2014).

largest oil and gas supplier is Norway,³⁴ which, as a member of the European Economic Area (EEA), is the only supplier with political and legal proximity to the EU.

The discussion on the finite nature of fossil energy carriers is fuelled by estimations that the worldwide energy need is expected to increase 56% by 2040.³⁵ And although the EU's energy problem can currently be mitigated by imports, it has been questioned whether these economic relations are sufficiently reliable as most of the importing countries are politically fragile or deemed volatile with regard to human rights.³⁶ In this regard, the question might arise whether or not, and to what extent, the EU should be dependent on those countries.

This energy situation comprised of increasing demand, decreasing production and high import rates can influence the EU's vulnerability in case of supply interruptions and price shocks. The security of energy supply, however, has been and will always be a sensitive issue and is considered to be of highest importance regarding state security and state sovereignty. Therefore energy security is one among the three main goals of the EU's energy policy.³⁷

1.2 How is the EU dealing with the current energy situation?

In a nutshell, the EU's concept of energy security is intended to reduce dependencies through lowering the total need of energy and by strengthening the EU self-supply, which can be achieved by increasing the generation of energy within the EU along with a better interconnection of national energy grids.³⁸

One of the latest EU policies is the *Energy Roadmap 2050*, which strives to change the overall EU energy pattern by proclaiming a shift to a low carbon economy. To achieve decarbonisation, the EU is focussing on strengthening electricity as the main energy type. This is because electricity can be generated from RES, which emit very little or no GHG; electricity has been described as a vector, which allows RES to be used for industrial processes.³⁹ A further advantageous feature of electricity is to make a wide variety of primary

³⁴ See the EU imports of gas and crude oil by country of origin in Figure 4. See further European Commission (2011) *Market Observatory for Energy, Country File: Norway*, p. 2 (accessible on ec.europa.eu/energy/observatory/doc/country/2011_10_norway.pdf).

³⁵ This estimation has been released by the International Energy Agency in their latest *International Energy Outlook 2013* (accessible on <http://www.eia.gov/todayinenergy/detail.cfm?id=12251>).

³⁶ Talus is referring to the general human rights situation in the exporting countries with regard to democratic values and feudal structures in economy and society. See K. Talus, *EU Energy Law and Policy. A Critical Account*, 1st Edition, Oxford University Press, 2013, p. 212 and p. 214.

³⁷ Commission White Paper, *An Energy Policy for the European Union*, COM(95) 682 final of 13 December 1995, p. 15 and p. 16.

³⁸ http://ec.europa.eu/energy/security_of_supply_en.htm (accessed 26 December 2014).

³⁹ For the importance of electricity for the decarbonisation, see Commission, *Energy Roadmap 2050*, p. 14; J. Verseille, "Electricity Highways: prospects and conditions of development" in *EU Energy Law Volume VIII, The Energy Infrastructure Policy of the European Union*, J.-A. Vinois (ed.), Claeys & Casteels 2014, p. 274.

energy carriers feasible for a significant part of human activities⁴⁰ as nearly all technologies can be electricity-driven. The shift to an electricity-based energy supply is intended to mitigate climate change and to lower the dependence on fossil fuel imports.⁴¹

The EU seeks to achieve energy security not only when dealing with classical energy law, but also when adopting new external trade policies and when introducing new strategies to complete the internal market. This crosscutting of policy fields is characteristic for the EU energy security policy. Energy security is thus closely linked with the completion of the internal market. For energy to have access to the common market, it needs to be transported, and therefore the energy infrastructure across national borders is essential. A stronger trade on energy between the Member States and an improved interconnection between grids could equalize the supply among the countries and thus contribute to a lowering of the overall dependency on imports. Under the European Energy Programme for Recovery the EU has initiated and financed several large-scale construction projects interconnecting existing grids to create one pan-European energy grid capable of transporting energy all over Europe.⁴²

1.3 Objectives and outline

The overall objective of this thesis is to analyse the legal framework for EU's energy policy and energy security. The focus will be on the trans-European Energy Networks (TEN-E) policy, which has been agreed upon as an indispensable instrument to complete the internal market by expanding and improving cross-border infrastructure. During the authorization procedure for electricity grid constructions, a conflict may arise between environmental considerations and the urgent need for secure energy supply. This thesis evaluates if essential environmental standards could be threatened by the latest TEN-E guidelines and the Commission Guidance Document *Streamlining environmental assessment procedures for energy infrastructure 'Projects of Common Interest' (PCIs)*⁴³ (hereinafter the Guidance document). The TEN-E guidelines are laid down in Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure⁴⁴ (hereinafter the TEN-E Regulation).

⁴⁰ *Ibid.*, p. 273.

⁴¹ Commission, *Energy Roadmap 2050*, p. 9.

⁴² Further information on the Programme is available on http://ec.europa.eu/energy/eepr/index_en.htm.

⁴³ Commission Guidance Document, *Streamlining environmental assessment procedures for energy infrastructure 'Projects of Common Interest' (PCIs)*, 24 July 2013 (accessible on ec.europa.eu/energy/infrastructure/doc/assessment/20130919_pci-en-guidance.pdf).

⁴⁴ Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009, OJ L 115, 25.4.2013, pp. 39–75.

The main research question of this thesis is: Will the EU's energy security policy relating to the interconnection of energy infrastructure jeopardize environmental standards?

In order to work with the main research question the following topics need elaboration:

- (1) What is the general background for energy policy in the EU? What is the factual energy situation?
- (2) What is the general legal framework for energy security policy in the EU?
- (3) Why is a common energy infrastructure important for the completion of the internal market? What is the goal of the new TEN-E policy?
- (4) Is there a conceptual hierarchy between environmental protection and energy security provided for in the Treaties?
- (5) Are authorization procedures, especially environmental assessments, an obstacle to energy security?
- (6) Are the TEN-E Regulation and the Guidance document on streamlining of environmental procedures lowering environmental standards?

The Introduction presents an overview of the general energy situation in the EU. In order to elaborate research question (1), it gives some data and factual background on energy consumption, energy production and energy imports in the EU. The second Chapter deals with question (2) on the EU's legal framework for energy security by describing the development of the EU's general energy policies and energy security policies. The respective general energy policies illustrated in the Chapter are selected according to their relevance for the overall conflict of interests in energy policy between the three objectives of sustainability, security of supply and competitiveness. Another aspect that is further elaborated in the second Chapter is the historical development of separate national energy politics towards a common approach for energy policy at the EU level. In order to give an answer to research question (3), the third Chapter will describe the EU's legal framework for the construction of energy infrastructure in general and for electricity in particular. The most important legislation in this regard is the new TEN-E Regulation, under which certain projects can obtain the PCI status, which allows for a certain preferential treatment in the permit granting compared to other projects. This treatment is intended to speed up the licensing and construction of energy infrastructure with an overall importance for the creation of a pan-European grid. The fourth Chapter describes the EU's legal framework for environmental protection and elaborates aspects to comply with research question (4) on the conceptual hierarchy between

environmental protection and energy security. This Chapter further introduces different EU legislations that provide for environmental assessment procedures, both at the planning and at the project stage. It thus deals with research question (5) of whether or not the environmental assessments for infrastructure planning can be an obstacle to energy security. In order to also discuss research question (6), the fifth Chapter provides the EU's legal framework for the permit granting of infrastructure projects that enjoy the PCI status under the TEN-E Regulation. The description mainly focuses on the requirements of the environmental assessment procedure for transboundary PCIs, which is composed of the EIA Directive, the Espoo Convention and the TEN-E Regulation. The sixth Chapter then presents the recommendations of the Commission made in the Guidance document "Streamlining environmental assessment procedures for energy infrastructure 'Projects of Common Interest' (PCIs)" and evaluates some of the recommendations against the background of the environmental assessments presented in the fifth Chapter. The overall framework for the permit granting of PCIs is finally analysed in the context of environmental standards and the objective to aim for improved energy security.

The method used in this thesis is to describe and analyse the EU's legislations and policies for energy security. The respective information gathered from different legislations and policies will be combined against the background of transboundary electricity transmission projects. The legal analysis will take into account policy communications and guidance documents from the Commission in order to see how the legislations could be interpreted and especially how the Commission recommends the Member States develop their national legal frameworks. The thesis will not deal with policies relating to the EU's external energy security. It will further not cover all aspects of the EU's energy strategy as it will only focus on the interconnection of national energy infrastructures. Concerning the type of infrastructure, the thesis will deal with transmission of energy but not with other infrastructures, *e.g.* energy storage facilities. The first Chapters will have a rather broad approach to the different energy types, but later on, the Chapters are focusing on electricity due to its importance for the abovementioned aim of a low carbon society. The overall approach taken in this thesis is to underline the importance of energy security and the respective means to achieve this goal. Although it would be possible, the thesis will not start with an environmental protection approach. The environmental aspects will rather serve as an index to evaluate the energy security measures.

2 Legal framework for the EU's energy policy and energy security policy

Several policy programmes, primary law, secondary legislation and national legislation have been established under the heading *EU's energy policy*. The picture is rather complex as the energy legislation falls under the principle of shared competence,⁴⁵ and therefore involves many different actors. The purpose of this Chapter is to present these policies in a way that helps to localise the topic of energy security within the area of energy law. It will therefore commence by outlining the broad concept of energy policy and after that the focus will be placed on the specific topic of energy security.

In line with the above, the first part of the Chapter introduces the overall concept of EU's energy policy with an emphasis on the tension between competitiveness, security and sustainability. This subchapter will not only describe but also analyse how the EU's energy policy has developed under the influence of diverging powers and interests. Then, the legal basis for the energy policy that is provided for in the EU's primary law will be presented with a special focus on the problem of how competences are allocated between the EU and its Member States. Neither national law nor EU secondary law that has been enacted to realise the policy programmes, will, however, be scrutinized in this part of the thesis.

The overview of the energy policy is required to provide the necessary background before energy security as the main topic of the thesis will be tackled. The second part deals with energy security in particular and is meant to highlight the role it is playing in today's EU energy policy. It introduces the theoretical concept of energy security and then describes the special legal framework that has been provided by the EU. Some policy initiatives have been selected to illustrate how the EU is approaching the task of assuring a secure supply of energy.

2.1 The EU's energy policy

The EU's energy policy pursues three core objectives: (1) competitiveness, (2) security of supply, and (3) sustainability.⁴⁶ At first sight, these three objectives seem partly contradictory and it appears that it would be difficult to pursue each objective to its full extent at the same

⁴⁵ The shared competences for the EU's energy policy are based on Article 194 TFEU, Article 4(2) TFEU and Article 5(3) Treaty of the European Union, Consolidated Version, OJ C 326, 26.10.2012, pp. 13-390 (hereinafter TEU). For further information on the shared competences, see Chapter 2.1.5.3.

⁴⁶ The three energy objectives are described in Commission Green Paper, *A European Strategy for Sustainable, Competitive and Secure Energy*, COM(2006) 105 final of 8 March 2006, pp. 3ff and pp. 17-18; Communication from the Commission, *An EU Energy Security and Solidarity Action Plan*, COM(2008) 781 final of 13 November 2008, p. 3; Commission Green Paper, *A 2030 framework for climate and energy policies*, p. 3.

time. If one tries to arrange these objectives in a compatible order, the following observations can be made: It can be regarded as contributing to sustainability if electricity production were to substitute fossil fuels with RES, *e.g.*, by switching from coal-based production to wind power-based production. This method of electricity production is usually deemed more sustainable as it leads to the reduction of GHG emissions, and is thus combating climate change. The shift to RES, furthermore, can contribute to lowering the reliance on finite natural resources such as fossil fuels. However, this more sustainable way of production can probably not be achieved at the same costs as the fossil-based production.⁴⁷ In order to make them competitive, green energies are often subsidised. This financial support gives certain market advantages and thereby intervenes with competition. Nuclear energy is comparably cheap but the production waste and its storage bear difficulties with regard to sustainability aspects.⁴⁸ Sustainability and competitiveness appear mutually exclusive in this regard.

In the context of energy supply, tensions may arise between security and sustainability: The increasing amount of electricity produced from intermittent RES challenges existing supply patterns and threatens energy security.⁴⁹ Due to the reliance on natural conditions such as solar activity and wind speed, the production cannot be guaranteed on a stable level. This affects the functioning of the energy grid; so called black-outs are possible. Furthermore, the production is geographically decentralised.⁵⁰ That calls for the expansion of grid infrastructure, which is costly but would contribute to the completion of the internal market as energy can be traded more easily, see further Chapter 1.2.

Seeking sustainable energy will be expensive. It can cause distortions to the internal market and can threaten the secure supply. The EU attempts to achieve these three goals although they might not always be feasible simultaneously. In light of this conflict of objectives, the following subchapter describes the development of energy policy. It introduces the most important cornerstones of the EU's energy policies and elaborates how the EU was and is dealing with this difficult field of opposing goals and how the EU is changing its focus on the different matters. The policy acts are therefore chosen under the criteria of general importance for the development of EU law but also with regard to their relevance to illustrating the interaction of sustainability, security of supply and competitiveness.

⁴⁷ M. Wald, "Cost Works Against Alternative and Renewable Energy Sources in Time of Recession" in *New York Times*, 29 March 2009 (accessible on http://www.nytimes.com/2009/03/29/business/energy-environment/29renew.html?_r=0).

⁴⁸ Greenpeace underlines the risk of radioactive waste due to its continuously increasing volume and because there have not yet been found sufficient storages sites, which are geological suitable for such a use. See <http://www.greenpeace.org/international/en/campaigns/nuclear/waste/> (accessed 10 October 2014).

⁴⁹ See Chapter 3.1.2 on the problems that integration of energy made from RES can pose on energy security in general and on infrastructure particular.

⁵⁰ *Ibid.*

2.1.1 White Paper: An Energy Policy for the European Union

With the 1995 White Paper *An Energy Policy for the European Union*,⁵¹ the Commission introduced competitiveness, security of energy supply and environmental protection as the three goals of the EU's energy policy.⁵²

The overall objective of energy policy is to integrate all national energy markets into a common market. This legally and technically harmonised common market should not impose any obstacles to free trade and free competition, and is thus intended to provide long-term incentives for investment.⁵³ To achieve this goal of market completion, the White Paper suggests the liberalisation of the gas and electricity market as the key means.⁵⁴

The objective of energy security is mentioned in the context of the interconnection of national grids. The interconnection would not only create the basis for a common market but also contribute to energy security. The diversification of energy sources is presented as a second tool serving the security objective.⁵⁵

In terms of the arising conflict between renewable energies and competition, the Commission acknowledges the competitive disadvantages of RES. But as a higher share of RES appears to safeguard energy supply and environmental protection,⁵⁶ exemptions for RES programmes and subsidies shall be made possible.⁵⁷ However, the White Paper underlines the need to avoid major tensions when pursuing environmental protection and competitiveness,⁵⁸ and thus minimise, as much as possible, the effects that the exceptions for RES might have on competition.

Mentioning this area of conflict, the White Paper is one of the first documents to acknowledge the potential tensions between the different policy goals.

⁵¹ Commission White Paper, *An Energy Policy for the European Union*, COM(95) 682 final of 13 December 1995.

⁵² *Ibid.*, para. 46.

⁵³ The completion of the internal market is one of the main goals of the EU, see Article 3(3) TEU.

⁵⁴ Commission White Paper, *An Energy Policy for the European Union*, para. 52.

⁵⁵ *Ibid.*, para. 81.

⁵⁶ In the 1997 White Paper, *Energy for the Future: Renewable Sources of Energy*, the Commission stated that the share of RES should reach 12% by 2010. This White Paper was released in the same year as the Kyoto Protocol to the United Nations Framework Convention on Climate Change, UN Doc FCCC/CP/1997/7/ Add.1, Dec. 10, 1997; 37 ILM 22 (1998). The Kyoto Protocol, an international agreement under the United Nations Framework Convention on Climate Change, sets out binding targets for selected industrialized countries (and for the EU) for reducing their GHG emissions. The increased promotion of RES in the EU was deemed to achieve the binding emission targets which have been agreed upon in the Protocol by the majority of the members of the United Nations Framework Convention on Climate Change.

⁵⁷ Commission White Paper, *An Energy Policy for the European Union*, para. 60.

⁵⁸ *Ibid.*, para. 13.

2.1.2 Green Paper: Energy Efficiency – or Doing More With Less

The 2005 Green Paper *Energy Efficiency – or Doing More With Less*⁵⁹ presents calculations detecting an energy-saving potential of about 190 Mtoe in the EU. This equals an estimated saving potential of about 20% of all energy consumption by 2020.⁶⁰ The identified potential savings concern several fields such as heating and cooling of buildings, transport, industry, and combined heat and power (CHP)⁶¹. The Green Paper was accompanied by the *Action Plan for Energy Efficiency* in 2006. The Action Plan underlines the saving capacities and suggests better energy efficiency in private consumption, transportation, buildings and within production patterns in industry. It proposes a package of concrete operative measures⁶² to realise the goals set forward in the Green Paper. It urges for more information to the public: “Energy efficiency is about informed choice by individuals, not just about legislation.”⁶³

The Commission declares this efficiency strategy to be developed to save money,⁶⁴ to contribute to competitiveness and employment, to promote security of supply, and to comply with international obligations such as the Kyoto targets.⁶⁵

However, this policy does not explicitly deal with the conflict of these objectives. It is rather presenting energy efficiency as a multi-purpose solution to achieve all energy policy objectives. Energy efficiency can, of course, solve many problems; a fully efficient economy will probably realise all three energy goals simultaneously. However, the efficiency targets have not yet been achieved. The conflict is therefore not resolved.

2.1.3 Green Paper: European Strategy for Sustainable, Competitive and Secure Energy

A new energy era was announced by the Green Paper *A European Strategy for Sustainable, Competitive and Secure Energy*⁶⁶ in 2006. It outlines six priority areas for the achievement of the three goals.⁶⁷ First, the Green Paper proclaims the completion of the internal gas and

⁵⁹ Commission Green Paper, *Energy Efficiency - or Doing More With Less*, COM(2005) 265 final of 22 June 2005.

⁶⁰ Communication from the Commission, *Action Plan for Energy Efficiency: Realising the Potential*, COM(2006) 545 final of 19 October 2006, p. 3.

⁶¹ The CHP is the simultaneous generation of heat and power. This is possible due to the fact that during the generation of electricity, heat is emitted as a by-product. This cogeneration allows for a highly efficient use of combusted fuels and contributes to energy saving.

⁶² Communication from the Commission, *Action Plan for Energy Efficiency: Realising the Potential*, pp. 8-19.

⁶³ *Ibid.*, p. 4.

⁶⁴ According to the Commission, the Mtoe saving potential equals a monetary saving of about 60 billion Euros per year. See Commission Green Paper, *Energy Efficiency - or Doing More With Less*, p. 4.

⁶⁵ *Ibid.*, p. 5.

⁶⁶ Commission Green Paper, *A European Strategy for Sustainable, Competitive and Secure Energy*, COM(2006) 105 final of 8 March 2006, p. 3.

⁶⁷ The six priority areas are: (1) Completion of internal gas and electricity market; (2) energy security through more solidarity; (3) sustainable, efficient and diverse energy mix; (4) integrated approach against climate change; (5) innovation through a European energy technology plan; and (6) external energy policy.

electricity market through common grids, interconnections and successful unbundling. This would be a precondition for secure supply and affordable energy prices.⁶⁸ Furthermore the Green Paper states:

A truly competitive single European electricity and gas market would bring down prices, improve security of supply and boost competitiveness. It would also help the environment, as companies react to competition by closing energy inefficient plants.⁶⁹

A possible conclusion from these objectives might be that the Commission considers the completion of the internal market a means to achieve the three energy goals simultaneously. The Green Paper seems to regard this achievement as a challenge. However, it advocates the balancing of sustainable energy use, competitiveness and security of supply.⁷⁰ One probable solution could be to require “a minimum level of the overall EU energy mix originating from secure and low-carbon energy sources”.⁷¹ This appears rather remarkable as the Green Paper seems to have successfully combined the aspects of security and competitiveness with the objective of sustainability.

Second, the Green Paper suggests the Member States elaborate on a *common voice policy* on the energy mix.⁷² The need for such a common strategy was urged due to national decisions inevitably affecting the energy security of adjacent countries.⁷³ Mutual dependency makes more cooperation necessary.

This might qualify for a new integrative approach as Articles 194(2) and 192(2)(c) TFEU guarantee the Member States sovereignty to decide upon the national energy mix and the use of its resources. The Green Paper shows a clear development towards a centralisation of initiative power to the EU and towards a market-based approach. Completing the internal market is on the one hand necessary to guarantee the free movement of goods; on the other hand the market measures, such as building the pan-European grid, interconnecting grids, and more competition through unbundling, are crucial to obtaining greater energy security. The common market is therefore both a goal and an instrument.

Another area identified by the 2006 Green Paper is the combat against climate change, which has led to the so-called 20-20-20 goals, see further below.

⁶⁸ Commission Green Paper, *A European Strategy for Sustainable, Competitive and Secure Energy*, p. 5.

⁶⁹ *Ibid.*

⁷⁰ *Ibid.*, p. 9.

⁷¹ *Ibid.*

⁷² The field of external energy policy will not be considered in this thesis. However, it is one of the main points in the Commission Green Paper, see *ibid.*, pp. 14-17.

⁷³ Decisions of the energy mix have impact in the particular event of gas shortages and on the overall import dependency of the Union, see *ibid.*, p. 9.

2.1.4 The 2020 policy of the Energy and Climate Change Package

The 2020 policy puts forward three goals to be reached in 2020. It strives, first, to reduce GHG emissions by 20% compared to the 1990 levels, second, to raise the share of RES up to 20% and third, to improve energy efficiency with the target of saving 20% in energy consumption. This is the core of the 2007 Energy and Climate Change Package,⁷⁴ which imposes the following legislative measures to promote RES and to combat climate change:⁷⁵

The RES Directive⁷⁶ sets mandatory targets for each Member State to reach a certain share of energy produced from RES. These national RES targets are set out in Annex 1 to the directive; an overview of the targets is further provided in the Annex of this thesis. Each state decides itself how to achieve the binding target. According to Article 4 of the RES Directive, the Member States therefore need to adopt national renewable energy action plans, which have to be submitted to and approved by the Commission.

The Package further seeks to reform the EU Emission Trading System (ETS).⁷⁷ The third trading period began in 2013, and according to the new rules, 20% of all emission permits have to be purchased in auctions.⁷⁸ The creation of the carbon market provides emissions with a certain market price and targets the reduction of GHG emissions through the incentive of cost reduction. The ETS is one of the tools that the EU applies to fulfil its international obligations under the flexible mechanisms of the UNFCCC and the Kyoto Protocol.⁷⁹

⁷⁴ The Council adopted the Energy and Climate Change Package on 6 April 2009, Press Release Nr. 8434/09.

⁷⁵ Other acts are the rules on cleaner cars (Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO₂ emissions from light-duty vehicles, OJ L 140, 5.6.2009, pp. 1–15), on environmental quality standards for fuels and biofuels (Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC, OJ L 140, 5.6.2009, pp. 88–113), and on CCS (Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006, OJ L 140, 5.6.2009, pp. 114–135).

⁷⁶ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, OJ L 140, 5.6.2009, pp. 16–62 (hereinafter the RES Directive).

⁷⁷ The ETS was implemented through Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, OJ L 140, 5.6.2009, pp. 63–87.

⁷⁸ For further understanding of the Emission Trading System with regard to the step by step development, the allocation of allowances and its scope, see the EU ETS Factsheet (accessible on ec.europa.eu/clima/publications/docs/factsheet_ets_en.pdf).

⁷⁹ The Flexible Mechanism of the Kyoto Protocol includes: (1) the Joint Implementation according to its Article 6; (2) the Clean Development Mechanism according to its Article 12, and (3) the International Emission Trading according to its Article 17.

An additional but very important change was made with the Effort Sharing Decision.⁸⁰ This act imposes national targets for emissions that are not under the scope of the ETS, *i.e.* in the field of transport, buildings, waste and agriculture. As the ETS covers only 45% of all EU GHG emissions,⁸¹ the Decision fills this gap and provides a regulatory framework for a significant amount of emissions that has previously not been subject to regulation.

The above development illustrates that climate change policy has become a vital and influential part of the EU's energy policies. The EU seems to focus on the strategic objectives to combat climate change and to accelerate the sustainability progress whereas competitiveness and supply security seem to be rather marginal. Notwithstanding, the latter two are likely to become problematic in the context of the strict RES targets, which require increasing the amount of energy generated from RES, which will lead to a transformation of the generation pattern and to changes in energy infrastructure.⁸² Consumers fear that, despite subsidisation, this might raise energy prices.⁸³ These aspects will be further dealt with in Chapter 3.1.2.

The Commission saw the need to further address energy security in its *Second Strategic Energy Review*⁸⁴ and came to the conclusion that more effort is necessary to ensure the implementation of the 2020 policy with regard to secure supply. This is reflected in the *EU Energy Security and Solidarity Action Plan* which is the subject of the Chapter on particular energy security policies, see further Chapter 2.2.2.1.

The security aspects and the market aspects are becoming more closely interconnected and are particularly dealt with under internal market policies. This has been particularly achieved with the Third Energy Package, which will be further described in Chapter 2.2.3.1.

2.1.5 The latest energy policies

Like the above climate policies, the *Energy Roadmap 2050* proclaims a low-carbon economy, see further Chapter 1.2. Its main objective is to reduce GHG emissions by 80% in 2050. Due to its potential for decarbonisation, electricity is further promoted as the most preferable energy type.⁸⁵ The *Roadmap* does not elaborate on possible interference with this target

⁸⁰ Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020, OJ L 140, 5.6.2009, pp. 136–148.

⁸¹ EU ETS Factsheet, p. 2.

⁸² The challenges of the RES policy for energy infrastructure will be dealt with in Chapter 3.1.2.

⁸³ See further <http://www.economist.com/blogs/economist-explains/2014/01/economist-explains-0> (accessed 18 October 2014).

⁸⁴ Communication from the Commission, *An EU Energy Security and Solidarity Action Plan*, p. 3.

