

Choosing Efficient Combinations of Policy Instruments for Low-carbon development and Innovation to Achieve Europe's 2050 climate targets

European governance and the low-carbon pathway:

Analysis of challenges and opportunities arising from overlaps between climate and energy policy as well as from centralisation of climate policies



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ACER	Agency for the Cooperation of Energy Regulators
BEPA	Bureau of European Policy Advisers
BMUB	Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety)
BMWiE	Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economics and Energy of Germany)
CEF	Connecting Europe Facility
cp.	compare with
CPI	Climate Policy Integration
DG	Directorate-General
ECJ	European Court of Justice
ENTSO-E	European Network of Transmission System Operators for Electricity
EPI	Environmental Policy Integration
ETS	Emission Trading Scheme
EU	European Union
EUA	European Union Allowance
FiT	Feed-in tariff
FPI	Foreign Policy Instruments
GHG	Greenhouse Gas Emissions
ICS	Intelligent Cooking and Storing
IEA	International Energy Agency



IPCC	Intergovernmental Panel on Climate Change
MS	Member State(s)
NGO	Non-governmental organisation
NMP4	Fourth National Environmental Policy Plan of the Netherlands
NSCOGI	North Seas Countries' Offshore Grid Initiative
p./pp.	page/pages
PCI	Project of Common Interest
RE	Renewable Energy
RES	Renewable Energies
SHN	Sustainable Household Nutrition
TEU	The Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
TM	Transition management
UK	United Kingdom
WP	work package

1 Executive Summary

The European Union (EU) has set itself emission reduction targets of 40% by 2030 and 80-95% by 2050 compared to 1990 levels. However, research finds that the current policy instrument mix needs to be strengthened considerably to reach these targets.

This report analyses two questions of governance:

- (1) How should the overlap between climate change mitigation and energy policies be addressed to strengthen EU climate action? and
- (2) Are centralised or decentralised policy approaches more suitable to strengthen climate change mitigation?

The first question is of fundamental importance as energy-related emissions account for almost 80% of the EU's total greenhouse gas emissions. Yet synergies between energy and climate policy objectives and the respective synergetic policy solutions do not get adequate attention and climate policy is partly perceived as an obstacle to energy objectives.

The second question addresses an issue which has been at the core of European policy making since its inception: Centralised approaches are promoted to improve efficiency of policies and increase economic growth as well as political weight of the EU and its Member States. Decentralised approaches are defended to protect national interest and influence, allow for solutions tailor made for specific national circumstances and enable policy approaches not supported by a majority of Member States. The European reality of today is a complex combination of centralised and decentralised elements in the mix of climate policies, complemented by a multitude of different multilateral approaches. Finding the adequate balance between centralised and decentralised solutions has been at the core of European policy making since its inception. In this context, centralisation is characterized by the degree of a) legal bindingness, b) European harmonisation and c) EU-level institution building.

The authors analyse the institutional structure (e.g. areas of EU competence, legal basis for action), the scientific debates (e.g. on policy integration or drivers for centralisation) as well as past and current political approaches to these issues. Based on this and focusing on rule setting in the context of evaluating centralisation trends, they developed a number of recommendations:

Structures and policy approaches should be such as to protect climate interests also in times when the focus of political attention shifts to other policy areas. This possibility to withstand the tides of political day-to-day trends is referred to as “**political resilience**”.

In the context of centralisation of policies this suggests, for example, that policy makers should not only protect the **freedom of frontrunners** (be it single Member States, a group of Member States or even several different such groups) to engage in more ambitious climate


action. Policy makers should also protect or even strengthen the **incentives for these frontrunners** to do so.

In the context of the overlap between policy fields, political resilience suggests, for example, re-establishing a separate and institutionally strong **DG Climate Action with its own Commissioner** within the EU Commission. This set-up is more resilient to the risk that political trends prioritise energy matters over climate change mitigation (as far as these policies conflict) than a joint Commissioner for Climate Action and Energy. A separate climate DG with its own Commissioner is less likely to suffer from a lack of attention being paid to climate policy and less likely to lack climate-relevant ambition. Staff and budget of the DG Energy and DG Climate should be adequately apportioned to award equal political weight.

In the case that the new institutional level of Vice-Presidents is maintained within the European Commission, it might be useful to appoint one “**Vice President for Climate Action**”. This would appropriately reflect the cross-cutting nature of climate policy and the far-reaching impacts of climate change and climate action on all sectors of industrialised societies. However, introducing such a Vice President may not entail a loss of personnel resources at the level of DG Climate Action or even dissolving this DG as this would negatively impede options to develop and drive climate policies and their implementation.