⁸⁵ Communication from the Commission, *Energy Roadmap 2050*, pp. 6, 10, 14. The importance of electricity for the decarbonisation of the economy is explained in Chapter 1.2.

regarding secure supplies and competitiveness. The objective of energy security is addressed only once in the context of energy shortcuts. The Commission suggests that backing up secure supply should be with fossil fuels and nuclear energy.⁸⁶ This, however, shows the inherent problem: security cannot yet be achieved without curtailing the objective of sustainability.

In 2013, the Commission published the new Green Paper *A 2030 framework for climate and energy policies*,⁸⁷ which aims to reduce GHG emissions by 40% and increase the share of RES to 30% by 2030. These targets are both in line with the 2020 policy and the long-term *Energy Roadmap 2050*.⁸⁸ The former EU Commissioner for Climate Action Connie Hedegaard stated that the low-carbon society for 2050 is a key to lowering import dependence and affordable energy bills and further supports climate change mitigation, the European economy and competitiveness.⁸⁹

It can be concluded that the EU's energy policy is still developing. It has become very specialised and distinct as each policy has its own main focus. However, the trade-off between sustainability, security and competitiveness is still at stake. Environmental and security goals are competing for the EU's financial resources.⁹⁰ Although efficiency will theoretically serve as an effective tool to realise all three goals, this has not yet happened. In the meantime the goals still seem partly mutually exclusive.

2.1.6 The legal framework in primary law

Energy has always been a fundamental factor in the relationship of the European countries. In 1951, the Treaty of Paris⁹¹ was signed in order to create the European Coal and Steel Community.⁹² This Community was established to share the most important energy sources in the European common market and to thereby prevent armed conflicts in Europe. The importance of energy was confirmed in 1958 when the Founding States of the Community ratified the Treaties of Rome.⁹³ Along with the establishment of the European Economic

⁸⁶ Communication from the Commission, *Energy Roadmap 2050*, pp. 12-13.

⁸⁷ Commission Green Paper, *A 2030 framework for climate and energy policies*, COM(2013)169 final of 27 March 2013.

⁸⁸ *Ibid.*, p. 3.

⁸⁹ Former Commissioner Hedegaard was quoted in Commission Press Release IP/13/272 of 27 March 2013.

⁹⁰ J.M. Marín-Quemada and B. Muñoz, "Guidelines for a European energy security policy" in *Energy Security for the EU in the 21st Century: Markets, Geopolitics and Corridors*, J.M. Marín-Quemada, J. García-Verdugo and G. Escibano (eds.), Routledge 2012, p. 242.

⁹¹ The Treaty Establishing the European Coal and Steel Community, 18 April 1951, 261 U.N.T.S. 140 (hereinafter the ECSC), expired on 23 July 2002.

⁹² Signatories to the 1951 Treaty and Members of the ECSC were Belgium, France, Italy, Luxembourg, Netherlands and West Germany.

⁹³ The Treaties of Rome were signed on 25 March 1957 by the Members to the ECSC (Belgium, France, Italy, Luxembourg, Netherlands and West Germany) and were constituted of the Treaty Establishing the European

Community, the European countries saw the need for a second energy-based treaty, the Euratom Treaty. Its signatories jointly promoted nuclear energy as the most evolving technology during this period, which might overcome energy shortage from conventional energy sources such as coal and thus achieve more energy independency.

This short historical overview illustrates that cooperation in energy issues is a basic principle among the European states.⁹⁴ However, this joint approach was rather meant to maintain peace and to promote technological research.⁹⁵ The Member States did not transfer any power to the Community (now Union), which could then have resulted in a common energy policy. The Community's energy legislation at that time was therefore dependent on its competences concerning market provisions⁹⁶ or environmental regulations.⁹⁷

In 2009, the Lisbon Treaty introduced a special energy provision into EU primary law. In line with the division of competences that was established with the Treaty, the Member States transferred national power to the EU institutions, which are now competent under Article 194 TFEU to initiate and enact energy legislation. Hence, today's relevant energy legislation mainly stems from the EU, and not from national law.

2.1.6.1 Special energy provision Article 194 TFEU

The newly introduced Article 194(1) TFEU concerns the functioning of the market but also shows a clear environmental perspective,⁹⁸ as it states:

In the context of the establishment and functioning of the internal market and with regard for the need to preserve and improve the environment, Union policy on energy shall aim, in a spirit of solidarity between Member States, to:

- (a) ensure the functioning of the energy market;
- (b) ensure security of energy supply in the Union;

Economic Community, 25 March 1957, 298 U.N.T.S. 3, 4 Eur. Y.B. 412 (hereinafter EEC) and the Treaty establishing the European Atomic Energy Community (Euratom).

⁹⁴ See further Commission Green Paper, *Towards a European strategy for the security of energy supply*, COM(2000) 769final of 29 November 2000, Official brochure, Luxembourg: Office for Official Publications of the European Communities 2001, p. 11.

⁹⁵ See K. Talus, p. 21. It has further been assessed that has been “not a word” about a common energy policy in the EEC Treaty, see E.D. Cross, B. Delveaux, L. Hancher, P.J. Slot, G. Van Calster and W. Vandenberghe, “EU Energy Law”, in *Energy Law in Europe - National, EU, and International Law*, M. Roggenkamp, C. Redgwell, I. Del Guayo and A. Rønne (eds.), 2nd Edition, Oxford University Press 2007, p. 227.

⁹⁶ The legal basis was Article 95 Treaty Establishing the European Communities, Consolidated Version, OJ C 325, 24.12.2002, pp. 33–184 (hereinafter the EC Treaty), which is the current Article 114 TFEU. See further K. Talus, p. 22.

⁹⁷ For example the Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC, OJ L 114, 27.4.2006, pp. 64–85 is based on Article 175 EC, which is the current Article 192 TFEU.

⁹⁸ J.H. Jans and H.H.B. Vedder, p. 86.

- (c) promote energy efficiency and energy saving and the development of new and renewable forms of energy; and
- (d) promote the interconnection of energy networks.

By enshrining this special provision in the TFEU, the Member States officially declared energy policy an important common topic. In line with Article 13(2) TFEU, the conferred power is, however, restricted as the EU legislator is only allowed to act when it concerns the internal market and when there is a need to preserve and improve the environment.⁹⁹ No comprehensive clause has been incorporated transferring power in such a way that all potential issues can be dealt with by the Union. The matter remains a horizontal field¹⁰⁰ and relies on foreign policy, environmental policy (including climate change policy) and competition policy.

The question whether the nature of Article 194 TFEU is rather declaratory is outside the scope of this thesis and will not be dealt with any further. But there are critical voices questioning that the substantive power of the Union has increased after the Treaty amendment and its inclusion.¹⁰¹ There is some truth in those statements, regarding the fact that important and influential energy policies, such as the Third Energy Package, have been enacted under EU competence before the new Energy Article was designed.

2.1.6.2 Energy policy as a horizontal field

Besides Article 194 TFEU, the legal framework for energy law is mostly composed of non-energy provisions.¹⁰² First of all, energy is considered a good and thus falls under the market provisions in Articles 28-37 TFEU. But as energy trade also concerns the internal market, competition law is relevant as well: Articles 101 and 102 TFEU are to assure non-discriminatory access to the energy grids and prevent the abuse of dominant positions, for example by large vertically integrated companies. Competition law also comes into effect with regard to disguised protectionism in price regulations and promotion of certain energy carriers or certain generation procedures; Articles 107-109 TFEU concern the legality of state aid when it comes to systematic support of certain energy carriers. Another field is covered by

⁹⁹ The principle of conferred powers and its particular terms are further described *ibid.*, p. 13.

¹⁰⁰ See further J.F. Braun, "EU Energy Policy under the Treaty of Lisbon Rules – Between a new policy and business as usual" in *EPIN Working Paper No. 31*, February 2011, p. 3.

¹⁰¹ See further L. Hancher and F.M. Salerno, "Energy Policy after Lisbon" in *EU Law After Lisbon*, A. Biondi, P. Eeckhout, S. Ripley (eds.), Oxford University Press 2012, pp. 401 f.

¹⁰² J.-M. Glachant and Nicole Ahner, "Is energy security the objective of EU energy policy?" in *EU Energy Law, Volume VI, The Security of Energy Supply in the European Union*, J.-A. Vinois (ed.), Claeys & Casteels 2012, p. 7.

Articles 170-172 TFEU, under which the Union shall promote trans-European networks for transport, telecommunication and energy infrastructure, which will be dealt with in Chapter 3.

2.1.6.3 Political “wrangling” over legislative competences

Article 4(2) TFEU provides the legal basis for the distribution of powers between the Member States and the EU. Like the fields of internal market and trans-European networks, the energy area of falls under the shared¹⁰³ competences. Article 194(2) TFEU is further limiting the EU’s competences as legislation

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).

Consequently, the Member States remain sovereign with regard to their national energy mix and their supply strategy. An EU-wide legislative measure concerning these topics is only possible when the requirements of Article 192(2)(c) TFEU are fulfilled. Article 192(2)(c) reads as follows:

By way of derogation from the decision-making procedure provided for in paragraph 1 and without prejudice to Article 114, the Council acting unanimously in accordance with a special legislative procedure and after consulting the European Parliament, the Economic and Social Committee and the Committee of the Regions, shall adopt [...] (c) measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply.

In addition to fulfilling high formal requirements such as the special legislative procedure,¹⁰⁴ the substantive content of a measure that affects a national energy mix has to serve clear environmental objectives.¹⁰⁵ This is problematic with regard to the 2020 policy, which crucially relies on an active promotion of RES. The RES Directive, which was adopted under the ordinary legislative procedure (Article 192(1) TFEU), stipulates that a fifth of the EU’s energy production has to be based on RES. This obligation interferes with Article 192(2)(c)

¹⁰³ Shared competences lead to the application of the principle of subsidiarity in Article 5(3) TEU, which rules that the “Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level”.

¹⁰⁴ The competences among the EU institutions are further specified in Article 194(2) TFEU, which stipulates the ordinary legislative procedure.

¹⁰⁵ This is due to the following drivation: The derogation clause (Article 194(2) TFEU) refers to Article 192(2)(c) TFEU, which is part of the Environment Title of the TFEU. According to Article 191 TFEU, all EU legislation under this title has to purspue certian environmental objectives, *i.e.*, legislation under Article 192(2)(c) has to serve environmental objectives, which in turn means that this applies for Article 194(2) TFEU.

insofar as the states can no longer fully dispose over their national energy mix.¹⁰⁶ However, the Directive is not in breach with the Treaties as this interference will probably not ‘significantly affect’ the national decisions. This example nevertheless shows how carefully the competences on decisions over national resources are negotiated.¹⁰⁷ On the one hand, the Union’s competences are not fully exclusive and limited by national competences. On the other hand, national leeway in decision-making is also rather restricted. Article 15(4) of Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity (hereinafter the Electricity Market Directive)¹⁰⁸ stipulates that a Member State can only favour a national energy source when it is justified by certain security considerations.¹⁰⁹ This distribution of competences is of particular interest with regard to energy security, where the EU has some ambition to influence the national energy mix of states in order to develop a common EU security strategy, see further Chapter 2.2.

2.1.7 Concluding remarks on the EU’s general legal framework for energy policy

As has been outlined, energy policy has always been an important part of EU law. Notwithstanding, it can be concluded that there has been no common policy before the 1995 White Paper and that the Member States are still reluctant to confer more powers to the EU. The Union has nevertheless pursued several tracks to develop a common strategy, which is necessary because energy problems in one state will without any doubt have an effect on neighbouring countries. The main pillars of the EU energy policy are competitiveness, sustainability and security of supply. With the recent policies, all three pillars have been considerably developed and are now part of concrete legislation, but yet no path has been found where all three objectives can be realised to their full extent. Energy policy continues to deal with this special tension between its objectives but is now aware of the risk of trading off one objective for the others.

¹⁰⁶ See further K. Talus, p. 180.

¹⁰⁷ For the probable Union competence regarding national energy stocks which was drawn out in the draft of the Constitutional Treaty in 2004, see further L. Hancher and F.M. Salerno, p. 372.

¹⁰⁸ Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, OJ L 211, 14.8.2009, pp. 55–9 (hereinafter the Electricity Market Directive).

¹⁰⁹ L. Hancher and F.M. Salerno, p. 390.

2.2 The EU's legal framework for energy security

Even before the first oil crisis in 1973, the European Communities became aware of the high dependence on oil imports and the likely consequences of supply disruptions.¹¹⁰ The Directive on oil stockpiling¹¹¹ obligated the Member States to maintain minimum oil reserves equivalent to the amount of 65 days of petroleum consumption. Further legislative developments in this area, however, have been slow. The supply of energy has always been a special security issue in the Member States, which have remained reluctant to confer more power to the Union in this field.¹¹² Before the Lisbon Treaty introduced the explicit energy security provision,¹¹³ the EU made use of its competence on the completion of the internal market and adopted necessary directives with common rules for the internal market of gas and electricity.¹¹⁴ But besides this legislation, the question of the EU's competence in security issues has been a sensitive one. In the *Campus Oil Case*,¹¹⁵ the then European Court of Justice (ECJ) accepted that security of supply was to be seen as an exemption of the public security criteria according to Article 36 EEC Treaty (now Article 36 TFEU). National considerations aiming to safeguard the secure supply of energy can therefore be justified as a restriction to the free movement of goods.¹¹⁶

Recent EU energy policy initiatives mainly focus on climate change, energy efficiency and RES, and thus pursue clear environmental objectives. This can nevertheless be seen as a contribution to the furtherance of separating the three energy policy objectives since the latest policy initiatives also strive to improve the security of supply. Energy security is an integral part of all energy policies that were introduced in Chapter 2.1. Some relevant security-related policies will be presented in the last part of this Chapter. The first part will elaborate general theoretical concepts of energy security and will provide a basis for the further understanding of the EU policy.

¹¹⁰ See further J. Panek and Z. Tasnadi, "The Directive on emergency oil stocks" in *EU Energy Law, Volume VI, The Security of Energy Supply in the European Union*, J.-A. Vinois (ed.), Claeys & Casteels 2012, p. 95.

¹¹¹ Council Directive 68/414/EEC of 20 December 1968 imposing an obligation on Member States of the EEC to maintain minimum stocks of crude oil and/or petroleum products, OJ L 308, 23.12.1968, pp. 14–16 as amended through Council Directive 72/425/EEC of 19 December, which imposed an obligation to maintain minimum stocks of crude oil for 90 days.

¹¹² See further J.-A. Vinois, p. 24; A. Behrens, "Renewables in the Interaction between Climate Change Policy and Energy Security" in *Renewable Energy Law & Policy Rev.* 5 (2010), p. 5.

¹¹³ Article 194(1)(b) TFEU provides a scheme for shared competences with regard to energy security.

¹¹⁴ See further 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, OJ L 27, 30.1.1997, pp. 20–29 and Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas, OJ L 204, 21.7.1998, pp. 1–12. These Directives are based on Articles 57(2), 66 and 100a EC Treaty, which refer to the completion of the internal market.

¹¹⁵ Case 72/83 *Campus Oil Limited and others v Minister for Industry and Energy and others* [1984] ECR 2727.

¹¹⁶ For a rather critical view on the findings of the case, see K. Talus, pp. 162–165.

2.2.1 Concepts of energy security

First of all, it is important to define the term *energy security* and its different dimensions and aspects. Energy security is very difficult to quantify because several different factors can potentially influence the analysis. This can lead to different definitions depending on what aspects are considered the most important.¹¹⁷ Some of the most common methods are presented below.

2.2.1.1 International law and geopolitics

From an international perspective, the concept of energy security ranges “from physical security of personnel and of installations, and secure transport by land or by sea, to securing a stable legal and political climate for energy trade and investment.”¹¹⁸ This geographic picture embraces the site of production (or extraction), the place of consumption and the transit areas in between.¹¹⁹ All states and actors involved in this chain have different interests.¹²⁰ The state extracting the fossils is concerned about the physical security of installations and the well-being of employed workers. This exporting state is further interested in maintaining a stable environment for investments and a steady security of demand from other countries. For the importing state, it is necessary to have a secure supply of energy as the imports are crucial for its industry and for its overall energy mix.¹²¹ The countries offering transit infrastructure, such as oil and gas pipelines or high voltage power lines, are mainly concerned with the safety maintenance of these infrastructures. As outlined in Chapter 1.1, the EU needs more energy than it can produce within its borders and is thus reliant on energy imports from abroad. The main problem for the EU is the secure and affordable supply of energy. Therefore this thesis uses the broader term energy security, but thereby mainly refers to supply security.

¹¹⁷ Brief summaries of various methods to determine indicators of and to quantify security of supply are available in B. Kruyt, D.P. van Vuuren, H.J.M. de Vries and H. Groenenbergy, “Indicators for energy security” in *Energy Policy*, Volume 37 (2009), pp. 2168-2171.

¹¹⁸ C. Redgwell, “International Energy Security” in *Energy Security, Managing a Risk in a Dynamic Legal and Regulatory Environment*, B. Barton, C. Redgwell, A. Rønne, D. Zillman (eds.), Oxford University Press 2004, p. 17.

¹¹⁹ G. Escibano and J. García-Verdugo, *Energy Security for the EU in the 21st Century: Markets, Geopolitics and Corridors*, J.M. Marín-Quemada, J. García-Verdugo and G. Escibano (eds.), Routledge 2012, p. 50.

¹²⁰ All kinds of actors involved in the chain of energy trade are presented in C. Redgwell, pp. 17-46. Different geographic importance of energy and historical development of the term energy security is described by B. Barton, C. Redgwell, A. Rønne, D. Zillman, “Energy Security in the twenty-First Century” in *Energy Security, Managing a Risk in a Dynamic Legal and Regulatory Environment*, B. Barton, C. Redgwell, A. Rønne, D. Zillman (eds.) Oxford University Press 2004, pp. 457-458.

¹²¹ C. Redgwell, p. 18.

2.2.1.2 The four dimensions: Availability, accessibility, affordability, acceptability

Several scientific attempts have been made to quantify security of supply and many of them share a preference for mutual criticism.¹²² Still, there has been a general consensus to agree on four dimensions of energy supply security: availability, accessibility, affordability and acceptability.¹²³ The Commission has proclaimed that the EU's long-term strategy for energy supply security aims to ensure "the well-being of its citizens and the proper functioning of the economy, the uninterrupted physical availability of energy products on the market, at a price which is affordable for all consumers (private and industrial), while respecting environmental concerns and looking towards sustainable development".¹²⁴

The International Energy Agency (IEA) has a comparable understanding of what considerations are significant for the term of secure supply, as it pursues "uninterrupted availability of energy sources at an affordable price".¹²⁵ The aspects of availability and accessibility are of deeper interest for this study as electricity shows some specialities. The secure supply with this energy type requires a particular infrastructure. Other energy types, such as oil and liquefied natural gas (LNG),¹²⁶ are commodities, and in this regard tradable on the market, and storable. Their supply can be more easily adjusted to the demand level, whereas it is problematic to promptly react to demand changes with so-called net bound energy types, *e.g.*, compressed natural gas (CNG) and electricity. Due to the requirement of having a pipeline or electricity lines, seeking availability is even more difficult. In the event of supply interruption there is often no other "back-up" infrastructure to ensure the energy flow. Therefore construction and maintenance of energy infrastructures are crucial, as shown in Chapter 3.1.

2.2.1.3 Vulnerability and dependence

To further shape the term of energy supply security, the two technical terms *vulnerability* and *dependence* require a deeper understanding. The term *vulnerability* is related to the geography of supply and the flexibility of supply systems in case of interruptions. It can be quantified with the Herfindahl-Hirschmann Index,¹²⁷ which is defined as the sum of the squares of the

¹²² Different techniques and the respective critical aspects are illustrated in B. Kruijt, D.P. van Vuuren, H.J.M. de Vries and H. Groenenberg, pp. 2168-2171.

¹²³ See B. Kruijt, D.P. van Vuuren, H.J.M. de Vries and H. Groenenberg, p. 2268.

¹²⁴ European Commission Green Paper, *Towards a European Strategy for the Security of Energy Supply*, p. 3.

¹²⁵ See further <http://www.iea.org/topics/energysecurity/subtopics/whatisenergysecurity/> (accessed 27 September 2014).

¹²⁶ Due to the volume decrease when natural gas is converted into liquid gas, storage and transport are possible.

¹²⁷ This generic concentration index describes long-term vulnerability. On the calculation, see J. García-Verdugo, "Global policy scenarios and economic scenarios as tools for energy policy" in *Energy Security for the*

market shares that are participating in the market.¹²⁸ The more suppliers and the smaller their shares, the lower the index, and thus the lower the vulnerability. If only few suppliers are holding large shares, the vulnerability of the state is higher. The term *dependence* relates to the share of import compared to the share of self-supply.¹²⁹ The more the energy demand can be satisfied with indigenous energy resources, the lower the import dependence. Both *vulnerability* and *dependence* determine the level of security of energy supply, along with international relations, economic power, and the political power of the state in question. However, vulnerability is deemed more relevant for the level of energy security than the level of dependence.¹³⁰ Diversification can prevent vulnerability but cannot influence the dependence; dependence itself can only be mitigated by reducing imports.¹³¹ Import reduction can only be the consequence of increased self-supply, but it can never itself be the measure to reduce dependence. Diversification strategies can be applied on all levels: sources, suppliers and transportation routes.¹³² Impacts of disruption from one supplier can be balanced more easily the more diverse the sources and suppliers are. The same applies for transportation infrastructure, where alternative routes allow for greater flexibility in case of supply shortcomings or technical disturbances. The entire supply chain is less vulnerable when diversified.¹³³

2.2.1.4 Dimension in time: Long-term security

The topic of energy security can be divided into two main sub-topics, which have been defined by the IEA and include the following:

Energy security has many aspects: long-term energy security mainly deals with timely investments to supply energy in line with economic developments and environmental needs. On the other hand, short-

EU in the 21st Century: Markets, Geopolitics and Corridors, J.M. Marín-Quemada, J. García-Verdugo and G. Escribano (eds.), Routledge 2012, pp. 69-70.

¹²⁸ Several recent approaches to measure and quantify energy security are presented and analysed in J.C. Jansen and A.J. Seebregts, “Long-term energy services security: What is it and how can it be measured and valued?” in *Energy Policy*, Volume 38 (2010), pp. 1654 ff.

¹²⁹ J.M. Marín-Quemada, C. Velasco and B. Muñoz, “Competition and Complementarity in the international energy markets: the EU’s Energy Affinity Index” in *Energy Security for the EU in the 21st Century: Markets, Geopolitics and Corridors*, J.M. Marín-Quemada, J. García-Verdugo and G. Escribano (eds.), Routledge 2012, p. 65.

¹³⁰ J. García-Verdugo, p. 68.

¹³¹ J.M. Marín-Quemada, C. Velasco and B. Muñoz, p. 55.

¹³² Diversification is one of the principles that are mentioned, along with the principle of resilience, the principle of reality of integration and with the principle of importance of information, in D. Yergin, “Ensuring Energy Security” in *Foreign Affairs*, Volume 85 No. 2 (March/April 2006), p. 76. Diversity indices are criticized for being both too formal and subjective to indicate energy security, see B. Kruyt, D.P. van Vuuren, H.J.M. de Vries and H. Groenenberg, p. 2168.

¹³³ The importance to ensure security for the entire supply chain is underlined in D. Yergin, p. 78.

term energy security focuses on the ability of the energy system to react promptly to sudden changes in the supply-demand balance.¹³⁴

The EU's energy security policy deals with both short-term and long-term strategies.¹³⁵ The policy field of short-term security and emergency plans is not a particular subject of this thesis. However, the long-term planning is the overall basis for the EU's energy security policy, especially with regard to investment and infrastructure, discussed in Chapter 3.1.

2.2.2 The EU's policy framework for energy supply security

The first step towards a common policy on energy security was made with the 2000 Green Paper *Towards a European strategy for the security of energy supply*. The EU acknowledged the growing dependence on energy imports as a great threat to energy security. As it was assumed that energy self-sufficiency was not a realistic option and that energy imports would be inevitable, the Union adopted *diversification* as a tool to achieve more energy security,¹³⁶ especially in the fields of energy sources and energy suppliers.¹³⁷ Concerning imports, the Union, under a common negotiation strategy with suppliers, aims to geopolitically diversify trade partners.¹³⁸ The external policy focuses on a common strategy for supplies from Russia, the Black Sea Regions, the Middle East and North Africa.¹³⁹ Although internal and external dimensions of energy security are seen as inseparable in policy-making, this thesis will solely concentrate on the internal aspects.¹⁴⁰

The internal strategy can be briefly described as promoting increased indigenous supply, especially from RES, and distributing this energy with the help of the internal energy market to make it affordable. However, to make this energy accessible, it is crucial to technically adapt energy infrastructure to these new circumstances, see further the challenges for energy infrastructure through the EU's energy security policy in Chapter 3.1.2. The following subchapter will describe those policies that have been influential in enhancing supply security with regard to gas and electricity. Energy security is not only relevant for

¹³⁴ <http://www.iea.org/topics/energysecurity/> (accessed 18 October 2014).

¹³⁵ Measures concerning the short-term energy security are for example: Council Directive 2009/119/EC of 14 September 2009 imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products, OJ L 265, 9.10.2009, pp. 9–23. For a further description of the conceptual difference of long-term and short-term security, see J.C. Jansen and A.J. Seebregts, p. 1654 ff.

¹³⁶ Commission Green Paper, *Towards a European strategy for the security of energy supply*, p. 22.

¹³⁷ *Ibid.*, p. 31.

¹³⁸ *Ibid.*, p. 24.

¹³⁹ See P. Belkin, pp. 9-19; For the external dimension of supply security, see J.-A. Vinois, pp. 33-36.

¹⁴⁰ B. v.Vooren, "EU external energy policy: the legal and policy impact of the new competence" in *The Treaty of Lisbon and the Future of European Law and Policy*, M. Trybus, L. Rubini (eds.), Edward Elgar Publishing 2012, p. 290.

electricity itself but for the primary energy carriers that are used to generate electricity. Security therefore is concerned with sufficient availability of energy carriers, their efficient production of tradable energy and the reliable trade of energy via energy infrastructure, which is deemed to make energy accessible to the consumer.

2.2.2.1 The EU Energy Security and Solidarity Action Plan

The 2008 *EU Energy Security and Solidarity Action Plan* resulted from the Second Strategic Energy Review, which assessed the 2020 policy with regard for potential improvements in achieving the three energy objectives. The existence of such a review might indicate that the aspect of energy security has not been sufficiently dealt with until that date. The Action Plan was probably not correcting but adjusting the 2020 policy.¹⁴¹ It suggests amendments in five fields: infrastructure and diversification of supplies, external energy relations, oil and gas stocks, energy efficiency and indigenous energy resources.¹⁴²

With regard to energy efficiency and the crisis response mechanisms for oil and gas stocks, the Action Plan includes some concrete legislative and financial tools.¹⁴³ As an example, after reviewing the Security of Gas Supply Directive,¹⁴⁴ the document suggests maintaining oil stocks instead of establishing strategic gas stocks, since the latter are five times more costly.¹⁴⁵ Moreover, it strives to counter a probable decreasing share of indigenous energy. The 2020 policy already promotes the increase of the energy production, but there is still a need to improve these attempts in order to lower the overall dependence from imports, for example by increasing investments in energy efficiency and RES through the EU Sustainable Energy Financing Initiative, which is a funding instrument created by the Commission and, *inter alia*, the European Investment Bank and the European Bank for Reconstruction and Development.¹⁴⁶

As the first Commission document, the Action Plan draws out six concrete infrastructure projects: the Baltic Interconnection Plan, the Southern gas corridor, the LNG Action plan, the Mediterranean energy ring, the North-South gas and electricity interconnection and the North Sea offshore electricity grid. These projects would enjoy

¹⁴¹ The Commission has stressed that the Action Plan is an essential means since the “20-20-20 measures alone will however not meet the EU’s energy security needs.” See Communication from the Commission, *An EU Energy Security and Solidarity Action Plan*, p. 17. The 2020 policy is illustrated in Chapter 2.1.4.

¹⁴² Communication from the Commission, *An EU Energy Security and Solidarity Action Plan*, p. 17.

¹⁴³ *Ibid.*, pp. 11-15.

¹⁴⁴ This Directive has been repealed and is now Regulation (EU) No 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67/EC, OJ L 295, 12.11.2010, pp. 1–22 (hereinafter the Security of Gas Supply Regulation).

¹⁴⁵ Communication from the Commission, *An EU Energy Security and Solidarity Action Plan*, p. 11.

¹⁴⁶ *Ibid.*, p. 13.

priority under the so-called TEN-E policy and could be realised in a rapid authorisation process.¹⁴⁷ If and how these suggested infrastructure projects are realised under the TEN-E policy will be assessed in Chapter 3.2.2.

2.2.2.2 Completion of the internal energy market through the Third Energy Package

The Third Energy Package was adopted in order to complete the internal market in the energy field and to improve energy security. Liberalisation of the energy market will lead to improved security in supply, as already stated by the First Energy Package, namely by Directive 96/92/EC on common rules for the internal market in electricity. The Third Package policy anticipates a fully competitive energy market as a precondition for more sustainable and secure supply, which further gives the consumer the opportunity to freely choose their energy supplier. Competition in the electricity and gas market shall be improved mainly by unbundling and third party access (TPA).¹⁴⁸

Unbundling can be defined as the separation of network operations and generation activities. This is especially applicable for big vertically integrated companies that are involved in production, transmission and supply. The EU sees the *risk of discrimination*¹⁴⁹ and price manipulation by these established undertakings, resulting in the necessity to unbundle these structures.¹⁵⁰ The operation of the network, usually a natural monopoly, has to be separated from the generation, which shall be open for free competition. Companies are given the choice between different unbundling options.¹⁵¹ This mechanism thus creates “new incentives for companies to invest in new infrastructure, inter-connection capacity and new generation capacity, thereby avoiding black-outs and unnecessary price surges”.¹⁵²

As trade and competition in gas and electricity are tied to the energy infrastructure, all actors need access to the grids. Energy networks are natural monopolies and therefore need certain regulations to prevent discrimination and to maintain competitive structures.¹⁵³ The TPA is therefore a concretisation of the essential facility rule manifested in Article 102

¹⁴⁷ *Ibid.*, pp. 4-6.

¹⁴⁸ The unbundling is referred to in paras. 10-25, and the TPA is referred to in paras. 26, 31, 32 of the Recitals of Directive 2009/72/EC – Electricity Market Directive.

¹⁴⁹ Para. 9 of the Recitals of Directive 2009/72/EC – Electricity Market Directive.

¹⁵⁰ P. Belkin, p. 24.

¹⁵¹ According to paras. 11-15, 16 and 19 of the Recitals of the Electricity Market Directive, the unbundling options are (1) full ownership unbundling; (2) Independent System Operator: The supply company just owns the network; operation, management and investment are done by an independent company; (3) Independent Transmission Operators: supply company can own and operate the network; management can be done by their own subsidiary; a supervisory body is in charge of preserving that daily business of the mother company is involved in the management.

¹⁵² See Commission Press Release IP/07/1361 of 19 September 2007.

¹⁵³ E. Ehlers, *Electricity and Gas Supply Network Unbundling in Germany, Great Britain and The Netherlands and the Law of the European Union: A Comparison*, Energy & Law Series, Volume 9, Intersentia 2010, p. 52.

TFEU, which prohibits the abuse of a dominant market position. TPA guarantees all actors access to the transmission and distribution system. The allocation of free capacity is based on law and the tariffication is published and pre-approved.¹⁵⁴ If the grid operator seeks to reject a third party's application, the refusal has to fulfil certain requirements for substantial and law-based justifications. These tools strive to create more transparency and legal security for all actors involved.¹⁵⁵ This policy is designed to break the power of dominant actors and to facilitate the entering of the market for new companies and in particular green producers.

2.2.3 EU Law

The energy objective of security of supply is now enshrined in Article 194(1)(b) TFEU and enjoys a certain status because of this explicit mention in primary EU law. The following secondary law, which is relevant for the scope of this thesis, is mainly concerned with the above mentioned internal energy market and the energy infrastructure.

2.2.3.1 Legislation under the Third Energy Package

The legislative acts that have been accepted under the Third Energy Package strive to improve the internal market on gas and on electricity and seek to facilitate trade across European internal borders. The Electricity Market Directive and the equivalent directive for gas, the Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas,¹⁵⁶ deal with existing obstacles to trade, such as discrimination of power generators when they try to access the network. The directives thus further tighten the unbundling mechanism of the second energy package to a fully effective separation of generation and supply from network operation.¹⁵⁷

Regulation (EC) No 714/2009 on electricity cross-border exchanges contributes to the completion of the internal market by enhancing the cross-border trade of electricity. As electricity is net-bound, the infrastructure provides the precondition to realise trade in electricity and thus to couple the national markets and to complete the internal market. This is crucial for energy security because the pan-European grid created through network interconnections is able to promptly react to supply disruptions in one area and thus balance

¹⁵⁴ This is regulated in Regulation No 714/2009 of the European Parliament and the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation No 1228/2003, OJ L 211, 14.8.2009, pp. 15–35. See para. 10 and para. 24 of the Recitals of the Regulation.

¹⁵⁵ In this respect consumers are acknowledged in para. 51 of the Recitals and in Article 3(7), new actors on the market are acknowledged in para. 11 of the Recitals and in Article 8(3) of the Electricity Market Directive.

¹⁵⁶ Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, OJ L 211, 14.8.2009, pp. 94–136.

¹⁵⁷ Para. 24 of the Recitals of Directive 2009/72/EC – Electricity Market Directive.

demand and supply. Strong technical links for exchange guarantee the effective transmission of electricity; alternative supply routes are crucial to prevent vulnerability to supply interruptions.¹⁵⁸ These exchanges shall be managed by the European Network of Transmission System Operators for electricity (ENTSO-E). In line with Articles 6-8 of the regulation, the ENTSO-E shall devise network codes that provide rules for network security, harmonised tariffs and information exchange. Further, the technical requirements for electricity exchanges shall be analysed. The ENTSO-E will regularly publish a Ten-Year Network Development Plan (TYNDP) to inform policy-makers on progress in cross-border electricity transmission and to discover potential for improvement and legal action.¹⁵⁹

2.2.3.2 The Security of Electricity Supply Directive

The Security of Electricity Supply Directive¹⁶⁰ seeks to safeguard the electricity supply by ensuring an adequate level of generation capacity and by balancing supply and demand. Article 1 of the directive requires the Member States to enact legislation for the maintenance of the appropriate levels of network interconnections with adjacent states. According to Article 5, national energy policies have to be adjusted in such a way that generation capacities are in reasonable relation to the actual demand. This policy clearly calls upon the Member States to develop holistic concepts or solutions for how to transform their energy systems. The directive strives to prevent one-sided developments of generation capacity that cannot be used because of missing connections to the transmission network, or surplus power production capacity which remains unused because of a lack in demand.¹⁶¹ This, *inter alia*, happens in wind power generation; a classic situation in which unused surplus capacity is switched off are non-rotating windmills despite blowing wind.

¹⁵⁸ M. van Stiphout, “The internal electricity and gas market, the best guarantee for security of supply” in *EU Energy Law, Volume VI, The Security of Energy Supply in the European Union*, J.-A. Vinois (ed.), Claeyes & Casteels 2012, p. 46.

¹⁵⁹ See further <https://www.entsoe.eu/about-entso-e/system-development/ten-year-network-development-plan/Pages/default.aspx> (accessed 29 September 2014).

¹⁶⁰ Directive 2005/89/EC of the European Parliament and of the Council of 18 January 2006 concerning measures to safeguard security of electricity supply and infrastructure investment, OJ L 33, 4.2.2006, pp. 22–27.

¹⁶¹ For the demand side this might include measures to prevent the demand pattern from changing radically without a simultaneous adaption of the supply pattern. Rapid technical changes can potentially influence the relative share of the energy types needed and thereby create distortions in the demand pattern. This could lead to unforeseen exhaustion of a particular energy type and an over-capacity of other types. Changes in supply and demand therefore have to be adjusted and harmonized by the national legislator.

2.2.3.3 The Security of Gas Supply Regulation

In the aftermath of the 2009 gas crisis between Russia and Ukraine, see further above in Chapter 1.2, the EU adopted the Security of Gas Supply Regulation.¹⁶² This legislation was the first adopted under the new Article 194(1)(b) TFEU and aims to complete the Third Energy Package. The regulation seeks to prevent supply problems and imposes an emergency plan for the event of a supply disruption. The emergency plan includes supply standards for so-called protected costumers. According to the definition in Article 2(1), they include private households and, if decided by the Member State, medium-sized undertakings and social services. Thus, large industries are not included and cannot expect gas supply in the event of disruption. Pursuant to Article 8, the competent authorities are required to ensure that gas suppliers are prepared to provide gas to protected consumers in three different scenarios. First, in case of a seven day period with an extreme temperature peak, second, a thirty day period with high demand and finally, in the event of a thirty day period in case of a disruption of the largest infrastructure in an average winter.¹⁶³ This Security of Gas Supply Regulation provides for more preparedness and for more solidarity among the Member States. It can be seen as an important step towards a common energy policy and emerging cooperation among the states but also between states and suppliers.¹⁶⁴

2.3 Concluding remarks on the EU's legal framework for energy security

The long-term energy security policies mainly strive to achieve a secure supply through the completion of the EU's internal market and free competition. This is intended to lower prices for consumers, to create incentives for investment and to foster new energy production capacities. The exchange of energy across borders and thus the success of the energy security policy rely on appropriate energy infrastructure. Regulation No 347/2013 on trans-European energy networks and other energy security legislation that concern the energy infrastructure will be the subject of Chapter 3.3.

¹⁶² Regulation (EU) No 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67/EC, OJ L 295, 12.11.2010, pp. 1–22.

¹⁶³ More information on the N-1 rule in S.E. Beyer, “The new Regulation on security of gas supply” in *EU Energy Law, Volume VI, The Security of Energy Supply in the European Union*, J.-A. Vinois (ed.), Claeyes & Casteels Law 2012, pp. 119ff.

¹⁶⁴ *Ibid.*, p. 129.

3 Cross-border Infrastructure

Energy infrastructure can be described as the backbone of the internal market.¹⁶⁵ The interconnection of energy infrastructure across borders is a fundamental prerequisite to ensure energy security. Chapter 3 is divided into three parts and begins with an overview of the factual situation of the energy infrastructure and its future challenges. The focus will be limited to electricity infrastructure. The second part of the Chapter introduces the legal framework for electricity infrastructure, including the framework for security-related law and the special infrastructure policy on trans-European networks. The conceptual development of the trans-European networks for electricity will be presented, beginning with the Maastricht Treaty and ending with the current Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure. This Regulation and its aim to create a trans-European network are illustrated in the third part of this Chapter. The Regulation stipulates a certain facilitation and acceleration in the authorization procedures for infrastructure projects. The influence of these provisions on the national permit granting procedures is investigated in Chapter 5. A comprehensive map of the European electricity high-voltage transmission grid is provided in the Annex of this thesis.

3.1 The electricity infrastructure in Europe

3.1.1 The actual condition of electricity infrastructure

Policy-makers and the ENTSO-E have underlined the urgent need for increasing investment in energy infrastructure to prevent congestion of electricity networks.¹⁶⁶ Investments in the energy system between 2010 and 2020 are estimated to exceed one trillion Euro, half of which is for infrastructure.¹⁶⁷ Even the responsible former EU Commissioner for Energy, Günther Oettinger, has described the grid infrastructure as “too old, too fragmented, and already overloaded at several critical points”.¹⁶⁸ That stresses the need for further investment in the field of infrastructure. It is generally agreed upon that building new grids and enlarging and interconnecting existing grids are both necessary, not only to cope with the increasing

¹⁶⁵ This expression is taken from the title of C. Sikow-Magny, “The energy infrastructure, the backbone of the internal market” in *EU Energy Law, Volume VI, The Security of Energy Supply in the European Union*, J.-A. Vinois (ed.), Claeys & Casteels Law Publishers 2012.

¹⁶⁶ Commission Contribution to the European Council of 22 May 2013, *Energy challenges and policy*, 22 May 2013 (accessible on http://ec.europa.eu/europe2020/pdf/energy2_en.pdf); ENTSO-E, *Ten-Year Network Development Plan 2012*, 5 July 2012, (accessible on https://www.entsoe.eu/fileadmin/user_upload/_library/SDC/TYNDP/2012/TYNDP_2012_report.pdf), p. 11.

¹⁶⁷ Communication from the Commission, *Energy infrastructure priorities for 2020 and beyond – A Blueprint for an integrated European energy network*, COM(2010)677 final of 17 November 2010, Official Brochure, Luxembourg: Publications Office of the European Union, 2011 (hereinafter the Blueprint Communication), p. 11.

¹⁶⁸ G.H. Oettinger described the energy infrastructure in his foreword to the Blueprint Communication.

amount of generated electricity but also to improve the technical reliability of the networks. The current weak interconnection of power grids is a bottleneck and can lead to black-outs in the supply system.¹⁶⁹ However, several problems are likely to occur during the construction of new grids and the interconnection of existing grids. The grid operators and the ENTSO complain about the lengthy authorisation procedures, which may delay the completion of projects.¹⁷⁰ This may lead to unnecessary cost increases and could discourage investment in those projects. The ENTSO-E furthermore observes that social acceptance for infrastructure projects is low.¹⁷¹ This is especially relevant for cross-border infrastructure projects, which usually encounter strong local opposition,¹⁷² as these constructions are often perceived as transit lines having no benefits for the local communities.¹⁷³ The ‘not in my backyard’ argument seems to be a major obstacle to power transmission lines.¹⁷⁴ In addition to these general issues, electricity infrastructure has to cope with particular challenges resulting from the EU’s energy policies which promote the increasing power generation from RES.

3.1.2 Additional challenges occasioned by the EU energy policy

According to the Commission, the paradigm shift of the EU’s energy policy towards a low-carbon society leads to an electricity-based energy supply. The Commission proposed two measures to decarbonise the power sector: increased energy efficiency and a higher share of renewables.¹⁷⁵ The increasing power generation from RES poses particular challenges for the energy infrastructure. According to the *Energy Roadmap 2050* and the *Blueprint Communication*, the following structural changes are seen as imperative necessities:

First, it is expected that energy production will become more decentralised due to the fact that RES have special characteristics that make them particularly suitable for small-scale energy production.¹⁷⁶ These new generation sites need to be connected to the high-voltage transmission grid via power lines.

¹⁶⁹ See further P. Belkin, p. 25.

¹⁷⁰ ENTSO-E, *Ten-Year Network Development Plan 2010-2020*, 28 June 2010, p. 39 (Accessible on https://www.entsoe.eu/fileadmin/user_upload/_library/SDC/TYNDP/TYNDP-final_document.pdf).

¹⁷¹ *Ibid.*, p. 10.

¹⁷² Commission Green Paper, *Towards a European strategy for the security of energy supply*, p. 60.

¹⁷³ The ENTSO-E regards this as one of the major obstacles to cross-border infrastructure projects, see *ENTSO-E Position Paper on Permitting Procedures for Electricity Transmission Infrastructure*, 29 June 2010, p. 3 (accessible on https://www.entsoe.eu/fileadmin/user_upload/_library/position_papers/100629-ENTSO-E_response_permitting_procedure.pdf).

¹⁷⁴ See http://www.nytimes.com/2014/02/06/business/energy-environment/germanys-clean-energy-plan-faces-resistance-to-power-lines.html?_r=0 (accessed 4 October 2014).

¹⁷⁵ Communication from the Commission, *Energy Roadmap 2050*, pp. 9-10.

¹⁷⁶ The RES production sites are mainly far from the major consumption areas, which means that long distance power transfers are necessary and that grids have to provide for adequate technologies. See J. Verseille, p. 274.

Second, the electricity grid is currently being transformed into a smart grid.¹⁷⁷ This means that the energy supply will become more efficient and flexible since smart technologies can anticipate the demand and thus adapt capacities in generation and storage; it plays an essential role for the security of supply and the transformation towards an electricity-based energy system.¹⁷⁸ Smart grids are also able to combine both high-voltage lines for centralised production from big wind and solar parks and also decentralised distribution lines for small-scale locally generated power.¹⁷⁹

Third, it has been observed that the infrastructure is facing special technical challenges due to the volatile production performance of RES¹⁸⁰, as most of these energy types are intermittent and not continuously available.¹⁸¹ This is particularly relevant to solar power, which is dependent on sun light, and wind power, which is dependent on a certain minimum speed of wind. Tidal energy and run-of-the-river hydropower are further examples of intermittent energy resources; although they are more predictable than the other two, they can still vary with the seasons. Intermittency concerns both the variability and the uncertainty of power.¹⁸² Mitigating these risks is a task for power management. When applying calculated generation forecasts and certain strategies to combine different energy sources from different regions, careful planning can balance volatilities.¹⁸³ Smart grid technologies can further help to balance volatilities in production and consumption.¹⁸⁴ However, a perfectly constant generation has not yet been reached.

This is why, fourth, the Commission calls for more storage options in order to balance the unstable production performance.¹⁸⁵ These new storage facilities, being a part of the energy infrastructure as well, have to be constructed and connected to the transmission grid.

¹⁷⁷ Smart grids are defined as “upgraded electricity networks to which two-way digital communication between grid users as well as intelligent metering and monitoring systems have been added”. See J. Panel and M.S. Jimenez, “Smartening the grids: state of play and prospects” in *EU Energy Law, Volume VIII, The Energy Infrastructure Policy of the European Union*, J.-A. Vinois (ed.), Claeys & Casteels 2014, p. 221.

¹⁷⁸ J. Panel and M.S. Jimenez, pp. 222f.

¹⁷⁹ A. Behrens, p. 13.

¹⁸⁰ For further information on security risks of RES, see *ibid*.

¹⁸¹ For definitions of key terms within the field of ‘intermittency’, see MIT Energy Initiative Symposium on Managing Large-Scale Penetration of Intermittent Renewables, 20 April 2011, p. 7 (accessible on <https://mitei.mit.edu/system/files/intermittent-renewables-full.pdf>).

¹⁸² E.K. Hart, E.D. Stoutenburg and M.Z. Jacobsen, “Potential of Intermittent Renewables to Meet Electric Power Demand: Current Methods and Emerging Analytical Techniques” in *Proceedings of the IEEE*, Vol. 100, No. 2, February 2012, p. 323.

¹⁸³ *Ibid*. The pooling of all resources can mitigate the effects of intermittencies, which is especially important with regard to energy security. See J. Verseille, p. 276.

¹⁸⁴ The energy systems will have to cope with a complex interaction between input and output; the total demand will probably increase and become less stable meanwhile the production becomes less stable as well due to the intermittency of RES. See A. Rønne, “Smart Grids and Intelligent Energy Systems: A European Perspective” in *Energy Networks and the Law, Innovative Solutions in Changing Markets*, M.M. Roggenkamp, L. Barrera-Hernández, D.N. Zillman, I. Del Guayo (eds.), Oxford University Press 2012, p. 144.

¹⁸⁵ Communication from the Commission, *Energy Roadmap 2050*, p. 10.

Examples of storage facilities are hydroelectric power plants, which are used to balance surplus electricity generation.¹⁸⁶ With the surplus power, water storages are filled up and in case of free network capacity, the hydropower is used to produce electricity again.

The above overview reflects several strategic challenges for energy infrastructure that derive from energy policies. It is estimated that about 80% of bottlenecks in the electricity infrastructure are related to RES.¹⁸⁷ Energy infrastructure is the precondition to safeguard secure supply, but at the same time it is profoundly challenged by the energy security policy.

3.2 The EU's legal framework on energy infrastructure

The idea of the trans-European network (TEN) was introduced in 1992 with Article 129(b-d) of the Maastricht Treaty on European Union,¹⁸⁸ which sought to strengthen the economy and to enable all citizens to benefit from an area without internal frontiers. The three national infrastructure sectors, *i.e.* transport, energy and telecommunications, should therefore be interconnected and thus combined to one internal market.¹⁸⁹ This laid the foundation for subsequent energy infrastructure policies. All energy infrastructure legislation is now based on Articles 170-172 TFEU; the legislative basis to enact guidelines is provided for in Article 172(1) TFEU.

3.2.1 The current legal framework on energy infrastructure relating to energy security

A well-functioning electricity infrastructure is the prerequisite for a secure supply of energy. But to make the infrastructure work and to safeguard its operation, a consistent legal framework containing rules on energy security is necessary.

The Directive on security of electricity supply, see also Chapter 2.2.3.2, strives to safeguard a sufficient amount of generation capacity. Article 1(c) of the directive strives to ensure an appropriate level of interconnection between national grids for the development of the internal market. In the Barcelona Meeting in 2002, the European Council decided that 10% of the installed production capacity has to be interconnected by 2005.¹⁹⁰ This target has not yet been achieved in 2013.¹⁹¹ Finally, the directive is meant to contribute towards a clear and stable legal framework, which improves legal security and thus encourages

¹⁸⁶ See further E. Ehlers, p. 49.

¹⁸⁷ ENTSO-E, *Ten-Year Network Development Plan 2012*, 5 July 2012, p. 12, p. 56.

¹⁸⁸ Treaty on European Union, OJ C 191, 29.7.1992, was signed in Maastricht on 7 February 1992.

¹⁸⁹ E.D. Cross, B. Delveaux, L. Hancher, P.J. Slot, G. Van Calster and W. Vandenberghe, p. 300.

¹⁹⁰ Barcelona European Council 15 and 16 March 2002, Presidency Conclusions, SN 100/1/02 REV 1, p. 15.

¹⁹¹ See para. 2 of the Recitals of Regulation (EU) No 347/2013 – TEN-E Regulation.

investments.¹⁹² Further investments in maintenance and renewals aim to improve the infrastructure in general. According to Article 6 of the directive, Member States are under an obligation to enact legislation that encourages investment in transmission and distribution networks.

The EU has not yet adopted any legislation for the event of electricity supply interruptions. Furthermore, there is no electricity emergency plan which is comparable to that which is in place for gas by Regulation (EU) No 994/2010.

Electricity transmission is nevertheless subject to special protection under the Directive on the identification and designation of European critical infrastructures (EPCIP Directive).¹⁹³ The purpose of the EPCIP Directive is to ensure a high level of protection for certain infrastructures against all potential threats, be they caused by technical problems, criminal offence or natural forces. This is important for electricity infrastructure as the supply interruptions can have vast consequences. Especially due to the increasing interconnection, black-outs can possibly have extensive impact. Because economy and society may react very vulnerable to supply interruptions, it is crucial to keep infrastructure damage limited to local levels and to provide immediate restoration.¹⁹⁴

3.2.2 The development of the trans-European energy network policy

The infrastructure policy has been developed in the light of the *Europe 2020 strategy*, which promotes a competitive, resource-efficient and sustainable growth of the economy.¹⁹⁵ Pursuant to the *Energy Roadmap 2050* and the 2013 Green Paper, it is the EU's main objective to reduce GHG emissions by transforming the EU energy mix towards an electricity-based supply. As this targeted low-carbon society mainly relies on electricity that has been generated from RES the shift requires changes in energy infrastructure by upgrading and interconnecting the networks and integrating more RES. Large-scale investment is therefore necessary to finance the required changes in infrastructure. In addition, the EU created structural funds to reduce the financial burden for the Member States, which otherwise may jeopardise the modernisation of the infrastructure. These funds are part of the

¹⁹² Para. 15 of the Recitals of Directive 2005/89/EC – Security of Electricity Supply Directive.

¹⁹³ Council Directive 2008/114/EC of 8 December 2008 on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection, OJ L 345, 23.12.2008, pp. 75-82.

¹⁹⁴ J.A. Hoyos Pérez, “Critical energy infrastructure protection in the EU” in *EU Energy Law, Volume VI, The Security of Energy Supply in the European Union*, J.-A. Vinois (ed.), Claeys & Casteels 2012, p. 83.

¹⁹⁵ Communication from the Commission, *Taking stock of the Europe 2020 strategy for smart, sustainable and inclusive growth*, COM(2014) 130 final/2 of 19 March 2014, p. 3.

EU European Economic Recovery Plan,¹⁹⁶ which has been initiated to overcome the economic crisis.

The following subchapter describes the development of the EU's infrastructure policy in recent years by illustrating how the EU amended and specialised its legal framework.