Furthermore, the analysis of the political structures and dynamics in the context of overlaps of climate and energy policies showed a need to strengthen the **political prominence of climate action as a key policy objective**. While the “competition” between and weighing of objectives is a frequent phenomenon in policy making, research on EU policy initiatives shows that the climate change mitigation objective is occasionally forgotten or sidelined by energy related objectives, e.g. the completion of the internal energy market. Trends within the EU Commission of neglecting climate objectives over energy policy or other objectives have to be identified and broken. In this context, greater support for ambitious climate action also from the European Council would be helpful. To further successful cooperation at regional level, the identification of options to support or create common interests of Member States in the context of climate relevant measures would be useful. Furthermore, climate change mitigation has to gain more prominence in the debate over the Energy Union for it to find an adequate response to the climate challenge and not be misled into fossil fuel expansion. In that regard, it is positive that the Commission’s “Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy” emphasises that the EU should “move away from an economy driven by fossil fuels”. Considering the importance of many energy policy measures for climate change mitigation and vice-versa, the Union should be understood to be an **Energy and Climate Union** and be named accordingly. The reference to the Energy Union as “A Resilient Energy Union with a Forward-Looking Climate Change Policy” is a step in the right direction as it highlights the link to and importance of climate policy.

Trends towards centralisation or decentralisation are both influenced by factors such as the specific policy preferences of Member States (e.g. preference for FiT or quota system to support renewable energies) or political priorities of relevant European bodies (e.g.



important parts of the European Commission being driven by the objective to complete the internal energy market rather than by climate objectives). Further influential factors are general political trends and drivers (e.g. financial crisis and increasing influence of EU sceptics in the political systems; public opinion with respect to climate change and respective policy measures) but also political developments at international level (e.g. dynamics arising in the context of international climate summits), institutional structures (e.g. the creation of a DG Climate Action), and people in power within these structures (e.g. Chancellor Angela Merkel driving climate policy in the year of the 2007 German double presidency (G8 and EU)).

With respect to centralised and decentralised as well as plurilateral policy approaches, the analysis finds that from a climate perspective there is **no fixed correlation between the degree of centralisation and the impact of policies on climate change mitigation**. Hence, neither centralised nor decentralised approaches are *per se* more suitable for strengthening EU climate policy. The mitigation success of a climate policy rather depends e.g. on the specific policy design and the respective level of ambition.

This leads to the conclusion that no fixed perfect equilibrium between centralised and decentralised policy approaches can be defined from a climate perspective. Nonetheless, some recommendations have been identified to guide policy makers' choices on the most suitable approach. For example, decentralised solutions at Member State level – or also multilateral approaches – can serve as **policy laboratories** and thus enhance the innovation and learning potential before introducing complex new policy instruments at a more centralised, European level.

However, the analysis identifies a number of climate policies which should be strengthened by a centralised EU approach. For example, **binding minimum targets** for climate relevant issue areas such as greenhouse gas mitigation, renewable energy and energy efficiency should be set at European level and backed by coherent national targets are of crucial importance. These targets should be ambitious and outline the pathway for the transformation to a low-carbon economy until 2050 (e.g. in 5-year steps). This would give a minimum of policy certainty. This is particularly important to adequately guide investments in infrastructures which will prevail for the next few decades, e.g. electricity grids. Targets should be supported by **monitoring and review mechanisms** to adequately adapt targets, for example, according to new scientific insights and technological inventions.

2 Introduction

The recently published 5th Assessment Report of the IPCC indicates that there is only a short window of time to put the world on track to keep global temperature increase below 2°C (IPCC 2014). The European Union (EU) aims to be a frontrunner in climate policy and for this purpose has set an ambitious European 2050 emission reductions target as well as associated targets for 2020 and 2030. Whether the EU will be able to achieve these targets depends on a plethora of factors, including the economic development, demographic development etc.

A factor that is often overlooked in this context is the institutional and legal framework in the EU. This report focuses on the question: How can the EU institutional structures and policy approaches help to achieve the 2050 emission reduction target? In particular, the report addresses two key questions that are frequently raised in this context:

- (1) How can and should the overlap between climate change mitigation and energy policies be addressed to strengthen EU climate action (Part I)?
- (2) Are centralised or decentralised policy approaches more suitable to strengthen climate change mitigation (Part II)?

The report starts with a general introduction. This part provides a brief overview of the EU's medium- and long-term climate protection objectives. It then explains the EU's current institutional and legal framework for climate policy. This is the starting point for any future policy development – as well as for any revision of this framework.

In chapter 3 (=Part I) and chapter 4 (= Part II) the authors analyse the two questions raised above. For each part, recommendations will be provided on how to better proceed in the future, guided by the goal to enhance climate change mitigation.