3.2.2.1 The old TEN-E guidelines: Decision No 1364/2006/EC

The TEN-E policy has always been based on two instruments: first, the guidelines to identify projects able to contribute to the infrastructure interconnection, and second, the rules to financially support these projects.¹⁹⁷ The first guidelines were introduced in 1996. Several amendments changed the way the projects were categorized until eventually the list of projects had grown to several hundreds.¹⁹⁸ In 2006, Decision No 1364/2006/EC introduced new guidelines which aimed to ensure and diversify the energy supply for the EU.¹⁹⁹ The objectives described in its Article 2 are (a) the effective operation of the internal market, (b) ending the isolation of energy islands, (c) ensuring energy security in external relations, and (d) the contribution to sustainable development. This TEN-E policy was in particular meant to meet the target of electricity interconnection that had been agreed upon at the Council in Barcelona. This would ensure greater security of supply and the functioning of the internal market.²⁰⁰ To make the creation of the TEN-E more effective, Article 6 of the decision introduced a third category; then, one had to distinguish between *projects of common interest*, *priority projects* and *projects of European interest*.

According to Article 8 of the decision, *projects of European interest* are projects with a cross-border nature or with a significant impact on cross-border capacity. These projects are to enjoy first priority in financial support. As laid down in Article 7, *priority projects* are projects having a significant impact on either the internal market, the promotion of RES or the security of supply. They are supposed to have second priority for funding. According to Article 6, *projects of common interest* are projects with a potential economic viability after a cost-benefit analysis. The list in Annexes I-III of the decision contains about 550 projects. According to Article 11(1) of the decision, neither the provisions on technical cooperation nor on facilitation of permit granting procedures were binding for the Member States.

¹⁹⁶ Communication from the Commission, *A European Economic Recovery Plan*, COM(2008)800 final of 26 November 2008, pp. 13ff.

¹⁹⁷ See further C. Sikow-Magny, p. 63.

¹⁹⁸ *Ibid.*, p. 64.

¹⁹⁹ See further para. 7 of the Recitals of Decision No 1364/2006/EC of the European Parliament and of the Council of 6 September 2006 laying down guidelines for trans-European energy networks and repealing Decision 96/391/EC and Decision No 1229/2003/EC, OJ L 262, 22.9.2006, pp. 1–23

²⁰⁰ Para. 3 of the Recitals of Decision No 1364/2006/EC.

3.2.2.2 The Priority Interconnection Plan

In 2007, the Commission assessed that “sixty percent of electricity network projects are behind schedule, largely due to the complexity and lack of harmonisation in planning and authorisation procedures. Funding problems and environmental or health objections also constitute obstacles.”²⁰¹ The Priority Interconnection Plan proposes certain measures to speed up the delayed projects and for the creation of a stable investment framework.²⁰² This Communication can be regarded as an attempt to support the TEN-E policy and at the least to speed up the 42 *projects of European interest* of the plan. But, as shown in 2010, this plan could neither improve nor accelerate the grid interconnection, see below in Chapter 3.2.2.3.

3.2.2.3 The amendments due to the 2010 *Blueprint Communication*

The 2010 Communication *Energy infrastructure priorities for 2020 and beyond – A Blueprint for an integrated European energy network* analysed the existing legal and technical situation of energy infrastructure and came to the conclusion that the “challenge of interconnecting and adapting our energy infrastructure to new needs is significant, urgent, and concerns all sectors”.²⁰³ The Communication includes several of the aspects that have been mentioned above, see further Chapter 3.1.2, and the description of particular challenges for infrastructure that derive from the increasing utilisation of RES. Those fields are, *inter alia*, the electricity grid itself and connections to the grid and further options for electricity storage.²⁰⁴ An additional problem is that permit granting procedures are deemed too long and uncertain; approximately ten years can pass between the beginning of the planning phase and the final authorisation.²⁰⁵ These delays are considered responsible for preventing half of the projects from being realised.²⁰⁶ The ENTSO thus called for more streamlining of procedures.²⁰⁷

The old TEN-E policy was considered incapable of dealing with these new challenges as it included several predefined projects and long-term planning.²⁰⁸ The *Blueprint Communication* suggested entirely rethinking the TEN-E mechanism.²⁰⁹ The new method

²⁰¹ See http://europa.eu/legislation_summaries/energy/internal_energy_market/l27081_en.htm (accessed 4 September 2014).

²⁰² Communication from the Commission, *Priority Interconnection Plan*, p. 6.

²⁰³ See the *Blueprint Communication*, p. 9.

²⁰⁴ Natural gas grids and storage, district heating and cooling, CCS, oil transport and refining infrastructure.

²⁰⁵ ENTSO-E, *Ten-Year Network Development Plan 2010-2020*, p. 279.

²⁰⁶ The *Blueprint Communication*, p. 11.

²⁰⁷ ENTSO-E, *Ten-Year Network Development Plan 2012*, p. 202.

²⁰⁸ See the table with 471 projects of European significance in ENTSO-E, *Ten-Year Network Development Plan 2010-2020*, pp. 168-222.

²⁰⁹ The *Blueprint Communication* refers to the old TEN-E framework, which consisted of Decision No 1364/2006/EC, Regulation (EC) No 714/2009 and Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005, OJ L 211, 14.8.2009, pp. 36–54.

should be more intense and focus on a limited number of projects that are chosen with a particular methodology.²¹⁰ Based on the recommendation by the TYNDP, the Commission proposed to focus on four priority corridors: connection of the offshore grid in the Northern Sea with Northern and Central Europe, interconnection in South Western Europe, connections in Central Eastern and South Eastern Europe and the completion of the Baltic Energy Market. The EU followed this recommendation and adopted new TEN-E guidelines.

3.3 The new TEN-E Regulation (EU) No 347/2013

The TEN-E guidelines of Regulation (EU) No 347/2013 constitute a new regime based on selected geographical priority corridors and thematic priority areas. Potential projects located in these corridors or belonging to these areas can be submitted to the Regional Group for an assessment. If the project fulfils all the requirements, it will be listed in the Union list as a project of common interest (PCI). These projects benefit from certain mechanisms that are meant to accelerate the national permit granting procedures as well as from financial support that is available under the Connecting Europe Facility.²¹¹

3.3.1 The scope

The scope of the Regulation is stipulated in its Article 1(1), which reads as follows:²¹²

This Regulation lays down guidelines for the timely development and interoperability of priority corridors and areas of trans-European energy infrastructure set out in Annex I (energy infrastructure priority corridors and areas).

Article 1(2) specifies how the PCIs shall be identified and refers to the threefold effect of the PCI status: It (1) facilitates the timely implementation of the projects, (2) leads to an allocation of financial burdens and risks among the states, and (3) allows for the eligibility for financial assistance by the EU.

At least two main weaknesses of the old guidelines have been remedied by these new guidelines. Article 1 defines the purpose of the Regulation and narrows down its geographical scope as well, see Chapter 3.3.2. The limitation to the geographical regions and technical areas is crucial to keep all action concentrated. This new strategy of focussing on a limited number of regions is thus essential to the new guidelines. A second change is that the Union

²¹⁰ The Blueprint Communication, p. 15.

²¹¹ Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010, OJ L 348, 20.12.2013, pp. 129–171.

²¹² All Articles described in Chapter 3.3 without specification are those of Regulation (EU) No 347/2013.

list is now legally binding for the Member States. The provisions on the acceleration and facilitation of permit granting procedures are no longer recommendations but obligation.

3.3.2 The priority corridors for electricity and the general priority areas

The Regulation draws out concrete priority corridors to which the TEN-E guidelines shall apply. Article 1(1) refers to Annex I, which specifies twelve of these priority corridors, consisting of nine *geographical corridors* and three *thematic areas*. The *geographical corridors* include four corridors for electricity, points (1-4), four corridors for gas and one corridor for oil. The three *thematic areas*, points (10-12), comprise the development of smart grids and electricity highways and the development of a cross-border carbon dioxide network.

The Northern Seas electricity offshore grid, described in point (1), is intended to transport electricity to suitable places of consumption and storage in the adjacent states around the North Sea, the Irish Sea, the Baltic Sea, and the English Channel. Point (2) concerns the North-South electricity interconnection in Western Europe, where the interconnection between the Member States, and especially the connection of the Iberian Peninsula, shall be improved. Corridor point (3) is the North-South electricity interconnection in Central Eastern and South Eastern Europe. In this corridor, interconnection and internal lines with North-South and East-West directions will integrate RES and complete the internal market. The Baltic Energy Market Interconnection Plan in electricity constitutes corridor point (4) and is designed to end the isolation of the Baltic States as well as to foster market integration through integration of RES in the region.

The thematic area in point (10) concerns the development of smart grids,²¹³ which are particularly intended to cope with the large amounts of electricity generated from RES. Area point (11) is also of interest because it concerns the building of electricity highways across the EU's territory.²¹⁴ The highway system shall connect generation sites with consumption centres and storage capacities. It shall further cope with the challenges of variable and decentralised generation and of flexible demand patterns.

The legal concept of priority corridors can be described as an efficient tool to concentrate actions to certain special areas; it constitutes a *legal presetting* to limit the geographical scope for projects to be submitted as a PCI. In contrast, the thematic areas do not

²¹³ Pursuant to the definition in Article 2(7) of the Regulation, smart grids are electricity networks that can integrate in a cost efficient manner the behaviour and actions of all users connected to it, including generators, consumers and those that both generate and consume, in order to ensure an economically efficient and sustainable power system with low losses and high levels of quality, security of supply and safety.

²¹⁴ These highways are intended to accommodate the surplus generation from wind in the Northern Seas and the Baltic Sea and power from RES generated in the East and South, as well as in North Africa.

have geographical limits; they broaden the scope of the Regulation as all projects contributing to the thematic areas can be proposed as PCIs. One can further observe a significant similarity between the corridors and the thematic areas: They all share the aim of integrating electricity from RES. This underlines the importance of the infrastructure policy for the overall policy on the promotion of RES, *inter alia* the 2020 policy and the *Energy Roadmap 2050*.

3.3.3 The Union list of projects of common interest

The first Union list of PCIs was adopted by the Commission as Delegated Regulation (EU) No 1391/2013.²¹⁵ This list constitutes an Annex to the Regulation itself and entails 150 projects in the electricity corridors and two smart grid projects. According to Article 3(4), the Union list will be renewed every two years. The establishment of the list involves different participants and follows the guidelines laid out in Article 3 and the Annexes.

3.3.3.1 The Regional Groups

Article 3 of the Regulation establishes twelve Regional Groups, one for each corridor. As set out in Annex III.1, the Regional Groups for electricity are composed of representatives from the respective Member States, National Regulatory Agencies (NRAs) and TSOs as well as representatives of the ENTSO-E, the Commission and ACER. In contrast to the rather politically motivated selection of PCIs under the old guidelines, the new guidelines include stakeholders and experts. This is seen as bringing more professional knowledge into the decision-making process.²¹⁶ The Groups draw up regional lists with proposed PCIs and submit them to the Commission, which finally adopts the Union list according to Article 3(4).

3.3.3.2 The evaluation process – the creation of the Union list

For the final Union list to be created, several steps are necessary. A prerequisite for a project to take part in the selection for the Union list is, according to Annex III.2(3), that it has successfully applied for the last TYNDP for electricity.²¹⁷ The Regional Groups for electricity have to follow the procedure laid down in Article 3(2) and Annex III.2.

First, the project promoter has to submit an application for the selection as PCI to the respective Regional Group. This application shall entail all information that is necessary for

²¹⁵ Commission Delegated Regulation (EU) No 1391/2013 of 14 October 2013 amending Regulation (EU) No 347/2013 of the European Parliament and of the Council on guidelines for trans-European energy infrastructure as regards the Union list of projects of common interest, OJ L 349, 21.12.2013, pp. 28–43.

²¹⁶ M. Zsigri and N. Siefken, “The projects of common interest: the evaluation process and lessons learned from the first exercise held in 2012-2013” in *EU Energy Law, Volume VIII, The Energy Infrastructure Policy of the European Union*, J.-A. Vinois (ed.), Claeys & Casteels 2014, p. 171.

²¹⁷ This requirement only refers to the infrastructure categories in Annex II.1(a), (b), and (d).

the Regional Group to perform the qualitative and quantitative assessment, which is described below in Chapter 3.3.3.3. After this evaluation, the Member States have some prerogative to either support or disapprove a project. This opinion, however, does not affect the composition of the regional list; it has to be considered by the Commission when adopting the projects but it cannot prevent a project from being submitted to the Commission. The Regional Group draws out a draft list with eligible projects that fulfil the criteria of Article 4. Pursuant to point (12), this draft shall be evaluated by ACER, which issues an opinion on the consistency of the application and especially on the cost-benefit analysis across regions. After having adopted this opinion, the final regional list will be submitted to the Commission pursuant to Article 3(3) and Annex III.2(13). The Union list is adopted by the Commission in the delegated act procedure according to Article 3(4). When deciding on the PCI, the Commission shall consider the criteria in Article 3(5), which are, *inter alia*, the above-mentioned opinion of the Member States concerned and the aim of a manageable number of projects.

Both requirements are of certain importance. It is crucial for the realisation of the infrastructure projects that the Member States are convinced of the benefits. Although the Union list is binding for the states, one has to be aware of the important role of national authorities in the permit granting procedure. If a respective Member State is not entirely convinced, it could potentially delay the proceedings and thus prevent the effective establishment of the respective PCI. Furthermore, it is important for this new approach of the Regulation to only adopt a limited number of projects. The old guidelines have been widely criticised as lacking an appropriate focus.²¹⁸ If the new policy can be understood as turning away from long and unmanageable lists, it has to, as a first step, select a limited amount of projects and then to focus on the realisation of these PCIs. The limitation of PCIs can be seen as a prerequisite for the successful implementation of the new TEN-E guidelines.

3.3.3.3 Criteria for PCIs

When the competent bodies draft the regional list and during the adoption of the Union list, the submitted projects undergo a special assessment comprised of quantitative and qualitative criteria. The general quantitative criteria in Article 4(1) require that the project is necessary for at least one of the priority corridors or thematic areas and that the overall benefit of the project outweighs its costs. As stipulated in Article 4(1)(c), the project needs to have cross-border relevance by either (i) directly crossing a border between two Member States, (ii)

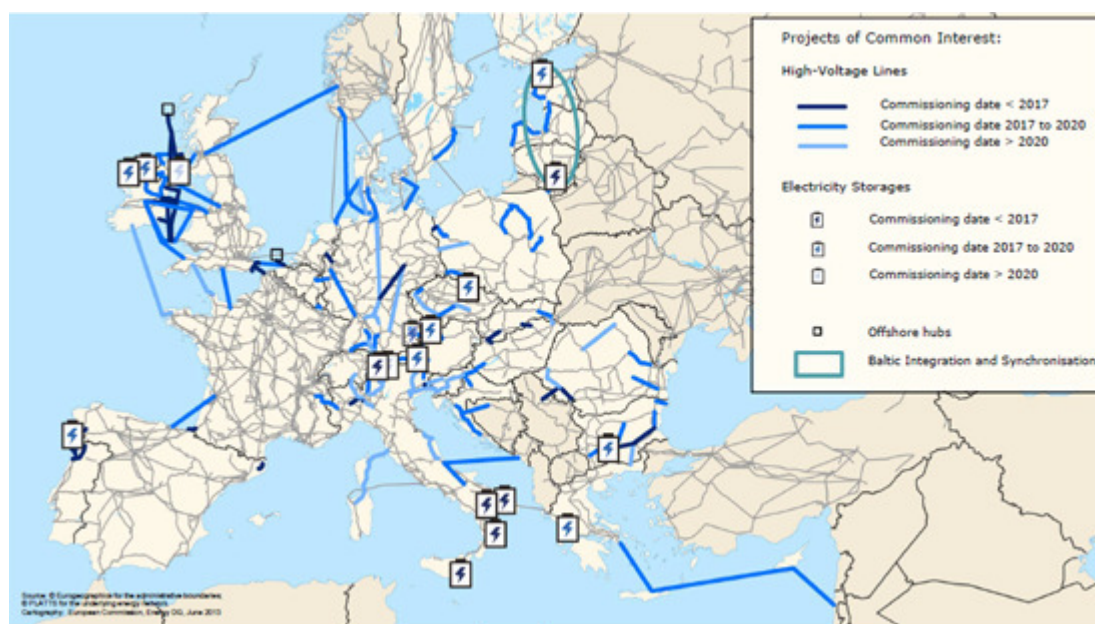
²¹⁸ M. Zsigri and N. Siefken, p. 177.

being located in only one Member State but showing a significant cross-border impact as defined in Annex IV.1, or (iii) crossing the border of at least one EU and an EEA state.

To meet the specific criteria for electricity transmission in Article 4(2), the respective project has to fit into one of the categories of Annex II.1(a-d). The Annex concerns certain technical infrastructure categories, such as minimum kV-levels for high-voltage overhead transmission lines. If the project belongs to these categories, it has to contribute to one of the criteria of Article 4(2)(a): promoting (i) market integration through ending isolation of states and by reducing infrastructure bottlenecks, (ii) sustainability through the integration of RES, or (iii) security of supply through interoperability and appropriate connections.

When ranking the projects selected under the above quantitative assessment, the Regional Groups take into consideration the qualitative criteria of Article 4(4). Qualitative aspects are, *inter alia*, (a) the urgency of a project for the market completion by 2014 and for the three energy objectives and (b) the number of Member States affected by the project.

3.3.4 Projects of common interest in the EU's electricity network



Map of PCIs for high-voltage lines and electricity storages²¹⁹

3.3.5 Future challenges for the TEN-E guidelines

Compared with the previous TEN-E guidelines, the new Regulation can be described as more concrete and more focused due to the limitation of projects and time limits. However, the new guidelines have come across some challenges, *e.g.*, the cost-benefit analysis appears to have

²¹⁹ http://ec.europa.eu/energy/infrastructure/transparency_platform/map-viewer/ (accessed 26 October 2014).

no clear methodology.²²⁰ The wording of the Regulation only provides some guidance on how to identify elements for the cost-benefit analysis but does not introduce a comprehensive methodology; it is now the responsibility of the Regional Groups to find a common approach.

A more general challenge for the future will likely be the actual realisation of the projects themselves. The legal framework is now more concrete and distinct than before and provides the basis for a cautious and prudent selection of PCIs in the Union list. The final success in infrastructure improvement, however, will depend on the translation into action on both the national planning level and the construction level. It is therefore inevitable that the responsible national authorities accelerate the permit granting procedures for PCIs.

3.3.6 Influence of the PCI status for the permit granting procedure

In the permit granting procedure, the PCI status provides for a certain preferential treatment that is not granted to infrastructure projects without that status. The overall purpose of the Regulation is to facilitate the licensing and financing of TEN-E infrastructure projects. According to Article 1(2)(b), the timely implementation of PCIs is facilitated by streamlining, closer coordinating, and accelerating the permit granting procedures. The Regulation further introduces certain instruments such as a one-stop shop strategy, binding time limits and a priority status in national procedures.

Pursuant to Article 8(1), each Member State shall designate one national authority, the so-called one-stop shop authority, to be competent for the permit granting for PCIs. The implementation of a one-stop shop approach has been generally acknowledged as a means to reduce complexity and to improve the transparency of permit granting procedures.²²¹ The choice of a respective scheme of Article 8(3) is further illustrated in Chapter 5.2.1.

Moreover, the Regulation sets out binding time limits for the permit granting process. According to Article 10(1), the permit granting process is divided into two procedures, a pre-application procedure and a statutory procedure. The pre-application procedure begins when the project promoter notifies the one-stop shop authority of the project, and ends when the authority finally accepts the submitted application file. The following statutory procedure lasts until the comprehensive decision has been taken. The time frame for the procedures together shall not exceed three years and six months. According to Article 10(2), exceptions can only be decided on a case by case basis and cannot exceed a maximum of nine months.

²²⁰ *Ibid.*, p. 181. Other challenges encountered are described on pp. 178-181.

²²¹ C.Sikow-Magny, K. Nyitrai and N. Siefken, “The Regulation (EU) 347/2013 on guidelines for trans-European energy infrastructure” in *EU Energy Law, Volume VIII, The Energy Infrastructure Policy of the European Union*, J.-A. Vinois (ed.), Claeys & Casteels 2014, p. 159.

The PCIs selected for the Union list shall furthermore enjoy certain advantages in the national permit granting procedures. Article 7(2) urges for procedural acceleration since the most rapid treatment should be given to the PCI files. In addition, Article 7(3) also calls for a substantial upgrading of PCIs as they are to be allocated the status of highest national significance. In the context of environmental assessments, Article 7(8) stipulates that PICs shall be considered as being of public interest from an energy policy perspective, see further in Chapter 5.4.2. Moreover, the Regulation concerns the streamlining of environmental impact assessments that are part of the licensing procedure. Article 7(4) stipulates that the Commission shall issue guidance on how the Member States are to define measures for this streamlining. Such a guidance document was released by the Commission on 24 July 2013 and will be tackled in Chapter 6. Pursuant to Article 7(5), the Member States shall assess measures to streamline EA procedures by taking into account the Commission's guidance.

Finally, the Regulation provides for allocation of costs and financial assistance, Article 1(2)(c),(d). PCIs can have access to funding under the Connecting Europe Facility.

3.4 Conclusion

The new TEN-E guidelines are an important contribution to the ongoing interconnection of energy infrastructures and they contribute to the furtherance of energy security. The Regulation introduces a comparably stricter and more complex interconnection strategy; the possible delays in the lengthy and uncertain national procedures are dealt with in particular. Especially the process of selecting PCIs is more detailed than in the old guidelines. This view of the improvements in methodology is also shared by the Commission's Directorate-General for Energy.²²² When implementing the guidelines the Member States will have to establish a separated licensing regime for PCIs within their national permit granting procedures in order to provide for the preferential treatment for PCIs in comparison with national projects that do not have any cross-border impact. This may lead to a more comprehensive and coordinated development of cross-border infrastructure. The Regulation is furthermore a necessary prerequisite for the shift to a low-carbon economy as the integration of electricity from RES is one of its main goals and stipulated in the provisions for smart grids, electricity highways and geographic electricity corridors. Finally, the guidelines might be considered as a further contribution to achieve the three energy objectives as Article 4(2) explicitly refers to market integration, sustainability and energy security.

²²² See also M. Zsigri and N. Siefken, p. 177.

4 Energy Security v. Environmental Protection

Energy security and environmental protection are both important objectives of the EU's policy and law. Policy-makers have to integrate these two objectives in the field of energy policy, which, as shown above, has been done with varied levels of success. Whereas the EU has successfully combined aspects of energy security and environmental protection in the field of climate-change related policy, in other fields, such as energy infrastructure policy, the EU still faces challenges in bringing about convergence for these two objectives.

Against this background, the current Chapter first introduces some of the potential conflict areas relating to the compatibility of energy security and environmental protection. The second part of the Chapter presents the legal framework for the environmental policy as laid down in the EU's primary law and addresses the question whether environmental protection has supremacy over other policy objectives. The third part examines environmental impact assessments as an instrument to resolve the conflict between the need to prevent potentially negative effects on the environment and the need for energy infrastructure.

4.1 The general conflict between energy security and environmental protection

As discussed in Chapter 2.1, the objectives of the EU's energy policy are the security of energy supply, competitiveness and sustainability. Although the EU's energy policy has recently developed in such a way that the three objectives seem less mutually exclusive, see further Chapter 2.1.4, there is still some potential left for conflict, especially between energy security and sustainability. The internal energy security policy that has been developed by the EU, relies on (1) energy efficiency, (2) a shift to a low-carbon economy, and (3) technical flexibility and interconnection of energy infrastructure. Within these categories, the first two seem to be rather unproblematic examples of where the EU has obtained some convergence.

The policy on energy efficiency has achieved, at least to a certain extent, the combination of the objectives of energy security and sustainability. More energy efficient technologies are capable of lowering the amount of energy needed for certain activities and thus contribute to a reduction of the energy demand. A reduction of the total energy consumption can lower the need for energy imports and thus reduce the dependencies. Increased energy efficiency can further reduce emissions which is relevant for climate change mitigation.²²³

²²³ Energy efficiency has been dealt with under several legislations that mostly considered labelling requirements for household products, the energy performance of buildings and the GHG saving potential of cogeneration procedures. See, F. Ermacora, "Integration of Environmental Requirements into EC Energy Policy" in

The shift to a low-carbon economy requires the furtherance of electricity-based energy patterns as electricity generation can rely on the different local RES available. This may lead to the reduction of import dependencies of fossil fuels and the strengthening of self-supply. Furthermore, the electricity generation from RES does not emit GHGs and thus contributes to climate change mitigation. The first two policy goals have shown potential to combine the objectives of secure supply and climate policy. It can be concluded that in these categories both objectives have reached a certain level of convergence.

The third aspect of energy security, however, may give rise to a conflict with environmental considerations: The interconnection of energy infrastructure, meaning the construction as such, may interfere with the natural environment. New high-voltage power lines are usually large construction projects and can span hundreds of kilometres. In some areas these lines inevitably have to be installed through forests and unspoilt nature. The European Environmental Agency (EEA) has published research data on how the infrastructure expansion influences nature and has concluded that the impact is considerable.²²⁴ In this respect, the purpose of this Chapter is to elaborate to what extent infrastructure constructions are compatible with the concept of environmental protection.

4.2 Environmental protection in EU law

4.2.1 Environmental objectives in Primary law

EU primary law does not provide for a legal definition for the term *environment*. According to Jans and Vedder, it is impossible to determine from the primary law itself what can be understood under the term of *EU's environmental policy*; this is nevertheless advantageous in terms of flexibility for new developments.²²⁵ However, the term can be defined by analysing the environmental objectives and principles that are found in Article 191 TFEU. Article 191(1) contains the objectives of the Union policy on the environment and reads as follows:

1. Union policy on the environment shall contribute to pursuit of the following objectives:

- preserving, protecting and improving the quality of the environment,
- protecting human health,
- prudent and rational utilisation of natural resources,
- promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change.

Reflections on 30 Years of EU Environmental Law – A High Level of Protection?, R. Macrory (ed.), The Avosetta Series (7), Europa Law Publishing 2006, pp. 163ff.

²²⁴ See description of the EEA data and conclusions below in Chapter 4.2.1.

²²⁵ J.H. Jans and H.H.B. Vedder, p. 32.

The first objective states that EU policy shall contribute to preservation, protection and improvement of the quality of the environment. Due to the expanding human influence, unspoiled and intact ecosystems are rare; the environmental degradation of all kinds of natural areas can have various reasons, *e.g.*, the increasing area of land taken by different kinds of human activities, like urban and other artificial land development.²²⁶ The construction of energy infrastructure can be a relevant factor that contributes to the land taken in this context.

Although most legislation that has been enacted to pursue the objective concerns the protection and preservation of valuable areas and the improvement of the quality of areas that have been degraded, the objective in Article 191(1) TFEU does not distinguish between different areas. Thus, the term *environment* has to be interpreted as a wide-ranging concept.

The provision can be understood as being reactive with regard to preservation and protection, but also proactive with regard to the improvement of environmental quality.²²⁷ Based on this first objective, secondary legislation has been enacted to conserve natural habitats and species of wild flora and fauna.²²⁸ This can probably be seen as being both reactive, in respect of protection of endangered fauna and flora, and proactive, in respect of the aim of improving the overall protection level by virtue of the *Natura 2000* network.²²⁹ An example of environmental proactive protection is the legislative effort taken to improve water qualities.²³⁰ The protection of nature and landscape values²³¹ might be of interest in the context of high-voltage transmission lines that inevitably have to crosscut through landscapes.

²²⁶ Expanding residential areas and constructions are diminishing the area for agricultural, forest and natural land use. The EEA evaluated the development from 1996-2000 and from 2000-2006 and came to the conclusion that the land taking was on decrease in the second period. However, biodiversity is negatively affected by the overall increased land take, and natural habitats are threatened. See <http://www.eea.europa.eu/data-and-maps/indicators/land-take-2/assessment-2> (accessed 28 October 2014).

²²⁷ See N. de Sadeleer, *EU Environmental Law and the Internal Market*, 1st Edition, Oxford University Press 2014, p. 36.

²²⁸ See further Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, OJ L 206, 22.7.1992 (hereinafter the Habitats Directive), pp. 7–50.

²²⁹ The Commission stresses that the 1st pillar (conservation of natural habitats and the habitats of species through the establishment of the Natura 2000 network) requires active maintenance but also restoration and improvement, while the 2nd pillar (protection of animal and plant species) has a more preventive character. See Commission, *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC*, final version, February 2007, p. 13 (accessible on http://ec.europa.eu/environment/nature/conservation/species/guidance/pdf/guidance_en.pdf)

²³⁰ The EEA published an analysis on water quality in rivers and fresh water bodies. For the period from 1992-2006, it states that water pollution of anthropogenic nutrients resulting from organic waste and industrial activities has decreased, overall quality has improved. A decline of concentrations of nitrate, phosphorus and ammonium could be traced after the adopting of legislation to improve water quality. See, <http://www.eea.europa.eu/data-and-maps/indicators/freshwater-quality/freshwater-quality-assessment-published-may-2010> (accessed 28 October 2014). This is probably due to the water management regime under the WFD.

²³¹ J.H. Jans and H.H.B. Vedder, p. 32.

The second objective concerns the protection of human health, which requires good conditions in different parts of the environment, including air quality, water quality, noise standards, crop production and food safety.²³²

The prudent and rational use of natural resources is the third objective of Article 191(1). As the Treaty gives no guidance on how to define the term *natural resources*, one could apply Principle 2 of the Stockholm Declaration, which describes air, water, land, flora, and fauna as natural resources.²³³ Jans and Vedder have further suggested that the term might include, *inter alia*, minerals, oil, and gas.²³⁴ The objective has been enacted in secondary law, *inter alia*, through strict prohibitions regarding the use of fauna, restrictions of land use in certain protected areas, and the possibility to implement management plans for certain areas.

With regard to energy infrastructure it might be relevant to manage nature conservation, soil protection, and the rational use of energy in general.²³⁵ The third objective is closely linked to the first objective when it comes to policies that aim to improve the quality of certain environmental sectors. These policies often rely on a restrictive use of natural resources like land and water. The concept of sustainable consumption and production has been further specified by the EU in the *Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan*.²³⁶

Finally, Article 191(1) mentions regional or worldwide environmental problems and in particular the combat against climate change as one of the EU's core objectives. That means the scope of the article is not limited to a geographical scope as even global challenges such as climate change can be subject to EU environmental law. It has been widely recognized that one cause for global climate change is the impact of human-induced climate change, which results from the increasing release of GHG and carbon dioxide in particular into the atmosphere.²³⁷ One way of addressing the challenges associated with climate change is the so-called climate change mitigation. The Directorate-General for Climate Action states that "Mitigation refers to our efforts to limit the man-made causes of climate change".²³⁸ Thus climate change mitigation can be used as a term describing policy actions taken in the combat against climate change.

²³² N. de Sadeleer, p. 37.

²³³ Declaration of the United Nations Conference on the Human Environment, Stockholm from 5 to 16 June 1972, U.N. Doc. A/Conf.48/14/Rev. 1(1973); 11 ILM 1416 (1972).

²³⁴ See further J.H. Jans and H.H.B. Vedder, p. 37.

²³⁵ *Ibid.*

²³⁶ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan, COM(2008) 397 final of 16 July 2008.

²³⁷ See IPCC, 2013: Summary for Policymakers, p. 15 and p. 19.

²³⁸ http://ec.europa.eu/clima/policies/adaptation/faq_en.htm (accessed 15 October 2014).

The climate policy has been particularly pursued by establishing the scheme for GHG emission allowances in the ETS Directive. In the context of climate change, this means human intervention to reduce the sources or to enhance the sinks of greenhouse gases by using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings, and expanding forests and other sinks to remove greater amounts of carbon dioxide from the atmosphere.²³⁹

The objectives of Article 191(1) TFEU are all of relevance in terms of the EU's energy policy. Nevertheless, the environmental protection and the climate change mitigation are of particular interest in the context of energy security. By virtue of these two objectives, the internal conflict of energy security policy becomes visible: serving both the local environment and the global environment. On the one hand, energy policies have to integrate the environmental objectives that aim at mitigating climate change. As shown above in Chapter 4.1, the environmental policy, in the form of climate policy, and the energy security policy have reached a certain level of convergence, at least in some aspects. On the other hand, the energy policy, in the form of energy infrastructure policy, is colliding with the objectives of local environmental protection, *i.e.* the protection of nature and natural resources from human intervention. In terms of energy infrastructure projects, the immanent conflict of environmental protection between the global environmental protection and the needs for local environmental protection becomes concrete.

4.2.2 Legal principles for environmental policy

According to Article 191(1) TFEU, the environmental objectives mentioned above shall be pursued by legislative measures that are based on a framework of principles comprised of both general EU law principles²⁴⁰ and special environmental principles of Article 191(2) TFEU, which reads as follows:

2. Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.

The essence of the principles and their relevance for the conflict between environmental protection and the expansion of the energy infrastructure will now be briefly described.

²³⁹ http://unfccc.int/essential_background/glossary/items/3666.php#M (accessed 15 October 2014).

²⁴⁰ The EU's general legal principles are the subsidiarity principle, the principle of proportionality, the principle of conferred powers, the integration principle, the principle of equal treatment and the fundamental rights.

The precautionary principle is not defined in EU law but has been subject to legislation, case law and policy orientations, which all made a contribution to further shape the principle.²⁴¹ The application of the precautionary principle in case law is rather consistent as the Court reiterates that in case of a lack of full scientific certainty about risks, the institutions may take protective measures without having to wait until the reality and seriousness of those risks become fully apparent.²⁴² The overall approach in the EU's institutions can be described as the weak approach²⁴³, which has been developed by the UN in Principle 15 of the Rio Declaration.²⁴⁴ The principle of precaution concerns the assessment and management of risks and is separated from the prevention principle, which concerns early actions but does not imply that adverse effects on the environment are uncertain.

The principle of prevention allows actions to be taken at an early stage to preclude damage to the environment, caused by, for instance, energy infrastructure projects. The purpose of the principle is to impede environmental damage with timely preventive measures.²⁴⁵ Some examples of preventive instruments are environmental impact assessments, which are embodied in several secondary legislations, see further Chapter 4.3.

Like Article 3(3) TEU and Article 37 EUCFR, Article 191(2) TFEU includes another relevant principle: the high level of protection principle. The principle has no environmental-related substance as such. The then ECJ has therefore sometimes combined it with the precautionary and the prevention principle in relation to environmental matters.²⁴⁶ The Court has then seemingly created an obligation to achieve a high level of environmental protection whenever the principles of precaution and prevention are applied. The ECtHR considers the precautionary principle a basis for the obligation to attain a high level of environmental protection.²⁴⁷ A high level, however, does not imply that the highest possible level of protection is required.²⁴⁸ The Treaty does therefore not provide for an absolute protection of

²⁴¹ The Commission states that the precautionary principle does not only concern the environmental field but can be considered a general principle. See Commission, *Communication from the Commission on the precautionary principle*, COM(2000) 1 final of 2 February 2000, p. 9.

²⁴² See Cases C-157/96 *UK v Commission* and C-180/96 [1998] I-02211, Ground 63; Case T-199/96 *Laboratoires pharmaceutiques Bergaderm SA and Jean-Jacques Goupil v Commission* [1998] II-02805, Grounds 66, 67; and Case T-70/99 *R Alparma Inc. v Council*, Order of the President of the Court of First Instance of 30 June 1999, OJ C 281, 2.10.1999.

²⁴³ The so-called weak approach finds that scientific uncertainty shall not enable the decision-maker to take measures whereas the strong approach sees an obligation to take measures albeit absence of scientific evidence. The latter approach has been developed in the Wingspread definition of 1998. See <http://www.sehn.org/wing.html> (accessed 22 October 2014).

²⁴⁴ Report of the United Nations Conference on Environment and Development, see footnote 18.

²⁴⁵ N. de Sadeleer, p. 66.

²⁴⁶ See further Joined Cases C-418/97 and C-419/97 *ARCO Chemie Nederland and Others* [2000] I-04475 paras. 36-40 and Case C-252/05 *Thames Water Utilities* [2007] I-03883, para 27.

²⁴⁷ See further *Tatar v Romania*, Application No. 67021/01, ECtHR Judgement of 27 January 2009, para. 120.

²⁴⁸ See J.H. Jans and H.H.B. Vedder, p. 42.

the environment.²⁴⁹ As the level of protection can be determined by the EU legislator, the secondary law often entails different standards. The different protection levels are explicit in the wording of different legislations, *e.g.*, unacceptable effect on the environment; serious risks to human health, animal health or the environment; likely to have significant effects on the environment.²⁵⁰

There has been doctrinal resistance to accept the competence of the CJEU to decide on the compliance of EU institutions to obtain a high level of protection, thus the institutions would have a margin of appreciation to balance environmental protection and economic interests.²⁵¹ Despite the ongoing discourse on the exact definition and limitation of the respective principles, they serve as an important source of law to further frame the objectives of environmental law in general and in terms of energy infrastructure constructions.

Due to its localisation in the Treaty, Article 11 TFEU is considered to belong to the general principles of EU law. The Article stipulates that environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities, especially in order to promote sustainable development, *i.e.* environmental objectives have to be integrated into other policy sectors and environmental aspects must be considered in every decision taken. This would also concern planning decisions for energy infrastructure projects. The aim to integrate environmental preservation and improvement is explicitly stated, *inter alia*, in the context of energy policy in Article 194(2) TFEU. The integration principle is therefore of great importance for environmental law.

4.2.3 Environmental Action Programmes as policy indicators

Since 1973, the EU has published seven Environmental Action Programmes (EAPs). These documents provide a comprehensive picture of the opinions on contemporary developments and problems held by the EU's institutions.²⁵² Observations on the EAPs have shown that the focus of the EU has changed during the past decades. Whereas the 4th EAP underlined the need for high environmental standards,²⁵³ the succeeding programme was titled under the sub-headline *Towards Sustainability*. Thus, the 5th EAP has been described as a departure from earlier policy because it sought to combine the separate spheres of the economic, social and

²⁴⁹ N. de Sadeleer, p. 50.

²⁵⁰ See Articles 4(2)(b), 49(2) of Regulation (EU) No 1107/2009, see footnote 264, and Article 2(1) of Directive 2001/42/EC, see footnote 267.

²⁵¹ N. de Sadeleer, p. 48.

²⁵² J.H. Jans and H.H.B. Vedder, p. 339.

²⁵³ *Ibid.*

environmental sectors towards an “optimum involvement of all sectors of society in a spirit of shared responsibility”.²⁵⁴

The latest EAP *Living well, within the limits of our planet* has been adopted in 2013 and underlines the objective of becoming a low-carbon and resource-efficient economy in 2020.²⁵⁵ The programme emphasises the importance of the EU’s energy policy to help achieve the environmental and climate targets that have been laid down in the *Energy Roadmap 2050*, the *Roadmap to a Resource-efficient Europe*²⁵⁶ and the 2020 policy.²⁵⁷

These reiterations of RES promotion, the compliance with efficiency targets and the importance of climate change mitigation demonstrate that the 7th EAP is striving for the interconnection of the policies for environment and energy. Thus far, the current EAP proves the above statement that in terms of climate protection the convergence of energy security and environmental protection is in progress.

The 7th EAP also provides information on the question of which concept of environmental protection the EU is currently referring to. The EAP declares that the protection, conservation and enhancement of nature capital as its first objective.²⁵⁸ On the one hand, the need to protect and conserve nature is not based on the intrinsic value of nature but on the importance of nature capital for economic prosperity. This nexus with economic values does rather not speak for an intention to preserve the environment just for its own value. On the other hand, the EAP acknowledges that biodiversity deserves preservation for its intrinsic value and for its “essential contribution to human well-being and economic prosperity.”²⁵⁹ The *Biodiversity Strategy 2020* also approves the intrinsic value of biodiversity. Nevertheless, both policies put a major focus on the economic value as the disadvantages caused by the loss of biodiversity are first of all explained to be economic damage.²⁶⁰

Furthermore, the 7th EAP urges the expansion of energy networks being compatible with the protection of nature.²⁶¹ The TEN infrastructure policy in particular supports

²⁵⁴ *Ibid.*, p. 340.

²⁵⁵ Para.1 of the Recitals of Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 *Living well, within the limits of our planet*, OJ L 354, 28.12.2013, pp. 171–200.

²⁵⁶ Communication from the Commission, *Roadmap to a Resource Efficient Europe*, COM (2011) 571 final of 20 September 2011.

²⁵⁷ Paras. 8, 9, 10 of the Recitals of Decision No 1386/2013/EU.

²⁵⁸ Priority objective 1: “To protect, conserve and enhance the Union’s natural capital”, see The 7th Environment Action Programme to 2020 *Living well, within the limits of our planet*, Luxembourg: Publications Office of the European Union, 2014, para. 17, p. 22.

²⁵⁹ *Ibid.*, para.10, p. 19.

²⁶⁰ Communication from the Commission, *Our life insurance, our natural capital: an EU biodiversity strategy to 2020*, COM(2011) 244 final of 3 May 2011, p. 2.

²⁶¹ The 7th Environment Action Programme to 2020 *Living well, within the limits of our planet*, Luxembourg: Publications Office of the European Union, 2014, para. 87, p. 72.

environmental integration and sustainability. Additionally, according to the latest EAP, a policy especially deemed to improve the environment shall deliver benefits for other policy sectors.²⁶² The fact that even the EAP as an environmental-based policy programme demands environmental protection policy to also serve other goals can be understood as an additional indicator that environmental protection should not be considered an isolated objective. It has to be combined with other valid considerations to promote sustainable development.

4.2.4 The relation between energy security and environmental protection

4.2.4.1 Is there a hierarchy of environmental objectives in primary law?

If nature protection and climate protection are theoretically regarded as two opposing goals, and climate policy is taken as supportive for the goals of energy security, it is possible to ask whether Article 191(1) TFEU provides for a supremacy of one objective over the other. Conclusions from this internal conflict between the environmental objectives might facilitate finding arguments to resolve the conflict between environmental protection and infrastructure projects. However, primary law does not provide for a solution in terms of supremacy of one objective over the other. It has been the consensus that there is no hierarchy between the environmental objectives enshrined in the Treaty.²⁶³ Then, the conflict has to be resolved in secondary law as EU institutions are able to decide on a *temporary priority* in order to satisfy the demands of the economic factors or conditions when developing their legislative acts.²⁶⁴ In the Plant Protection Regulation, for instance, it is stipulated that environmental interests prevail over the economic ones.²⁶⁵ Furthermore, the EU legislator made a value decision in favour of environmental protection in the Habitats Directive. According to the CJEU, this implies that Member States would have failed to fulfil their obligations under Article 6(2-3) of the Habitats Directive if they had enacted national legislation that systematically allows exceptions for human activities in the protected area.²⁶⁶

It can be concluded that primary law does not support any structural prevalence of environmental protection over climate protection. Thus, no arguments can be taken in terms of infrastructure. It remains for the legislator to provide for well-prepared law that can be

²⁶² *Ibid.*, para. 88, p. 72.

²⁶³ N. de Sadeleer, p. 35.

²⁶⁴ See further Case 203/86 *Spain v Council* [1988] 4563, para. 10

²⁶⁵ Para. 24 of the Recitals of Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC, OJ L 309, 24.11.2009, pp. 1–50 stipulates that “when granting authorisations of plant protection products, the objective of protecting human and animal health and the environment should take priority over the objective of improving plant production.”

²⁶⁶ Case C-241/08 *Commission v France* [2010] I-01697, para. 76.

applied in the authorisation procedure. The purpose is, *inter alia*, to balance the different goals according to the frame set out in the Treaties.

4.2.4.2 Concluding remarks

The question whether there is a structural hierarchy between environmental protection and energy objectives inherent in the Treaties has to be negated. The importance of both policies has been recognised by allocating special titles for energy and energy infrastructure in Article 194 TFEU and Articles 170-172 TFEU and for the environment according to Articles 191-193 TFEU. A supremacy of environmental objectives over energy objectives, or *vice versa*, is constructed neither explicitly nor implicitly. Summarising the conclusions drawn above, environmental objectives will not necessarily prevail over other Treaty objectives in general.

According to the integration principle, environmental aspects must always be taken into account, but it does not set out a particular primacy of environmental protection. Environmental aspects must be seen in a broader context, together with economic and social needs. A sustainable development cannot uphold the protection of the environment at all costs; compromises are inevitable. Energy supply plays an important role for economic purposes and social aspects. Among the components of sustainable development, environmental protection does not enjoy an absolute value. The need to balance environmental protection with certain other policy objectives can be supported by conclusions drawn from the high level of protection principle. As seen above, this principle does not urge for the highest possible level of protection. Even in areas under the *Natura 2000* network, infrastructure constructions and land use can be permitted under certain requirements. Article 2(4) and Article 16(1)(c) of the Habitats Directive allow for economic aspects to be considered in the decision-making. When applying the principle, the EU legislator has a margin of discretion to balance environmental and economic interests.

In terms of this thesis, it can be concluded that there is a need to make use of this discretion and give a certain weight to other objectives, *e.g.*, energy security. To integrate the environmental aspects into the decision-making, environmental assessments are carried out.

4.3 Environmental assessment procedures in EU law

The environmental assessment (EA) is a procedural instrument to investigate the likely effects of public decisions for the environment. The decision can concern the strategic planning or the licensing of concrete projects. EAs are an integral part of several sectoral directives; the EU's substantive environmental law is sectoral and thus provides for legislation on single

spheres of the environment. The sectoral directives provide for special EA procedures tailored to the particular environmental scope whereas the horizontal regimes of the EIA Directive²⁶⁷ and SEA Directive²⁶⁸ can be applied, in principle, to any environmental sector.

4.3.1 Secondary legislation

4.3.1.1 The EIA Directive

As described in Article 2(1) EIA Directive, the objective is to make projects likely to have significant effects on the environment subject to a requirement for development consent and an assessment with regard to their effect on the environment. This environmental impact assessment (EIA) shall be integrated into the existing procedures for development consent for projects and shall be undertaken before the decision is made. As it is thought to impede future environmental damage, the EIA is referred to as an example for preventive action.²⁶⁹

The scope of the directive is not limited to a certain sectoral or geographical sphere, but restricted by the term *project*.²⁷⁰ In contrast to the SEA Directive, which covers plans and programmes, the EIA Directive only deals with concrete projects, which are defined in Article 1(2)(a) as the execution of construction works or of other installations or schemes, or other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources. For a particular project the EIA can be either mandatory or dependent on a case-by-case examination. The decision is made in the so-called screening according to the scheme set out in Article 4 and in the Annexes of the directive, which list and categorise all types of projects. The EIA procedure is illustrated by the example of a PCI assessment below in Chapter 5.3. According to Article 8 of the directive, the result of the EIA shall be duly taken into consideration in the development consent procedure. This means that the report is not necessarily binding and still leaves discretion to the competent authority on how to follow the recommendation of the EIA.²⁷¹

²⁶⁷ Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, OJ L 124, 25.4.2014, pp. 1–18 (hereinafter the EIA Directive). According to Article 2 EIA Directive, the Member States have to transpose the provisions of the new directive by 16 May 2017.

²⁶⁸ Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, OJ L 197, 21.7.2001, pp. 30–37 (hereinafter the SEA Directive).

²⁶⁹ A.-M. Moreno, “Environmental Impact Assessment in EC Law” in *Reflections on 30 Years of EU Environmental Law – A High Level of Protection?*, R. Macrory (ed.), The Avosetta Series (7), Europa Law Publishing 2006, p. 47.

²⁷⁰ The definition of the term ‘project’ is especially important for the problem of cumulative effect of connected projects and in the context of so-called project splitting. For further information and cases, see J.H. Jans and H.H.B. Vedder, p. 346.

²⁷¹ The unclear effect of the EIA on the authorisation procedure has been criticised. See A.-M. Moreno, p. 53.

4.3.1.2 The SEA Directive

The purpose of the SEA Directive is to identify environmental effects at an even earlier stage than possible to evaluate under the EIA Directive. To obtain such an early assessment, all plans and programmes likely to have significant environmental effects are subject to a strategic environmental assessment (SEA). According to Article 4(1), the assessment shall be carried out during the preparation of a plan or programme and before its adoption or submission to the legislative procedure. The SEA might be described as an equivalent to the EIA. The main difference is that the SEA is concerned with the strategic planning stage but not individual projects. According to Article 2(a), the SEA applies to plans or programmes which are subject to preparation and/or adoption by an authority at the national, regional or local level or which are prepared by an authority for adoption through a legislative procedure by Parliament or Government and which are required by legislative, regulatory or administrative provisions. The scope of the directive can be described as rather broad.²⁷² The assessment in the strategic planning stage is particularly intended to discover and evaluate cumulative impacts that may result from different projects, each of which would not reach a certain impact threshold.²⁷³ The SEA is mandatory for plans and programmes likely to have an effect on sites protected under the Habitats Directive and for those that are set out in Article 3(2)(a). The latter concerns planning in the fields of, *inter alia*, energy, transport, country planning, and land use. Pursuant to Article 5 and Annex I, any significant effects that the plan or programme might have on the environment and their reasonable alternatives must be identified, described and evaluated in an environmental report, which shall be taken into account during its preparation and in advance of the actual decision-making, but, like the EIA report, it is not binding for the authority that adopts the plan.

4.3.1.3 The Habitats Directive

In order to achieve the objective of nature conservation, the Habitats Directive strives to protect certain selected areas and particular species. Together with the Wild Birds Directive,²⁷⁴ the Habitats Directive provides for the establishment of the Natura2000 network. The network is intended to “assure the long-term survival of Europe’s most valuable and

²⁷² J.H. Jans and H.H.B. Vedder, p. 355.

²⁷³ Some authors hold the opinion that the legislative framework for cumulative assessments is inadequate and unsatisfactory. See *inter alia* E.A. Madsen, A.D. Fox, R.W. Furness, R. Bullman and D.T. Haydon, “Cumulative impact assessments and bird/wind farm interactions: Developing a conceptual framework” in *Environmental Impact Assessment Review* 30 (2010), p. 6.

²⁷⁴ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds, OJ L 20, 26.1.2010, pp. 7–25.

threatened species and habitats”.²⁷⁵ The key measure to establish the network is the designation of special areas of conservation (SAC). The designation procedure²⁷⁶ is conducted by the Member States and the EU pursuant to Articles 4 and 5 of the directive. After a Member State has established the appropriate conservation measures for the area, the site enjoys certain protection from projects or plans likely to have an impact on the SAC. Article 6(3) requires an assessment of the effects of the project or plan for the site in view of the site’s conservation objectives, which is called Appropriate Assessment (AA). Based on the AA, the competent authority has to decide whether to allow or prohibit the submitted project or plan.

Article 6(4) of the directive provides for derogation from the AA regime of Article 6(3): Despite a negative AA, and in case alternative solutions are not available, a plan or project can nevertheless be carried out for imperative reasons of overriding public interest. The reasons can be of a social or economic nature. If the project or plan concerns a site that hosts a priority natural habitat type or a priority species, the requirements for exceptions are higher as they have to relate to human health, public safety or have beneficial consequences for the environment. The provision further entails an opening clause for possible exceptions of different nature that are based on an opinion from the Commission. This will be relevant in the context of the permit granting for PCIs, see further Chapter 5.4.2.

4.3.1.4 The Water Framework Directive

The Water Framework Directive²⁷⁷ (WFD) aims to improve the quality of EU waterbodies for surface water and groundwater. Pursuant to Article 3(1) and (2) WFD, each Member State has to designate river basin²⁷⁸ districts lying in their national territory and allocate administrative authorities to them. As outlined in Article 4 WFD, the overall objective is to achieve good water quality by 2015. Therefore, the designated national authority has to establish a programme of measures comprised of the results from analyses and objectives.²⁷⁹ The responsible authorities have to release River Basin Management Plans (RBMP), which, according to Article 13 WFD, have to include all information listed in Annex VII, and are the

²⁷⁵ http://ec.europa.eu/environment/nature/natura2000/index_en.htm (accessed 20 October 2014).

²⁷⁶ J.H. Jans and H.H.B. Vedder, pp. 513f.

²⁷⁷ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for the Community action in the field of water policy, OJ L 327, 22.12.2000, pp. 1–73 (hereinafter WFD, the Water Framework Directive).

²⁷⁸ The directive adopts the river basin approach, which means that all interconnected water in this certain area is subject to the instrument. According to Article 2(13) WFD, the river basin is the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta.

²⁷⁹ The national authorities enjoy certain discretion when choosing the measures for implementation. See Case C-32/05 *Commission v Luxembourg* [2006] I-11323, para. 34.

basis for the future development of the water body and the improvement of its water quality. Within the procedure of setting up, reviewing and updating the plan, the public shall be informed and consulted.

Article 4(7) WFD provides for an exception clause. It stipulates that a Member State is not in breach with the directive should it fail to keep a certain water quality status, given that a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water; b) the reasons for those modifications or alterations are mentioned in the RBMP; c) the reasons for the modifications or alterations are of overriding public interest; and d) the beneficial objective cannot be achieved by other means, which are a significantly better environmental option but still technically feasible and not financially disproportionate.

By this, the aim to achieve a high level of water quality can be outbalanced by the need to pursue certain other aims.

4.3.1.5 Other sectoral directives

Furthermore, EAs are required under the Marine Strategy Framework Directive,²⁸⁰ which strives to establish management plans aiming to improve the environmental status of different marine regions. The Seveso II and Seveso III Directives²⁸¹ concern the control of major-accident hazards. The risks from storing and processing dangerous substances must be assessed with special safety management systems. Future land-use planning has to take into account the safety reports on the hazardous substances. The Industrial Emissions Directive²⁸² aims to minimise pollution from industrial sites and thus provides for a special permit granting procedure for industrial emissions. The assessment is based on environmental and technical standards.

4.3.2 The general purpose of environmental assessments

The EAs presented above have different scopes but they share a common basis: to integrate environmental considerations into public decision-making processes. Evaluations have shown

²⁸⁰ Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy, OJ L 164, 25.6.2008, pp. 19–40 (hereinafter the Marine Strategy Framework Directive).

²⁸¹ Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC, OJ L 197, 24.7.2012, pp. 1–37 (hereinafter the Seveso III Directive). According to Article 31 of the Seveso III Directive, the Member States have to have transposed the provisions by 31 May 2015.

²⁸² Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control), OJ L 334, 17.12.2010, pp. 17–119 (hereinafter the Industrial Emissions Directive). According to Articles 80, 81 Industrial Emissions Directive, the transposition deadlines and transition periods vary for the provisions of the directive. The latest actions must be taken by 1 January 2016.

that EAs can improve the strategic decision-making in terms of sustainability.²⁸³ Although it might be difficult to quantify the effectiveness of EAs, the general awareness of environmental issues in decision-making has increased, according to these evaluations.

The above-mentioned EAs provide for similar procedural elements: screening, scoping, documentation, consultation and monitoring. The particular steps of the EA procedure for PCIs will be dealt with in the next Chapter. It has been advocated that EAs have a “common ground for environmental planning”,²⁸⁴ which is comprised of (1) the principle of precautionary action, (2) the consideration of alternatives, (3) consultation and cooperative planning, (4) the scheme of mitigation and reparation, and (5) surveillance. These common grounds are mainly congruent with the procedural elements that can be found in the respective legislation. However, the EAs share a common purpose and a comparable procedure.

4.4 Do EAs in general constitute an obstacle to energy security?

As discussed in Chapter 3.1.1, infrastructure projects usually require particular investment schemes. Long and unpredictable permit granting procedures are usually seen as jeopardising the necessary investment incentives. Furthermore, the argument that EAs are just another additional and unnecessary step in the procedure and delay it even further is also often introduced. However, due to Article 11 TFEU, environmental aspects must be considered in any case when deciding on a project or plan. Due to this requirement, the proceduralised EAs can have advantages, even and especially for investments. This is due to the transparency of the procedure and as the results of an EA report are partly predictable, they may increase the accountability²⁸⁵ of decision-makers who apply the EA report in their authorisation process. Most of the EAs provide for public participation clauses to integrate society into the planning, and thus balance tensions and promote social acceptance for projects.²⁸⁶

Finally, it should be considered that an EA report is not binding for the authority that takes the decision in the permit granting process. They fulfil the important task of evaluating likely environmental impacts, but with regard to the entire authorisation procedure, they are only components that contribute to the final decision.

The EAs can thus not be described as a general obstacle to energy security or to energy infrastructure.

²⁸³ S. Nooteboom, “Impact assessment procedures for sustainable development: A complexity theory perspective” in *Environmental Impact Assessment Review* 27 (2007), p. 653.

²⁸⁴ A. Jiricka and U. Pröbstl, “One common way- The strategic and methodological influence on environmental planning across Europe” in *Environmental Impact Assessment Review* 29 (2009), p. 381.

²⁸⁵ See S. Nooteboom, p. 662.

²⁸⁶ Para.16 of the Recitals of Directive 2014/52/EU - the EIA Directive.

5 The authorization procedure for PCIs

The electricity infrastructure projects that have been selected as PCIs for the Union list in Commission Delegated Regulation (EU) No 1391/2013²⁸⁷ are of a different technical and factual nature. According to Annex II(1) of the TEN-E Regulation, projects eligible as electricity PCIs can be, *e.g.*, high-voltage overhead transmission lines or underground and submarine transmission cables. Further covered by the provision are electricity storage facilities and the respective equipment that is needed for the projects.

In this Chapter, however, a high-voltage overhead transmission line project will be taken as an example for a PCI. Based on this example, the permit granting procedure for PCIs will be described. In addition, the most important steps in the procedure, as well as the need of the Member States to co-operate in this regard, will be illustrated. The aspect of cooperation between the different Member States is an essential element, as transboundary projects such as transmission lines can only be realised as planned when all concerned authorities have given their permission. If the PCI is not accepted in all concerned Member States, the purpose of the TEN-E guidelines to establish a pan-European grid could be prevented or hindered.

The TEN-E Regulation contains several provisions that aim for a more successful permit granting for PCIs. However, there are other aspects that are able to prevent a PCI from obtaining a permit. These aspects can either stem from the particular original national laws or from national legislation that is based on EU secondary law. The purpose of the Chapter is to show how the environmental effects for PCIs are considered in the permit granting procedure.

In light of the above, the first part of the Chapter will introduce issues relating to how the permit granting procedures differ between the States and give examples from national laws. The second part of the Chapter will focus on how national permit granting procedures are influenced by EU law, illustrating some aspects of the permit granting that are based on EU legislation (such as the TEN-E Regulation and the EIA Directive) and the Espoo Convention.²⁸⁸ The EIA procedure as a part of the overall permit granting process will be discussed in the third part. The description will be based on the framework laid down by the EIA Directive, the Espoo Convention and the TEN-E Regulation.

²⁸⁷ The Commission Delegated Regulation (EU) No 1391/2013 has been adopted in order to amend the TEN-E Regulation. It contains the Union list with projects labelled as PCIs. The Commission has been empowered to adopt the Union list in Article 3(4) TEN-E Regulation. See further Chapter 3.3.3.

²⁸⁸ Convention on environmental impact assessment in a transboundary context, OJ C104, 24/04/1992, p. 7.

5.1 Development consent according to national law

The legal framework for the permit granting depends on the national legislation of the Member State that accommodates the project. In case that the project crosses a border, its completion depends on two or more national permit granting procedures. In most Member States, the construction of electricity infrastructure projects is subject to a prior authorisation.²⁸⁹ However, the permit granting for infrastructure projects in general is not harmonised and can vary between the Member States. In addition, the type of permit required further depends on the project type.

The different procedures and requirements have often been subject to criticism of the respective investors who often complain about the long, complex and ineffective permit granting procedures, which are able to delay the planning process.²⁹⁰ The ENTSO-E complains that these delays happen particularly often for transboundary projects because of the inability of national authorities to coordinate their procedures with adjacent states.²⁹¹

As mentioned above, the legal basis for the permit, the authorisation procedure and the nature of the final decision are determined by national law and can therefore differ between the Member States. The authorisation procedure for PCIs in German law,²⁹² for example, is stipulated in § 1 of the Power Grid Expansion Act²⁹³ and in §§ 43-43h of the Energy Industry Act. In the UK, the licensing of PCIs depends on the project type and on the location within the UK,²⁹⁴ *i.e.* if they are located in England, Wales, Scotland or Northern Ireland. Some possibly consenting regimes in the UK are for example provided in Section 66 of the Marine

²⁸⁹ The need for previous authorisation requirements for energy infrastructure projects is stipulated, *inter alia*, in Germany: § 43 of the Energy Industry Act of 7 July 2005 (BGBl. I S. 1970, S. 3621) zuletzt geändert durch Art. 6 G zur grundlegenden Reform des EEG und zur Änd. weiterer Bestimmungen des Energiewirtschaftsrechts vom 21. 7. 2014 (BGBl. I S. 1066) – “Energiewirtschaftsgesetz”; in UK: Sections 31, 37 of the Planning Act 2008 as amended by the Marine and Coastal Access Act 2009, the Localism Act 2011 and the Growth and Infrastructure Act 2013 (Received Royal Assent 26 November 2008); and in Denmark: §4(1) of the Energinet.dk Act of 8 November 2011 (No. 1097 of 2011) – “Bekendtgørelse af lov om Energinet.dk”.

²⁹⁰ See further the ENTSO-E, *ENTSO-E Position Paper on Permitting Procedures for Electricity Transmission Infrastructure*, 29 June 2010, p. 3.

²⁹¹ *Ibid.*, p. 4.

²⁹² In Germany, the Federal Government issues a list with projects of *national* energy economic necessity, which are then allocated to different regimes: permissions for projects that are just within the borders of one federal state will be decided under provisions of the Energy Industry Act by the respective federal state, and under recognition of its federal law for constructions. Projects with a transboundary impact, *i.e.* crossing borders of the federal states within Germany, are authorised by the Bundesnetzagentur according to the Grid Expansion Acceleration Act. The permit granting regime for PCIs is separated from the regime for national projects. Further information is accessible on http://www.netzausbau.de/cln_1432/EN/Wissenswertes/Recht/Recht-node.html.

²⁹³ Grid Expansion Acceleration Act of 28 July 2011 (BGBl. I S. 1690) geändert durch Art. 4 Drittes G zur Neuregelung energiewirtschaftlicher Vorschriften v. 20. 12. 2012 (BGBl. I S. 2730) – “Netzausbau-beschleunigungsgesetz Übertragungsnetz”.

²⁹⁴ A comprehensive table of project types, their location and the respective legislation is presented in The Department of Energy and Climate Change, *Manual of Procedures: The permitting process for Projects of Common Interest in the UK of May 2014*, pp. 40-47 (accessible on https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/311184/uk_manual_procedures_ten_e_regulation.pdf).

and Coastal Access Act 2009 or Section 31 of the Planning Act 2008. The Danish Energy Agency grants permission to electricity transmission PCIs in offshore areas in accordance with the Electricity Supply Act.²⁹⁵ In Denmark, the development consent for the establishment of energy transmission facilities is given according to Articles 21, 21a of the Act on Electricity Supply, and under certain permission requirements under Articles 4 and 4a of the Energinet.dk Act.

5.2 The EU's legal framework for the permit granting for transboundary PCIs

Although the permit granting itself is regulated by national law, it is nevertheless influenced by EU law.²⁹⁶ In that respect, the most important source in terms of this thesis is the TEN-E Regulation, which stipulates that the Member States are to grant certain procedural advantages to PCIs. The adaptations that are required by the Regulation to accelerate the national permit granting procedures for PCIs have been outlined above, see further Chapter 3.3.6. The following paragraphs, however, will illustrate how the Regulation strives to influence the national permit granting process, both the pre-application procedure and the statutory permit granting procedure. The focus of this Chapter will be on the special provisions for transboundary PCIs.

5.2.1 The designation of the competent Authority and its competences

The designation of the competent Authority (the so-called one-stop shop authority)²⁹⁷ to take the final decision is important, *inter alia*, with regard to the allocation of competences among all national authorities. In the TEN-E guidelines, the final decision of the statutory permit granting procedure, which is taken by the national Authority of the respective Member State, is referred to as *the comprehensive decision*. Article 8(3) of the TEN-E Regulation sets out three schemes that determine how the Authority shall issue the comprehensive decision, and how the Authority is to work together with the other national authorities that are involved in the permit granting. The schemes are: (a) integrated scheme, (b) coordinated scheme, and (c) collaborative scheme.

²⁹⁵ Electricity Supply Act of 20 May 2010 (No. 516 of 2010) – “Bekendtgørelse af lov om elforsyning”.

²⁹⁶ See further, *inter alia*, Article 7 of the Electricity Market Directive, which sets out a regulatory framework on how the Member States shall adopt authorisation procedures for the construction of new generating capacity. This, however, does not concern the authorisation for transmission projects. Article 6(1) Security of Electricity Supply Directive stipulates that the Member States shall develop a framework that a) provides investment signals for network operators to develop their networks and b) facilitates the maintenance and renewal of networks. This can be related to the construction of new infrastructure but nevertheless does not directly influence the permit granting procedures for infrastructure.

²⁹⁷ In order to distinguish between the different authorities, the one-stop shop authority is further referred to as the Authority, with upper case A.

Article 8(3)(a) of the TEN-E Regulation stipulates that in Member States that have chosen the integrated scheme, the *comprehensive decision* shall be issued by the Authority. It shall be the sole legally binding decision in the permit granting; decisions by other national authorities are to function as inputs, but without binding effect for the Authority.

In contrast, the comprehensive decision according to the coordinated scheme in Article 8(3)(b) of the TEN-E Regulation comprises multiple individual legally binding decisions by several authorities concerned. The task of the competent Authority is to coordinate the work of those national authorities and to make sure that the individual decisions are issued within a reasonable time limit. If an individual decision is delayed, it may be made by the competent Authority on behalf of the delaying authority. The Authority is furthermore allowed to disregard an individual decision if it considers it to be not sufficiently substantiated.

In the collaborative scheme according to Article 8(3)(c) of the Regulation, the competent Authority is also coordinating the comprehensive decision. Compared with the coordinated scheme, it has, however, less power towards the national authorities as it can, *e.g.*, only monitor the compliance with time limits. If a Member State chooses the collaborative scheme, it shall, according to Article 8(3), inform the Commission of its reasons therefore. The effectiveness of the scheme will be evaluated by the Commission in a report referred to in Article 17 of the Regulation. This scheme has been chosen, *inter alia*, by Germany, where the Bundesnetzagentur is the competent Authority under Article 8(3)(c) of the TEN-E Regulation.²⁹⁸

5.2.2 Status of highest national significance possible

According to Article 7(3) TEN-E Regulation, PCIs shall be allocated the status of highest national significance possible and be treated as such in the permit granting process, including spatial planning and EAs. When assessing the meaning of this provision, the question might arise if *the allocation of highest national significance possible* concerns only the procedural status or also a substantial status.

The wording as such does not give any information in this regard. The context within the provision could speak for a procedural effect, as the provision refers to the permit granting *process*. As Article 7(3) TEN-E Regulation refers to the treatment in national law, it might be relevant how the Member States have implemented a status of highest national significance possible in their national legislations.

²⁹⁸ Bundesnetzagentur, Verfahrenshandbuch zum Planfeststellungsverfahren von Vorhaben von gemeinsamem Interesse (PCI), 30 May 2014 (accessible on www.netzausbau.de/SharedDocs/Downloads/DE/2014/PCI-Verfahrenshandbuch.pdf?__blob=publicationFile).

5.2.3 Environmental Assessments for PCIs

As shown in Chapter 4.2, several PCI types require an environmental assessment. The assessment concerns either the strategic planning and is thus based on the SEA Directive or the Marine Strategy Framework Directive, or it addresses the project planning²⁹⁹ and is thus based on the EIA Directive. EAs are applicable for all types of projects likely to have adverse effects on the environment, irrespective of their status; the EIA Directive does not state that PCIs should be generally excluded from the scope because of their status. It is rather the opposite: several project types eligible as PCIs can be found in Annex I of the EIA Directive and are thus subject to an obligatory EIA. The permit granting for the PCI example chosen, a high-voltage overhead transmission line, will entail at least one type of EA, see below. It may be likely that the PCI is already entailed in a strategic plan and that, due to tiering, it has been subject to a SEA. In order to keep the analysis straight, this Chapter will only focus on the EIA in the project stage and not on a previous SEA in the strategic planning stage.

5.2.4 Terminology of transboundary projects, transboundary impact and PCIs

It is important to mention that the terms *transboundary impact* and *PCI* are not based on the same concept in terms of *transboundary*. An analysis of the respective provisions of the Espoo Convention and the TEN-E Regulation shows that, despite some overlap between the terms, a small difference nevertheless remains.

The purpose of the Espoo Convention, as laid down in its Article 2, is that the Parties to the Convention shall take appropriate measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities. A transboundary impact, according to Article (1)(viii) Espoo Convention, is any impact, not exclusively of a global nature, within an area under jurisdiction of a Party caused by a proposed activity, the physical origin of which is situated wholly or in part within an area under the jurisdiction of another Party. This means that a project³⁰⁰ covered by the Espoo Convention does not have to cross the border but can be entirely located in the state of origin. It is, however, necessary that the project has a certain impact within the adjacent state.

²⁹⁹ Other environmental assessments for projects are required under the Seveso III Directive or the Industrial Emissions Directive. They stipulate the integration of an EIA under the EIA Directive for the permit granting.

³⁰⁰ The Espoo Convention does not use the term 'project' but instead uses the term 'proposed activity'. All other legislations presented in this thesis, however, use the term 'projects'. In order to provide a consistent use of terminology, this thesis will also use the term 'project' for activities under the Espoo Convention. This use of terminology is also applied by the EU, *inter alia* in Commission, *Guidance on the Application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects*, 16 May 2013, p. 4 (accessible on ec.europa.eu/environment/eia/pdf/Transboundary%20EIA%20Guide.pdf).

The respective provisions in Article 4(1)(c)(i-ii) TEN-E Regulation stipulate that a PCI either directly crosses the border of two or more Member States or is located in one Member State and has a significant cross-border impact, an issue that is further tackled in Chapter 3.3. Thus, the Regulation and the Convention provide for a mainly overlapping regime when it comes to transboundary projects in form of a construction that stretches over or crosses the border of two or more states. The TEN-E Regulation also explicitly refers to the Espoo Convention in the context of cross-border activities.³⁰¹

It should be nevertheless mentioned that there may be exceptions in which the PCI has a significant cross-border impact in terms of Article 4(1)(c)(ii) TEN-E Regulation but the construction has no environmental impact in terms of Article 1(vii-viii) Espoo Convention. In this Chapter, however, a transboundary PCI will be considered as being covered by the overlapping regime of the TEN-E Regulation, the EIA Directive and the Espoo Convention.

5.3 The pre-application procedure for PCIs

As mentioned above, the permit granting procedures are according to national law. There is, however, some EU legislation that provides for a common basis that has been or has to be implemented into national law. This might be described as the meeting of national administrative law and EU environmental law.³⁰² The EU's legal framework for the pre-application procedure is comprised of the EIA Directive, the Espoo Convention and the TEN-E Regulation. Even though the Espoo Convention has been implemented by the EU in Directive 97/11/EC,³⁰³ this thesis refers to the original provisions of the Convention to underline the transboundary context.

The overall structure of the pre-application procedure, as laid down in Article 10(4) TEN-E Regulation, will serve as a structure for this subchapter. Therefore the following will describe the different stages in the pre-application procedure, with a special focus on the EIA, which is an important procedural component for projects in general and for PCIs in particular.

5.3.1 Screening

Article 4 of the EIA Directive sets out a scheme according to which it is to decide whether an EIA needs to be performed for a certain project or not. Article 4(1) stipulates that all projects

³⁰¹ The Regulation refers to the Convention in its Articles 9(2), 9(6) and in its para. 31 of the Recitals.

³⁰² See further A.-M. Moreno, p. 47.

³⁰³ Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, OJ L 73, 14.3.1997, pp. 5–15. The Directive, which is an amendment to the original EIA Directive from 1985, refers to the Espoo Convention. See para. 31 of the Recitals of Council Directive 97/11/EC.

listed in Annex I shall be subject to an EIA, whereas Article 4(2) covers all projects listed in Annex II, for which an EIA is not compulsory but dependent on the individual case if the project is likely to have significant environmental impact.

For a PCI electrical power line, an EIA is always compulsory; a screening under Article 4(2-4) EIA Directive is therefore not relevant. This is due to the following stipulations: Projects for electrical power lines require an EIA pursuant to Annex I No. 20 of the EIA Directive if they have 220 kV or more. Since the 2nd amendment of the Espoo Convention, an EIA is further required pursuant to the Appendix I, No. 21, for overhead power lines of both 220 kV or more and a length of more than 15 km.³⁰⁴ Although it can be assumed that PCI power lines will likely fulfil the minimum length required, also the legal criterion for the voltage level has to be met. According to Annex II(1)(a) TEN-E Regulation, all projects for electrical power lines eligible as PCIs have to have 220 kV or more.

Thus, all PCIs in the form of electrical power lines fulfil the threshold and are therefore projects under Annex I of the EIA Directive; all Annex I projects are considered to have significant environmental effects.

5.3.2 Purpose of the scoping stage

As set out in Article 5(2) EIA Directive, the competent authority issues an opinion on the scope and on the level of detail of the information that the developer must include in their report. Before giving this opinion, the respective authority shall consult the further mentioned authorities in line with Article 6(1) EIA Directive. In terms of Article 6(1) EIA Directive, these are all those authorities likely to be concerned with the project in their specific environmental responsibilities.

In the special context of transboundary projects, Article 7(1) EIA Directive, as well as Article 3 Espoo Convention, stipulates that the authority shall notify the affected state and send information, *inter alia*, a description of the project and its potential transboundary impact. These obligations need to be realised as soon as possible but no later than when informing its own public. The early-published information of the affected state is intended to ensure the possibility of deciding whether or not to participate in the environmental decision-making pursuant to Article 7(2) EIA Directive.

The TEN-E Regulation refers to the scoping stage in its Article 10(4)(a) and states that the Authority shall identify the scope of material and level of detail of information that the project promoter must submit in its application file. The Member States can publish manuals

³⁰⁴ Decision III/7 in “Second Amendment to the Espoo Convention” in *Report of the Third Meeting of the Conference of the Parties*, Document ECE/MP.EIA/6 of 13 September 2004.

of procedures that, pursuant to Annex VI.1(e), include information on the scope, structure, and level of detail of documents to be submitted by the promoter. According to Article 10(4)(b), the competent Authority is under an obligation to draw out a detailed schedule for the permit granting process, which specifies the elements referred to in Annex VI.2. When the PCI actually crosses a national border, the authorities concerned shall prepare a joint schedule. In terms of the EIA report for a cross-border transmission line PCI, the competent authorities, when assessing and endeavoring all potential effects of the project, have to notify each other as early as possible since this allows both Member States to contribute to each other's scoping and to obtain the most extensive results in the scoping procedure.

In a transboundary context, the Commission recommends that the notification and the transmission of information should preferably take place before the scoping phase.³⁰⁵ In order to enhance cooperation in the permit granting, the authorities should determine the scope for a joint documentation and later prepare a joint EIA report.³⁰⁶

5.3.3 The environmental report

The developer is required to prepare and submit an EIA report according to Article 5(1) EIA Directive. In the previous scoping stage, the authority has determined the scope of the information and the level of detail necessary for the report. When preparing the report, the developer must reflect on the minimum requirements that are to be included in the report, as laid down in Article 5(1) and Annex IV of the EIA Directive.³⁰⁷ These information are

- (a) a description of the project with regard to the site, design, size and other relevant features;
- (b) a description of the likely significant effects of the project on the environment;
- (c) a description of the features of the project and measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- (d) a description of the reasonable alternatives, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen,
- (e) a non-technical summary of the information referred to in points a) to d): and
- (f) other additional information specified in Annex IV.

The potential environmental impact of constructing and decommissioning transmission line projects can include habitat loss or degradation, fragmentation of habitats, harm to or

³⁰⁵ Commission, *Guidance on the Application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects*, p. 8.

³⁰⁶ Ibid., p.14.

³⁰⁷ Article 4 of the Espoo Convention refers to its Appendix II, which includes a similar list of documentation requirements as Article 5(1) and Annex IV of the EIA Directive.

mortality of fauna and flora, or disturbance of fauna. The later operation of transmission lines can lead to fragmentation of habitats, to a disturbance of fauna due to the noise of the transmission lines, and to pollution of soil due to corrosion of the power lines. Further impacts can include the electrocution of large birds in collision with the transmission lines and the potentially adverse impacts of electro-magnetic fields.³⁰⁸

The EIA report has to especially describe how to mitigate the potential adverse effects, and if there are bearable and realistic alternatives to the project as it was originally planned. These descriptions are important for the competent authority when evaluating the report.

For transboundary projects, it is thus recommended that the developer should prepare two types of reports, an environmental report for each affected Member State and a joint report that covers the whole project. The latter mainly focuses on the overall effect of the entire project and particularly on cumulative effects.³⁰⁹

5.3.4 Consultation of authorities and cooperation among the Member States

Based on the environmental report, the competent authority is required to consult other authorities. According to Article 6(1) of the EIA Directive, those authorities that are likely to be concerned by the project by reason of their specific environmental responsibilities shall be given an opportunity to express their opinion on the information supplied by the developer and on the development consent. These are mainly authorities concerned with particular competences in environmental or health protection, or local authorities.

If transboundary environmental effects are expected to be likely, the consultation is extended to the authorities of the affected State. This is stipulated in Article 7(4) EIA Directive and Article 5 Espoo Convention. According to the newly introduced Article 7(4) EIA Directive, the consultation shall take place in a joint body. The Member States shall furthermore agree on a time-frame in which the consultation will take place.

Article 8(5) TEN-E Regulation stipulates that if a PCI requires decisions to be taken in two or more Member States, the competent authorities shall assure efficient and effective cooperation and coordination among themselves during the pre-application procedure.

In terms of cross-border transmission line PCIs, the provisions entail reciprocal obligations for the States to allow other States to participate in their national EIA procedure. The responsible authorities must cooperate closely during the pre-application procedure; in

³⁰⁸ These examples are not exhaustive and are deemed to serve as indications. See Commission, *Guidance document on electricity, gas and oil infrastructures & Natura 2000*, p. 4 (accessible on http://ec.europa.eu/energy/infrastructure/doc/assessment/20130724_natura_2000.pdf).

³⁰⁹ Commission, *Guidance on the Application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects*, p. 10.

the following permitting procedure, each competent authority will take its own decision,³¹⁰ pursuant to its respective national legal framework for permit granting.

5.3.5 Public participation

Public participation is one of the core elements of public decision-making and enjoys particular importance in environmental decision-making.³¹¹ The EU legislator stresses that access to information would even “improve environmental protection”.³¹²

Article 6(2) EIA Directive demands ensuring the effective participation of the public in the pre-application procedure. The public shall be informed about the project and its likely adverse environmental effects by appropriate means of dissemination, *e.g.*, electronically or by public notice. This information shall enable the *public concerned*, which is defined in Article 1(2)(e) EIA Directive, to participate in the decision-making procedure.

According to Article 7(3) EIA Directive and Articles 3(8), 2(6), 4(2) Espoo Convention, this also applies to the public in the territory of the affected states.³¹³ It has been pointed out by Ebbesson that national borders should not be taken as a ground to limit participatory rights in environmental decision-making.³¹⁴ The consultation is commonly realised by virtue of public hearings and shall, according to the newly introduced Article 6(7) EIA Directive, not be shorter than 30 days.

In Article 9, the TEN-E Regulation provides for special rules on public participation that must be followed in addition to those of the EU’s legal framework implementing the Aarhus Convention³¹⁵ and the Espoo Convention. According to Article 9(3) of the TEN-E

³¹⁰ If another than the integrated scheme has been chosen, the decision is according to the national competences for the development consent for energy infrastructure projects, and thus likely involve different bodies.

³¹¹ J. Jendroska, “Public Information and Participation in EC Environmental Law – Origins, Milestones and Trends” in *Reflections on 30 Years of EU Environmental Law – A High Level of Protection?*, R. Macrory (ed.), The Avosetta Series (7), Europa Law Publishing 2006, p. 66.

³¹² See the Preamble of Council Directive 90/313/EEC of 7 June 1990 on the freedom of access to information on the environment, OJ L 158, 23.6.1990, pp. 56-58.

³¹³ The obligations to allow the public in other States to participate in the decision-making, as stipulated in the Espoo Convention and the Aarhus Convention, are described as promoting environmental democracy. See J. Ebbesson, “A Modest Contribution to Environmental Democracy and Justice in Transboundary Contexts: The Combined Impact of the Espoo Convention and Aarhus Convention” in *RECIEL* 20 (3) 2011, p. 248.

³¹⁴ This conclusion can be drawn from both the Aarhus Convention and the Espoo Convention. See further coverage by Ebbesson, *ibid*, p. 252.

³¹⁵ The Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 2161 UNTS 447; 38 ILM 517 (1999) – Aarhus Convention – was adopted by United Nations Economic Commission for Europe (UNECE) on 25 June 1998. In order to transpose the international agreement, the EU adopted and amended several legislations, *inter alia*, Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC, OJ L 41, 14.2.2003, pp. 26–32; Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC, OJ L 156, 25.6.2003, pp. 17-25; Regulation (EC) No 1367/2006 of the European Parliament and of the Council on the application of the provisions of the

Regulation, the project promoter has to submit a concept for public participation to the Authority. Article 9(4) states that at least one public consultation shall be carried out before the submission of the final application file to the Authority, which means that it has to take place in the pre-application phase. With these additional requirements, *inter alia*, the Regulation aims to ensure the highest possible standards of transparency and public participation.³¹⁶

Article 9(4) TEN-E Regulation contains a requirement for a public consultation for PCIs, which has to be held in addition to the regular public consultation under the EIA Directive. When the PCI crosses the border of two states, these additional consultations have to take place in the concerned states within a special time frame of not more than two months after the first regular consultations took place.³¹⁷

For transboundary projects, the Commission stresses the need for a high level of cooperation and recommends a distribution of tasks between the parties concerned.³¹⁸

5.4 Statutory permit granting procedure for PCIs

As mentioned in above, the final permit granting, *i.e.* the examination of the information gathered and the finding of the final decision, is determined by national law and includes several further aspects. Nevertheless, the EU has developed some obligations for this part of the procedure to be satisfied by the competent authorities.

5.4.1 Articles 8 and 8(a) of the EIA Directive

According to Article 8 EIA and Article 6(1) Espoo, the result of the consultations and all information gathered during the assessment procedure shall be duly taken into account in the decision-making. This formulation has been newly introduced and differs from the former wording, which has stated that the information “shall be taken into account”.³¹⁹ This might be regarded as strengthening the impact of EA reports in general and the EIA report in particular. Article 8(a) EIA Directive moreover introduced new requirements for the final issuing of the decision, which now must include certain information and reasons for granting or refusing the permit.

Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies, OJ L 264, 25.9.2006, pp. 13–19.

³¹⁶ Para. 30 of the Recitals of Regulation (EU) No 347/2013 – TEN-E Regulation.

³¹⁷ See further, Article 9(5) of the TEN-E Regulation.

³¹⁸ Commission, *Guidance on the Application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects*, 16 May 2013, p. 12.

³¹⁹ Article 8 of Directive 2011/92/EU.

5.4.2 PCIs considered as being of overriding public interest

The overall aim of the TEN-E guidelines to give certain preferential treatment to PCIs also concerns the permitting stage. Article 7(8) of the TEN-E Regulation demands that PCIs are considered as being of public interest from the energy policy perspective. The provision thereby refers to the derogation schemes for decisions under the Habitats Directive and the WFD.

Article 6(4) Habitats Directive allows projects or plans to be carried out although the requirements of the regular AA regime of Article 6(3) are not met. As described in Chapter 4.3.1.3, such derogation is possible in case of *imperative reasons of overriding public interest*. Article 7(8) TEN-E Regulation offers a new concretisation for the term and stipulates that the construction of a PCI shall be of overriding public interest. The same applies for decisions under Article 4(7)(c) WFD, which is described in Chapter 4.3.1.4.

According to the formulation in Article 7(8) TEN-E Regulation, a PCI shall be considered as being of public interest due to its importance for the energy policy. In this event, it may be considered as being of overriding public interest. That means that the PCI can be, but does not have to be, considered as being of overriding public interest. The responsible authority thus has some discretion in this regard. This is of particular interest for the final decision-making in case all other criteria for the permit granting are satisfied and the EA is the only aspect negating the feasibility of the particular project. When the EAs under the two directives have been integrated in the overall EIA, they form parts of *the information gathered* in terms of Article 8 of the EIA Directive. In case the competent authority applies the PCI as being of overriding public interest, the outcome of the respective EA can be in favour of the PCI. This outcome might then overturn the final decision and result in a granted permit which otherwise would have been refused.

6 Streamlining of environmental assessment procedures for PCIs

As set out in Article 7(4) TEN-E Regulation, the Commission has to issue non-binding guidance to support the Member States in defining adequate legislation and non-legislative measures to streamline environmental assessment procedures and to ensure coherent application of environmental assessment procedures required under Union law for PCIs. In order to comply with this obligation, the Commission has issued the Guidance Document *Streamlining environmental assessment procedures for energy infrastructure Projects of Common Interest (PCIs)*,³²⁰ hereinafter referred to as the Guidance document.

In the above context, the first objective of this Chapter is to illustrate the streamlining recommendations of the Commission as they have been issued in the Guidance document. Secondly, the Chapter aims to analyse the recommendations and compare them to the existing framework for the permit granting of transboundary PCIs. Thereafter, the entire permit granting framework will be analysed in relation to the environmental standards that are presented in Chapter 4. Finally, the last part of the Chapter will focus on the question how the framework for the permit granting for transboundary PCIs must be evaluated in terms of the overall objective of the EU's energy policy relating to energy security.

6.1 The content of the Guidance Document

The Commission addresses the problem that the legislative framework for EAs of PCIs is complex and challenging to implement as the permit granting procedure may not be sufficiently planned and coordinated.³²¹ The Guidance document thus offers the Member States some guidance on how to cope with these challenges in order to make the assessments more effective. The recommendations are based on implementation experience and on what is called good practices, but they also go beyond that.³²² The latter probably means that the Commission has also added its own suggestions and further developed good practices.

6.1.1 Legal nature of the Guidance document

The Guidance document is of a non-binding legal nature. This is underlined in Article 7(4) of the TEN-E Regulation and also in the disclaimer to the Guidance, which stipulates that the document does not create any binding obligations for the Member States or project developers

³²⁰ Commission Guidance Document, *Streamlining environmental assessment procedures for energy infrastructure 'Projects of Common Interest' (PCIs)*, 24 July 2013 (accessible on ec.europa.eu/energy/infrastructure/doc/assessment/20130919_pci-en-guidance.pdf), hereinafter the Guidance document.

³²¹ *Ibid.*, p. 14.

³²² *Ibid.*, p. 4.

and that it only reflects the views of the Commission.³²³ The Member States, however, have to react to the Guidance document by analysing their own national frameworks and administrative practices. As stipulated in Article 7(5) TEN-E Regulation, the Member States are to assess which measures seem feasible in order to streamline the EA procedures and to ensure their coherent application. They further have to inform the Commission on their assessment and take non-legislative measures nine months after the date of issue of the Guidance document. According to Article 7(7), the Member States should have taken the legislative measures that they have identified in the assessment under Article 7(5) within 24 months from the issue of the Guidance document. At the time of writing this essay, no information on the legislative measures taken by the Member States has been made available.

6.1.2 Definition of streamlining

According to the Commission, *streamlining* in the context of the Guidance document means

improving and better coordinating EA procedures with a view to reducing unnecessary administrative burdens, creating synergies and hence speeding up the EA process, whilst at the same time ensuring a maximum level of environmental protection through comprehensive EA, in accordance with the EU environmental *acquis*.³²⁴

The definition underlines the importance of improving the EA procedures, however, it is not intended to weaken the relevant environmental protection standards. The objective of the following subchapters is to investigate whether the aim of the definition itself has been met.

6.1.3 Six recommendations

The streamlining Guidance consists of six specific recommendations, which refer to the different stages of the permit granting process. A comprehensive chart of the overall permit granting process and the suggested streamlining measures can be found in the Annex of this thesis.³²⁵ Each of the following subchapters in Chapter 6.1.3 is referring to one particular recommendation in the Guidance document; they are entirely descriptive and do not contain any information taken from other sources.³²⁶

³²³ *Ibid.*, p. 2.

³²⁴ *Ibid.*, p. 4.

³²⁵ *Ibid.*, p. 15. See Figure 1: Streamlining environmental assessments for energy PCIs: the overall procedure.

³²⁶ In the following part (Chapter 6.1.3.1- 6.1.3.6.), the thesis refers to the Guidance document when introducing the main recommendations made by the Commission. All information given in the following subchapters can be found in the respective subchapters of the Guidance document, which are referred to in the beginning of each subchapter. Though, not every aspect is referring to the Guidance document with a footnote.

6.1.3.1 Recommendation on early planning and roadmapping

In its first recommendation, the Commission suggests some measures to be taken in the very early concept stage, which are intended to address the overall complexity and to be helpful meeting the time limits: early planning and roadmapping are deemed essential for a successful streamlining of the overall EA procedure.³²⁷

Based on this concept, the Guidance document advises that the project promoter should draw out an assessment roadmap for the further permit granting procedure, which serves as a sort of schedule to indicate what type of assessment will take place at what stage in the procedure.³²⁸ The roadmap should also determine the stages in the procedure in which particular environmental requirements will be met. Roadmapping is thought to reduce the risk of repeating procedural elements that have been completed already and to ensure complementarities; it also serves as a checklist for the overall planning.

The Guidance document further suggests a very early scoping of all potential environmental effects of a project, which should take place at the conceptual stage.³²⁹ The early scoping information is deemed relevant for effective roadmapping. The combination of very early scoping and roadmapping is intended to save time for the scoping in the pre-application procedure, which, in turn, is framed by a time limit under the TEN-E Regulation.

Moreover, the Commission suggests the use of sensitivity and suitability maps.³³⁰ These maps can concern different kinds of information that are relevant for infrastructure planning and land use, *e.g.*, maps for certain areas indicating sensitivity categories for certain species, habitats or water bodies (bird atlas). Suitability maps use information on technical potential and environmental sensitivity, and can show which areas have a high compatibility of both aspects and thus might allow for constructing energy infrastructure projects. Using these maps the promoter can, early in the conceptual stage, gather environmental information that is helpful for the roadmapping, and they can further assess where the project might be located most suitably in terms of compatibility with environmental aspects. They can thus avoid obviously unsuited planning and adjust the roadmap.

6.1.3.2 Recommendation on early and effective integration of EAs

The second streamlining recommendation concerns the integration of environmental considerations in the overall planning process. To allow an early integration of EAs in

³²⁷ The Guidance document, p. 15.

³²⁸ *Ibid.*

³²⁹ *Ibid.*, p. 16.

³³⁰ *Ibid.*

national energy policies and energy plans, the Guidance document recommends that SEAs and AAs should be mandatory already at the planning stage, *e.g.*, when TSOs are submitting their network development plans under Directive 2009/72/EC.³³¹ Accordingly, this early integration encourages a more integrated and efficient approach to territorial planning.³³²

In the strategic assessments³³³ all relevant environmental aspects should be considered as thoroughly as possible, which would avoid problems in the later planning of concrete projects.³³⁴ The Guidance document suggests that environmental impacts should be dealt with under the respective EA. This means that particular EAs should be carried out under the separate legislations but should then be integrated in the overall permit granting process.

The Commission stresses the need for effective tiering of EAs on all stages in the planning and permit granting process. For the purpose of efficient tiering in practice, it is advised that scope and timing of the different relevant EAs are determined very early in the process, preferably at the roadmapping stage.³³⁵ In the context of Article 4(3) SEA Directive, the Guidance document finally recommends that the Member States should introduce further requirements for tiering at the national level.³³⁶

6.1.3.3 Recommendation on procedural coordination and time limits

For the determination of the one-stop shop authority in Article 8(3) TEN-E Regulation, the Commission highly recommends that the Member States choose either the integrated or the coordinated scheme.³³⁷ Both approaches provide for a certain level of overall coordination of procedural elements, which is intended to maximise the effects of streamlining in all parts of the permit granting, *inter alia*, in the coordination of different EA procedures. The Guidance document further suggests that the designated one-stop shop authority is endowed with strong coordinating competences.³³⁸ This would enable the Authority to organise the required EAs, to determine the scope of the assessments, and to organise joint public consultations.

Another procedural aspect is the setting of time limits,³³⁹ which, according to the Commission, contributes to greater legal certainty, more efficient decision-making and helps comply with the binding time limits for the permit granting process set out in Article 10(1)

³³¹ *Ibid.*, p. 17.

³³² *Ibid.*, p. 18.

³³³ It is not clear from the wording, if the Guidance document only refers to the SEA Directive or if it refers to all types of strategic assessments, which would then also cover the Marine Strategy Framework Directive.

³³⁴ *Ibid.*, p. 20.

³³⁵ *Ibid.*, p. 22.

³³⁶ *Ibid.*

³³⁷ *Ibid.*, p. 23.

³³⁸ *Ibid.*

³³⁹ *Ibid.*

TEN-E Regulation. Due to the very different natures of the PCIs and the respective EAs, the setting of time limits should be done generically for a certain type of PCI or individually for each project in a case-by-case decision. It is proposed that exceeding time limits should be possible in exceptional cases; an analogy of Article 10(6) TEN-E Regulation is suggested.³⁴⁰

The Commission mentions public consultation relating to the EIA report as a possible part of the procedure to implement binding time limits (between 30 and 60 days are recommended).³⁴¹ This would be in compliance with decisions taken by the Aarhus Convention Compliance Committee.³⁴²

6.1.3.4 Recommendation on data collection, data sharing and quality control

The third recommendation concerns the collection, exchange and management of data. As an unforeseen need for data is considered to be one of the main reasons for delays in permit granting procedures, the Guidance document suggest that data collection commences as soon as possible during the preparatory phase.³⁴³ This is thought to lessen the risk of delays. The project promoter should commence the data collection during the roadmapping stage and should by then be granted access to all data that is held by the authorities. Being the essential basis for all later assessments, the data needs to be of good quality.

The Guidance document recommends the Member States to coordinate their processes of data collection and database management.³⁴⁴ In order to speed up the preparation for EAs, the authorities should prepare datasets for baseline situations to be stored in a national database, which is open to the public. It is further suggested to select and make available relevant case law to increase transparency and legal certainty.³⁴⁵ The Member States should furthermore share their data with other Member States.³⁴⁶ This exchange could increase the efficiency of permit granting procedures for PCIs and avoid parallel data collection in neighbouring countries. The Commission underlines the advantages of data sharing and uniform methodological approaches, especially for transboundary PCIs.

In order to analyse whether the mitigation and compensation measures proposed in a respective EA have been implemented and whether they were finally effective, the Member

³⁴⁰ *Ibid.*

³⁴¹ *Ibid.*, p. 24.

³⁴² The Aarhus Convention Compliance Committee held that a minimum period of 30 days was a reasonable timeframe for the public to access the relevant information and prepare their participation, see Belarus ACCC/C/2009/37, ECE/MP.PP/2011/11/Add.2, April 2011, para. 89. The Committee also found that a period of 45 days for inspecting the relevant information plus a period of 45 days for commenting was sufficient, see France ACCC/C/2007/22, ECE/MP. PP/C.1/2009/4/Add.1, 8 February 2011, para. 44.

³⁴³ The Guidance document, p. 24.

³⁴⁴ *Ibid.*, p. 25.

³⁴⁵ *Ibid.*

³⁴⁶ *Ibid.*

States are recommended to establish *ex post* monitoring schemes.³⁴⁷ The monitoring is thought to improve the quality level of impact prediction.

The project promoter can choose between in-house and external experts to elaborate the environmental report. The Guidance document recommends the use of external experts.³⁴⁸ Although it recognises the probable higher costs, the Commission stresses the advantages of external expertise as external experts are assumed to have a special qualification, which, according to the Guidance document, might be lacking within the competent authority.³⁴⁹ With the help of quality controls, the impartiality, capacity, qualification and knowledge of the external expert should be monitored by the competent authority.³⁵⁰

6.1.3.5 Recommendation on cross-border cooperation

Article 8(5) of the TEN-E Regulation stipulates that if decisions for a PCI have to be taken in two or more Member States, the respective Authorities should cooperate and coordinate themselves, *inter alia*, with regard to the definition of the scope and level of detail of the environmental information and the schedule for the permit granting. In accordance with the Commission's *Guidance on the Application of the Environmental Impact Assessment Procedure for Large-scale Transboundary Projects*,³⁵¹ the Guidance document suggests that the scoping and the drawing of the schedule could be jointly organised by the respective Authorities or by a third body that is set up to coordinate the procedures.³⁵² This cooperation could be further institutionalised in bilateral or multilateral agreements, such as those concluded under the Espoo Convention.³⁵³

6.1.3.6 Recommendation on early and effective public participation

The last recommendation of the Guidance concerns streamlining of public participation. The Commission suggests that early planning and roadmapping of the environmental aspects (Chapter 6.1.3.1) should be accompanied by early planning and roadmapping of public participation aspects.³⁵⁴ Hence, the roadmap should also include planning for the different stages of public consultation and participation. The very early scoping should focus on the

³⁴⁷ *Ibid.*

³⁴⁸ *Ibid.*, p. 26.

³⁴⁹ *Ibid.*

³⁵⁰ *Ibid.*

³⁵¹ See the suggestions of the Guidance document that have been described in Chapter 5.3 and 5.4.

³⁵² *Ibid.*, p. 28.

³⁵³ A list with bilateral and multilateral agreements concluded under Article 8 of the Espoo Convention is available on <http://www.unece.org/env/eia/resources/agreements.html>.

³⁵⁴ The Guidance document, p. 28.

potential problems of the public participation procedure.³⁵⁵ In order to enable the public to participate already in very early scoping and roadmapping in the conceptual phase, the Commission urges the need to effectively inform the public thereof, for instance by virtue of public scoping events.³⁵⁶

With regard to the obligation of the project promoter in Article 9(7) TEN-E Regulation to regularly provide information about the project on a website, the Commission recommends that the information should be available in all official languages of the concerned Member States.³⁵⁷ With reference to the AA under the Habitats Directive, where public participation is an optional procedural element, the Guidance strongly recommends informing the public about any possible impact on *Natura 2000* sites.³⁵⁸

6.2 The Guidance document in relation to the permit granting framework

The purpose of this subchapter is to analyse the recommendations described above against the background of the overall legal framework for the permit granting for PCIs provided by the EIA Directive, the Espoo Convention and the TEN-E Regulation. Moreover, it will be assessed if and what new impact the Guidance document might have on this legal framework.

6.2.1 General remarks

The Guidance document was issued on 24 July 2013 and is thus older than the new EIA Directive, which was adopted on 16 April 2014.³⁵⁹ It might, however, be that the preparation of the Guidance document and the amendment of the EIA Directive have taken place in about the same period. It is possible, but not entirely certain, that the two decision-making processes have influenced each other. The EIA Directive, however, entails some provisions that are also suggested in the Guidance document, and thereby contains some of the streamlining recommendations. The provisions of the EIA Directive are on the other hand generally applicable to all projects, not only to those with a PCI status.

The recommendation concerning time frames has been partly anticipated as the 30 days minimum requirement is also stipulated in Article 6(7) of the EIA Directive. The 60 days maximum requirement, however, is only suggested by the Guidance document.³⁶⁰

³⁵⁵ *Ibid.*

³⁵⁶ *Ibid.*

³⁵⁷ *Ibid.*

³⁵⁸ *Ibid.*, p. 29.

³⁵⁹ The Member States have time to transpose the EIA Directive until 16 May 2017. See further Chapter 4.3.1.1.

³⁶⁰ *Ibid.*, p. 24.

Article 8(5) of the TEN-E Regulation urges for more efficient and effective cooperation among the Member States when decisions for a PCI have to be taken in two or more states. The recommendation to implement a joint body for the cross-border cooperation has been anticipated by Article 7(4) of the EIA Directive.³⁶¹

Finally, it should be mentioned that the Guidance document does not only streamline the EAs; it influences the entire procedure of the permit granting, also including the EAs. However, simple changes in the procedure can have adverse impacts and lower the standards.

6.2.2 The particular recommendations

As the framework presented in Chapter 5 is already quite comprehensive, the question may arise if and what the Guidance document is able to change. This will be analysed by comparing some of the recommendations with the framework given in Chapter 5. The particular recommendations are chosen according to their overall relevance for the EIA procedure. Some of the recommendations, such as those on data collection and sharing and those on the use of suitability and sensitivity maps, will not be discussed any further due to their likely mainly positive impact on the streamlining.

6.2.2.1 Recommendations on early planning and roadmapping

The Guidance document asserts that very early scoping and roadmapping are vital for the streamlining process.³⁶² In light of the streamlining definition, however, it could be doubted that the establishment of the roadmapping stage will necessarily lead to a reduction of *administrative burdens* or to an acceleration of the environmental assessment process. If the project promoter is required to draft a roadmap, which includes a schedule for the overall assessment procedure, they will bear more responsibility, which might then lead to a reduction of *burdens for public administration authorities*. On the one hand, this might be problematic with regard to the competence of the authority to define the scope of the EIA report and the overall competence of the public authorities to determine the procedural course. On the other hand, this might lead to better preparation of the promoter in the pre-application phase. It does, however, not reduce *administrative burdens* for the procedure in general.

Concerning the Commission's reference to national law,³⁶³ the so-called application conferences in § 20 NABEG,³⁶⁴ it has to be mentioned that this example has not been chosen

³⁶¹ *Ibid.*, p. 28.

³⁶² *Ibid.*, p. 15.

³⁶³ *Ibid.*, p. 16.

³⁶⁴ The NABEG is the Grid Expansion Acceleration Act of 2011, see above in Chapter 5.1.

very accurately as the application conferences are not an example of action taken in the roadmapping stage; the provision concerns a public meeting in the beginning of the scoping stage in order to determine the scope of the assessment. Nevertheless, the arrangement of application conferences might be an appropriate means for streamlining the procedures because they provide a forum for early communication among stakeholders.

The second aspect, *i.e.* the target to speed up the process, will be further assessed separately for the EIA Directive and the TEN-E Regulation. After an early scoping and roadmapping, the actions taken in the pre-application procedure might be more efficient since they could rely on a well-prepared basis. This may be helpful in meeting the binding time limits in Article 10(1) TEN-E Regulation. However, the TEN-E guidelines aim to simplify the permit granting processes due to the urgency of developing energy infrastructure;³⁶⁵ complying with time limits in the pre-application phase but having a long previous roadmapping stage does not contribute to speed up the development of energy infrastructure. In terms of the EIA Directive, the establishment of a roadmapping stage might be described as a forward displacement of procedural steps. The roadmapping gives no guarantee that the overall procedure will become shorter; the procedure is rather extended to an even earlier stage. This might shorten the pre-application phase and reduce the need for extensions under Article 10(2) TEN-E Regulation, but will not necessarily reduce the total time needed from the first action until the final decision is taken. In terms of both legislations, the aim of speeding up the procedure by virtue of early planning and roadmapping can be seen critically.

6.2.2.2 Early integration of environmental assessments

The Guidance document recommends the early integration of EAs through, *inter alia*, mandatory SEAs and AAs for national energy policies such as network development plans submitted by the TSOs.³⁶⁶ This suggestion is interesting for PCIs because a project is only eligible for the Union list if it is included in the TYNDP and the respective national plans, see further Chapter 3.3.3.2. That means that a SEA on the previous planning stage might already have explored options for the operability of concrete projects. If the result of the SEA shows that energy infrastructure planning is facing difficulties due to adverse environmental effects, the promoter can adapt their plans and either change the respective project or search for another location. This early assessment can probably save time and prevent projects from being selected for the Union list that are likely to fail the later EIA due to insurmountable adverse effects on the environment.

³⁶⁵ Para. 32 of the Recitals of Regulation (EU) No 347/2013 – TEN-E Regulation.

³⁶⁶ The Guidance document, p. 17; These plans are based on the Electricity Market Directive, see Chapter 2.2.3.

With regard to the suggestion of more effective tiering³⁶⁷ it could be argued that this would be a mere shifting of problems from the project stage to the planning stage. However, the early integration of environmental considerations may have several advantages. On the strategic stage, an entire area is subject to the assessment, which allows identifying cumulative effects of all likely project types in the region, which is not possible on the project stage as it only focuses on the individual project.³⁶⁸ Taking into account the accumulation of adverse environmental effects, SEAs can lead to a more holistic assessment.³⁶⁹ A previous SEA can further result in a more meaningful assessment of the project in the later permit granting as many aspects have been already dealt with in the planning stage. This can allow for EIAs to be shorter and more focused.

In terms of investment, it must be considered that strategic planning can give indications for investment about the likelihood that the project will pass the EIA.³⁷⁰ This could improve the certainty for project promoters, and is an import factor for energy infrastructure due to its cost-intense planning, see further Chapter 3.1.

It can be concluded that an early integration of environmental considerations has many advantages for the overall treatment of those environmental aspects and further for the entire EIA procedure.

However, it is also a reality that the local public might feel hesitant towards long-term planning and were sceptical that early assessments might lead to a less flexible decision-making in the later permit granting procedure.³⁷¹ Hence, it should be taken into account by the authorities and the promoter when setting up a concept for public participation to not only inform and consult with the public very early but also to integrate the public on every stage in the overall strategic and project planning process.

6.2.2.3 Procedural coordination

With regard to Article 8 TEN-E Regulation, the Guidance document suggests choosing either the integrated or the cooperative scheme.³⁷² The provision in the regulation offers the Member

³⁶⁷ *Ibid.*, p. 22. For more information on the concept of tiering, see Chapter 4.3.1.2.

³⁶⁸ See further S. Bagli, D. Geneletti, and F. Orsi, p. 234; for the effective integration of all environmental impact and their cumulative effects it is recommended to assess them in a strategic planning process and to make the results available for the individual project planning. See E.A. Madsen, A.D. Fox, R.W. Furness, R. Bullman and D.T. Haydon, p. 6.

³⁶⁹ D. Blatchford and M. Lednor, "A strategic approach to environmental and social assessments" in *Risk and Energy Infrastructure: Cross-Border Dimensions*, T. J. Dimitroff (ed.), Globe Law and Business 2011, p. 240 and p. 253.

³⁷⁰ B. Noble, S. Ketilson, A. Aitken and G. Poelzer, "Strategic environmental assessment opportunities and risks for Arctic offshore energy planning and development" in *Marine Policy* 39 (2013), p. 299.

³⁷¹ *Ibid.*, p. 300.

³⁷² The Guidance document, p. 23.

States a free choice between three schemes. It thereby pays due regard to the differences in the national legal systems and does not touch upon the national procedural competences for infrastructure permits as it allows the Member States to choose the most convenient scheme and to keep their distinct allocation of competences between the national authorities.

However, the purpose of this provision is to reduce complexity and to increase efficiency.³⁷³ In terms of efficiency and enhanced cooperation, it has to be mentioned that scheme (a) has advantages compared to schemes (b) and (c) as the competent Authority is the sole body to take the final decision. This will probably facilitate the process as other national authorities cannot delay reports or other forms of cooperation. Especially for transboundary PCIs, the integrated scheme allows the competent Authorities of the respective states to coordinate their procedures and each to take its final decision. In this case, there would not be several national authorities that all have to follow one schedule and come to a conclusion. However, as shown above, some states favour the collaborative scheme.

6.2.2.4 Time limits

The Guidance document considers time limits for parts or all of the EA procedures as a powerful tool for streamlining.³⁷⁴ One might, however, invoke that this aspect of the recommendations may contradict itself as it states that time limits should be both binding and open for flexible extensions: If the time limits are individually set for a certain PCI or a PCI type, as suggested by the Commission, the authorities already have the possibility of taking into consideration all specific aspects that might influence the time needed for certain actions. In case of rigid and generally applicable time limits, extensions are reasonable in order to pay due account to the characteristics of the individual project, but in terms of customised time limits, flexible extensions are not necessary. The suggestion has to be seen in light of the fact that the TEN-E Regulation already sets out binding time limits for the pre-application procedure and the statutory permit granting procedure. It cannot be proven that a further timely separation of procedural steps will help to keep the overall TEN-E time limits. It could, however, lead to a loss of flexibility for the authorities in handling the procedural steps.

Therefore, it cannot be concluded that the recommendation will contribute to more legal security and to streamlining. For the recommendation concerning time limits for public participation, see Chapter 6.2.1.

³⁷³ Para. 29 of the Recitals of Regulation (EU) No 347/2013 – TEN-E Regulation.

³⁷⁴ The Guidance document, p. 23.

There is further no obvious reason for applying Article 10(6) of the TEN-E Regulation by analogy, as suggested by the Commission. The Guidance document gives no explanation on the analogy, neither on the unintended legal loophole in the TEN-E Regulation nor on the comparability of the legal situation.

6.2.2.5 Early and effective public participation

The recommendation on early planning of public participation is consistent with the recommendation on very early scoping and roadmapping of environmental aspects; it seems reasonable to integrate the different steps of public participation in the roadmap.

With regard to the concept for public participation that has to be submitted by the promoter pursuant to Article 10(3) and Annex VI TEN-E Regulation it should be noted that it might be helpful for the streamlining to integrate this concept into the roadmap. Since Article 9(5) TEN-E Regulation requires the public consultation to be carried out before submitting the application file, it is very likely that it will take place in or even before the pre-application phase. The roadmap might then serve as a draft for this concept.

6.2.3 Concluding remarks on the impact of the Guidance document on the framework

According to the definition in the Guidance document, streamlining would not result in abandoning environmental standards. The impact that the recommendations might have on the already existing framework for permit granting for transboundary PCIs is nevertheless significant. This is mainly due to the suggestions for procedural improvements in the synchronisation of strategic planning and project planning. The suggestions with regard to roadmapping and more holistic and early assessment may enable a better preparation of the procedure and thus potentially improve the quality of EAs. The idea of strengthening the conceptual stage, however, might be difficult due to a potential “outsourcing” of procedural elements. Furthermore, it could be doubted that setting more time limits will have a positive effect on the overall required time span. It can be concluded that the streamlining recommendations might improve the quality of EIAs and enhance cross-border cooperation but they will probably not lead to an additional boost in speeding up the procedure.

6.3 The overall framework in relation to environmental standards

6.3.1 New standards under the Habitats Directive and the Water Framework Directive

The TEN-E Regulation has introduced new concretisations for derogation from the AA regime under the Habitats Directive and for means to improve the water quality status under

the WFD. It should be considered possible that this new provision could contribute to a broader use of the derogation clauses and thus enable more PCIs to obtain positive EA reports, which might then lead to more favourable permit granting. According to the new provision, the authorities have the discretion to decide in favour of PCIs and to lower the environmental standards for the respective site or water quality.

However, it should be taken into account that under the AA derogation procedure of Article 6(4) Habitats Directive, the PCIs *may* be considered as being of overriding public interest, which means that the authority can use this approach, but it is not obliged to do so. In terms of Article 4(7) of the WFD it should be considered that in order to allow for derogations, a rather complex set of prerequisites must be fulfilled. This set of criteria, see above Chapter 4.3.1.4, provides for a small pass way to allow for a certain decision that impedes the water quality. The directive does not expressly allow for a certain decision; it rather clarifies that the state is not in breach with the directive in case it takes such a decision.

It should furthermore be stressed that the provisions in the directives themselves already provide for the opportunity to make a value decision by using the general legal term *overriding public interest*. The EU legislator has now used this opportunity and has determined a new case of overriding public interest. In this regard, the Article 7(8) TEN-E Regulation is just filling out what has been provided by the directives.

6.3.2 Environmental objectives

The overall framework for the permit granting of PCIs partly concerns the EU's policy on the environment, which, according to Article 191(1) TFEU, shall pursue certain environmental objectives. This subchapter will assess to what extent these objectives have been achieved.

The framework strives to pursue the objective in Article 191(1) TFEU to preserve, protect and improve the quality of the environment, which has been transposed by the EU legislator into the Habitats Directive and the WFD. The TEN-E Regulation has led to new standards under these directives, which might be evaluated as an impairment of the objective to improve the quality of the environment. However, the framework for PCI permit granting has also contributed to the strengthening of the EIA procedure, which in turn can improve the preservation and protection of the environment.

Moreover, the objective of prudent and rational utilisation of natural resources of Article 191(1) TFEU is concerned by the permit granting framework for PCIs. A natural resource in terms of this objective is, *inter alia*, the land surface, see further Chapter 4.2.1. It is likely that the interconnection of energy grids will lead to the utilisation of this resource.

This might be, however, less relevant as it is not to be expected that the construction of PCIs will use more natural resources as average projects, but it has to be stressed that the parallel scheme for PCIs with less strict permit granting conditions might lead to a less prudent use of natural resources.

The overall permit granting framework of PCIs could also be seen as a measure in order to pursue the objective of combating climate change, given that one would follow the approach presented in Chapter 4.2.1. Due to the accelerated permit granting and the objective of realising constructions as soon as possible, it could be concluded that the interconnection of energy grids under the TEN-E Regulation can contribute more effectively to the cluster of mitigation measures to combat climate change as the average electricity grid projects.

6.3.3 Environmental principles

As mentioned above in Chapter 6.3.1, the EU legislator has taken the opportunity to make a value decision in favour of the interconnection of grids under the TEN-E Regulation and against higher protection standards. This might be regarded as a setback in terms of the aim of ensuring the highest possible protection standards. The new provisions nevertheless do provide for a high level of protection, see above. Furthermore, it has to be mentioned that the EU legislator of the Habitats Directive and the WFD has already opened the protection standards for future derogations by inserting the option of making exceptions for reasons of overriding public interest.

The AA is now subject to two protection regimes for transmission projects: one regular scheme for regular projects and one less strict regime for PCIs. The authorities thus have to apply two different decision standards for projects, although the projects might have exact the same characteristics and are likely to cause exactly the same environmental impacts. It has to be awaited how the authorities will apprehend the different protection levels.

A similar conclusion can be drawn when applying the principle of high level of environmental protection in the context of the objective of prudent and rational use of natural resources. However, the overall better-integrated and coordinated assessment of environmental aspects and the early planning with help of the sensitivity and suitability maps might contribute to a use of less valuable land.

Furthermore, the permit granting framework of PCIs concerns the environmental principle to take preventive action and the general principle to integrate environmental considerations. The framework for transboundary PCIs provides for more tiering and more integrated EAs, which can be regarded as an improvement for the prevention of adverse

environmental effects as the new approach strives to carry out assessments as early and comprehensively as possible. This might also help to detect cumulative effects and to take even earlier action in order to prevent or to mitigate those effects. The provisions on taking these actions in a joint approach together with all states concerned might be seen as a positive step towards a common approach for environmental protection.

As a final conclusion it could be stated that, with the framework for environmental assessments in the permit granting for PCIs, the overall environmental protection might have been improved whereas the specific protection of certain areas might have become weaker.

6.4 The overall framework in relation to energy security

The permit granting framework for PCIs can be regarded as an important contribution to the overall aim of the EU's energy policy of achieving greater energy security. This is particularly due to the improvement of cross-border cooperation in permit granting procedures for PCIs in Article 8(5) TEN-E Regulation. Through the establishment of a joint body for transboundary environmental issues (Article 7(4) EIA Directive) and the overall streamlined coordination of procedural steps, it might be more feasible to meet the time limits and hence to speed up the actual permit granting in the Member States. This is particularly desirable in terms of the fact that TEN-E Union list is updated every two years, and with regard to the aim of ensuring greater energy security as soon as possible.

The Member States, however, have a great responsibility as it mainly depends on their will if the procedures can become more effective. The choice of the competent Authority, for instance, is important as the collaborative scheme might lead to a less effective cooperation between the authorities of the concerned Member States, just due to the number of authorities involved. When choosing either scheme, it is essential that the national authorities cooperate on the national level, and also with the authorities of the other concerned states. It would be preferable if the Member States were to find a common approach to the permit granting of PCIs by coordinating their streamlining measures.

Despite the principle of subsidiarity, it is important that the Member States put aside their national procedural specialties and create a common approach on how to cooperate in transboundary procedures. The achievement of improved energy security is a common objective of the EU and the European States. This common objective requires common policies and a will to the highest degree of cooperation in the actual administration.

7 Conclusion

The overall objective of this thesis was to analyse the EU's legal framework for cross-border energy infrastructure against the background of energy security and environmental protection. In order to answer the particular research questions set out in Chapter 1.3, it can be referred to the EU's legal framework for energy policy, which is comprised of Article 194 TFEU and several secondary legislations, mainly introduced by the 3rd Energy Package. The long-term energy security policy mainly consists of legislation deemed to complete the internal energy market. Further legislation that is aimed at mitigating climate change can contribute to energy security as it is striving to increase the amount of energy generated from RES. This can strengthen the EU's self-supply and thus lower dependencies on imports.

Energy from RES, however, imposes great technical challenges on the electricity grid and can threaten the secure supply. In this regard, the common energy infrastructure policy is deemed essential to ensure energy security and to complete the internal energy market; with the TEN-E policy the EU strives to lay the groundwork to integrate more energy from RES and to end the isolation of regions through the creation of a pan-European energy grid. Under the TEN-E Regulation, infrastructure projects with a PCI status are granted preferential treatment in the permit granting, which is intended to speed up the procedure and to facilitate the licensing of the PCIs.

It has been observed that EU primary law has not constructed any conceptual hierarchy between energy security and environmental protection. There is, however, no absolute protection of the environment but the need to bring about convergence between environmental protection and energy security. This has been achieved in secondary law with preventive measures such as environmental assessments, which are used to evaluate and mitigate potential environmental impacts from energy infrastructure projects.

The permit granting of transboundary PCIs is a complex procedure and requires close cooperation of the authorities of the concerned states. The EU provides a legal framework through the TEN-E Regulation and the EIA Directive, and further encourages even closer cooperation between the states by advising with the help of guidance documents.

The main research question of this thesis was if the EU's energy security policy relating to the interconnection of energy infrastructure would jeopardize environmental standards.

After the assessment of the EU's energy policy and environmental policy, this question must be answered in the affirmative. There is an observed lowering of environmental standards due to the exceptions in the context of the WFD and the Habitats Directive, which

are introduced by the TEN-E Regulation. These amendments allow for a PCI in the final permit granting decision to be treated as a reason of overriding public interest and thus to prevail over the existing protection regimes. Thereby the energy infrastructure for PCIs is confronted with lower environmental standards than regular energy infrastructure. This reduction in protection, though, has valid reasons as it is deemed to facilitate the construction of the pan-European grid and thereby to improve the EU's energy security.

The lowering in the TEN-E Regulation is rather abstract as it only allows the administrative authorities the opportunity to make exceptions. The TEN-E Regulation itself does not demand the use of the derogations. It falls under the discretionary power of the respective administrative authorities whether or not to apply the exceptions for PCIs and thus to allow for derogation from the regular protection regimes in the WFD and the Habitats Directive. The abstract lowering in the TEN-E regulation can then finally result in a concrete reduction of environmental protection standards. The prudent administrative use of these exceptions is therefore essential for the protection standards in the concerned areas.

The lowering is, however, accompanied with a qualitative strengthening of the EIA procedure in transboundary constructions due to a closer cooperation of Member States in the authorisation procedure by virtue of common reports and decision-making in joint bodies and, secondly, new measures for an early and more holistic assessment of environmental aspects. Aside from that, it is to be expected that the public will make use of its improved participatory rights in the EIA procedure since the construction of energy infrastructure has gained the focus of public attention.

The EU's common energy security policy and the common energy infrastructure policy demand a common approach for environmental assessments and the highest degree of administrative cooperation in the permit granting for energy infrastructure projects. There is a great risk of ineffectiveness and national fragmentation of EIAs, and thus a risk to environmental protection and conservation standards. This is further relevant when the Member States decide on implementing measures with respect to the TEN-E Regulation. Their political will has great influence on whether or not they achieve a successful and time-effective permit granting framework for PCIs. Close cooperation is a key for the success of the TEN-E infrastructure. Through this the creation of a pan-European grid can be realised, the urgent need for energy infrastructure can be satisfied and environmental standards can be guaranteed.

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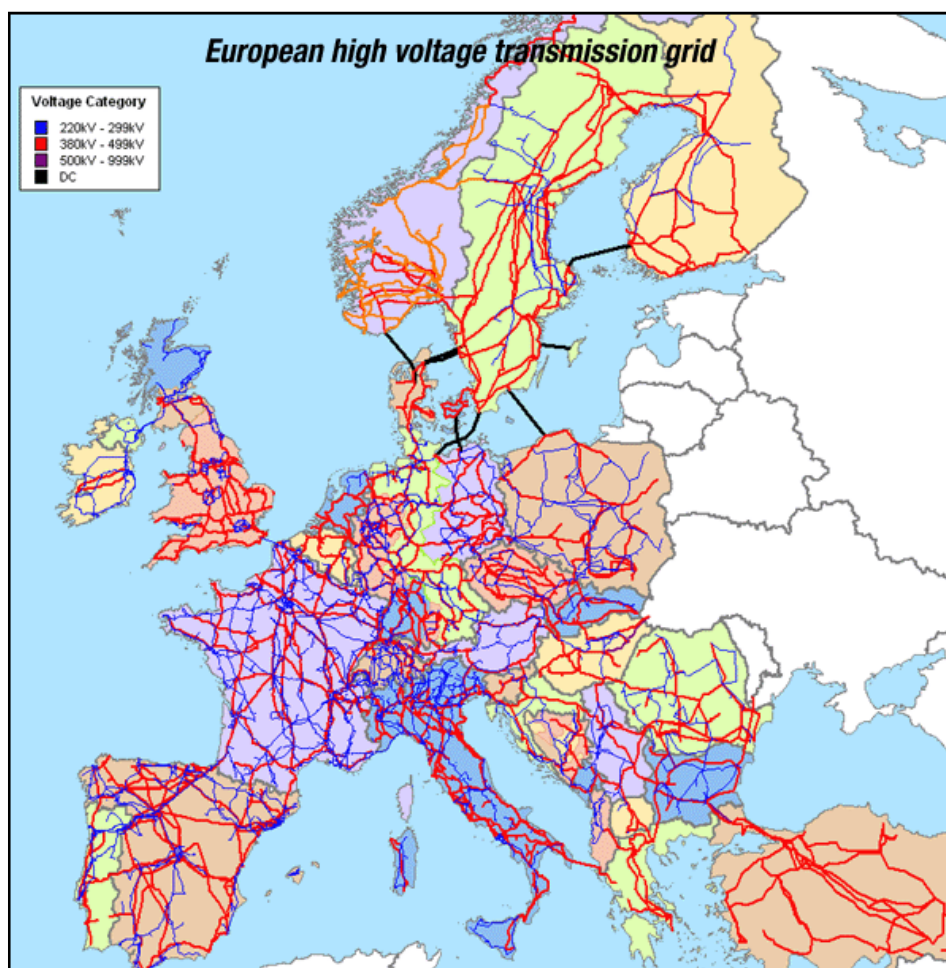
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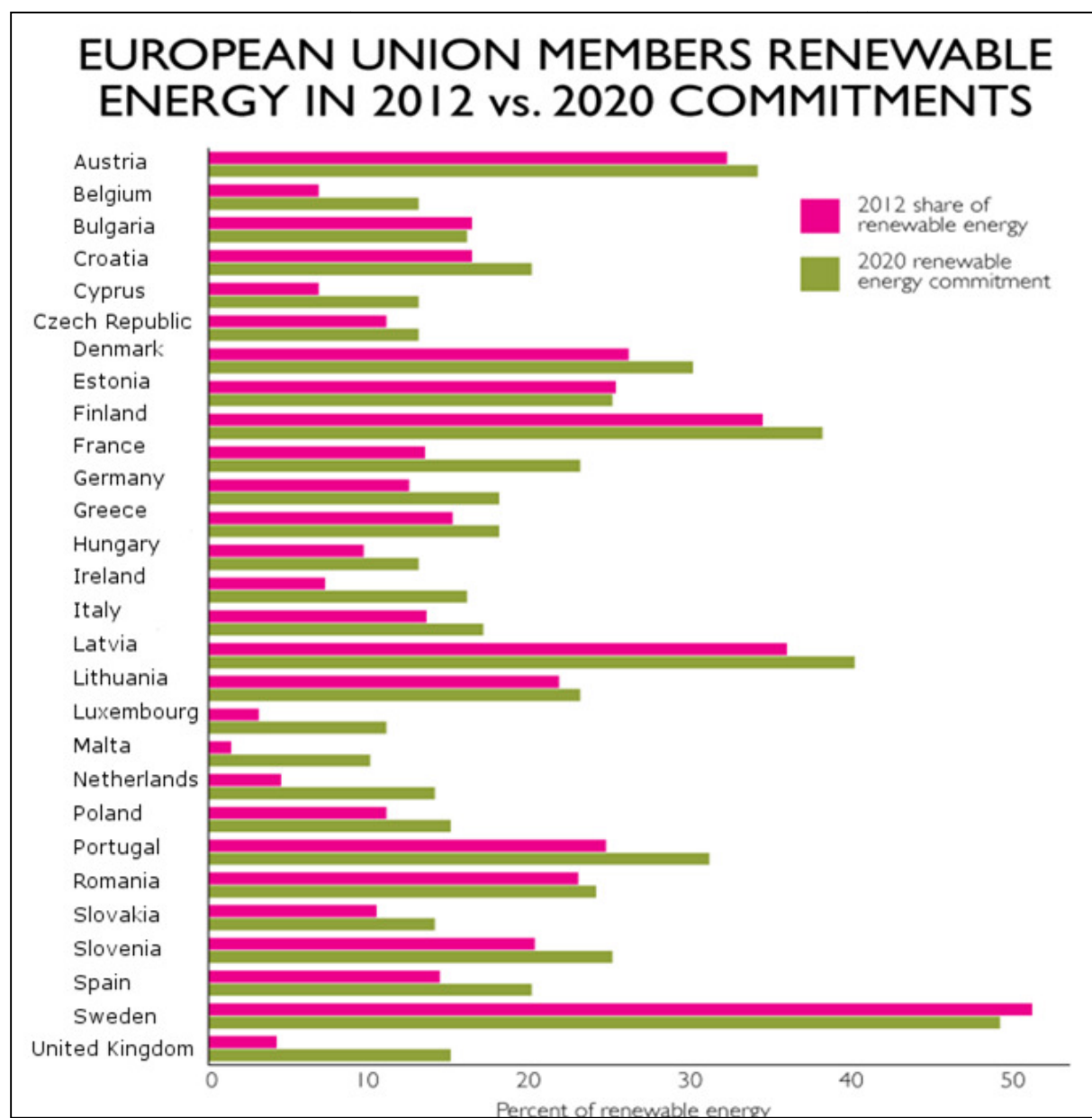
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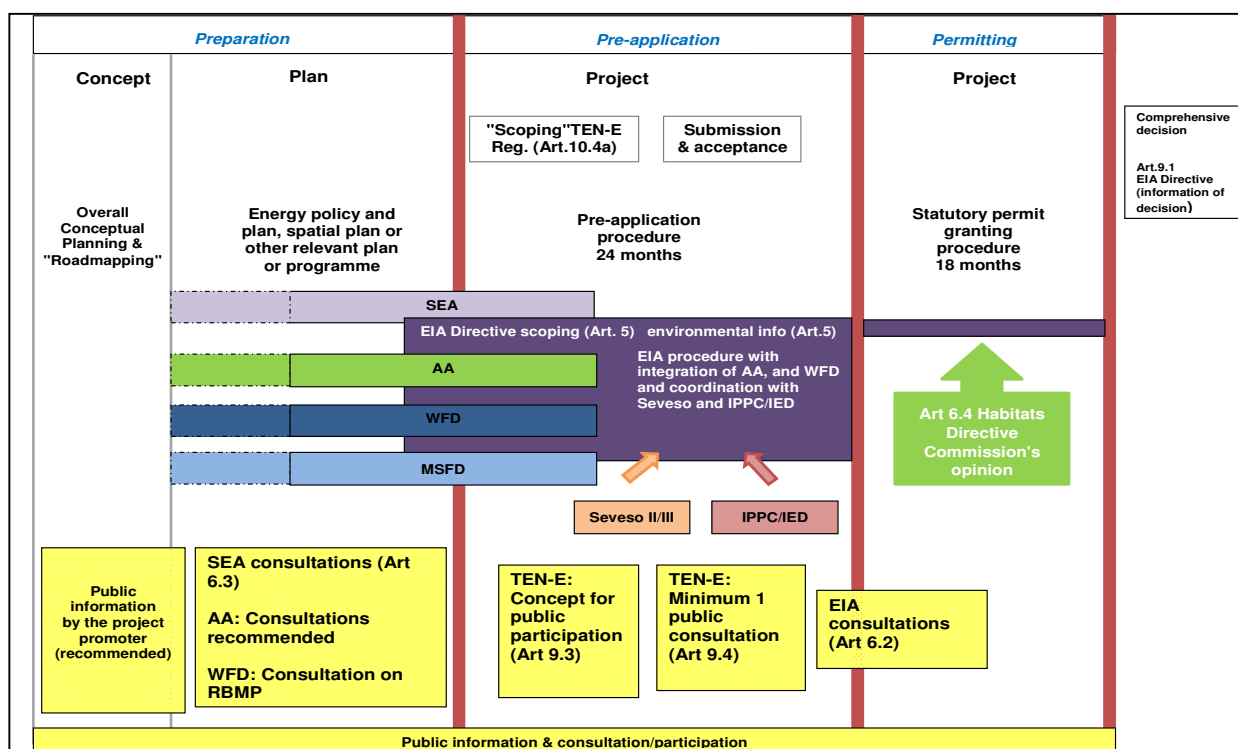
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3. Streamlining environmental assessments for energy PCIs: the overall procedure



Source: Commission Guidance Document, *Streamlining environmental assessment procedures for energy infrastructure 'Projects of Common Interest' (PCIs)*, 24 July 2013, p. 15
(accessible on ec.europa.eu/energy/infrastructure/doc/assessment/20130919_pci-en-guidance.pdf)

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