2.1 Guiding parameters: EU emission reduction targets for 2030 and 2050

In 2009 the EU and G8 leaders announced their objective to reduce emissions by 80% by 2050 (compared to 1990). Shortly afterwards, the European Council declared that it supported “an EU objective, in the context of necessary reductions according to the IPCC by developed countries as a group, to reduce emissions by 80-95% by 2050 compared to 1990 levels” (European Council 2009a). While there are diverging views as to the legal character of this target, e.g. being unilateral or conditional (see Geden 2014), subsequent EU policy documents frequently reference this objective. For instance, the Energy Roadmap 2050 (European Commission 2011a) developed a cost-effective pathway for cutting the EU's emissions to 80% below 1990 levels by 2050.

As a follow-up to its 2020 climate and energy targets, the European Council adopted in October 2014 its 2030 Climate and Energy Policy Framework (European Council 2014). This framework includes a binding emission reduction target of 40% by 2030 compared to 1990 levels. The Commission and the Council argue that this target is “in line with the objective of reducing GHG emissions by 80 to 95% by 2050 compared to 1990 levels as part of necessary

efforts by developed countries as a group” (European Commission 2013a, see also European Council 2014b). However, other voices are more cautious: a 2014 study by Ecofys concludes that the 40% reduction target is not in line with the 2050 objective, unless average annual emission reductions doubled after 2030, compared to the period 2010-2030 (De Vos et al. 2014). A similar analysis by Enerdata concludes that the 40% reduction target would delay action that is necessary to reach the long-term 2050 objective and raise cumulative costs. The report states that “taking early action and achieving a 50% target in 2030 will reduce the cost by 0.03% of cumulative GDP” (Enerdata 2014, p.4). A study by Ecologic Institute provides an overview regarding the positions of a number of relevant stakeholders, highlighting the controversial debate with respect to the adequate level of ambition for GHG reduction (and renewable energy expansion) by 2030 (Meyer-Ohlendorf et al. 2014).

In any case, the current instrument mix needs to be strengthened considerably to even reach only the 2030 40% reduction target. The European Commission “Trends to 2050” study, which was published in early 2014, indicates that the existing EU policies would only result in a 32% emission cut by 2030 – and only 44% by 2050. Hence, “this significant decrease falls still considerably short of the EU's 2050 GHG objective” (European Commission 2014e).

This clearly indicates that significant efforts will be necessary in the EU’s climate policy in the coming decades if the EU wants to achieve its long-term objective. Among other factors, the EU’s institutional and legal setting (e.g. distribution of responsibility for climate action within the EU Commission or limits of competence of the EU) will influence to what extent the EU will be able to take sufficiently ambitious actions on climate mitigation.

2.2 Status Quo – EU framework for energy and climate policy

2.2.1 Legal foundation

The legal foundation for the EU’s energy and climate policy is provided in the Treaty on European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU). The TEU sets out the objectives of the EU which include the promotion of sustainable development. Accordingly, the EU “shall establish an internal market” which “shall work for the sustainable development of Europe based on [...] a high level of environmental protection and improvement of the quality of the environment” (Article 3(3) TEU). Moreover, with respect to external relations, the EU “shall [...] contribute to [...] the sustainable development of the Earth” (Article 3(5) TEU).

The TEU also defines the circumstances under which the EU may take action. The basic rule is established in Article 5(2) TEU as the principle of conferral: The EU shall act only within the limits of the competences conferred upon it by the Member States in the Treaties to attain the objectives set out therein. Thus, competences not conferred upon the Union in the Treaties remain with the Member States (Article 4(1) TEU). The principles of proportionality and subsidiarity further limit the involvement of the EU. According to the principle of proportionality (Article 5(4) TEU), actions by the EU shall be limited to what is necessary to achieve the objectives of the Treaties. The principle of subsidiarity (Article 5(3) TEU) aims to

ensure that decisions are made at the closest proximity to citizens. The EU shall thus only take action if measures at local, regional or national level would not suffice.

2.2.2 Areas of EU competence

The TFEU defines the areas of competence for the EU and determines the specific arrangements for the exercise of these competences. The competences of the EU are set out in Articles 2 to 6 TFEU. Areas of competence relevant to energy and climate policy include, but are not limited to, the internal market, environment, transport, energy, and agriculture. For some areas, the EU is mandated to define and implement policies, while in other areas the EU may only exercise supportive or coordinative functions.

Further provisions of the TFEU dedicated to the different competence areas define in detail their respective scope and arrangements. The titles on environment and energy (Titles XX and XXI, respectively) are the most relevant to the EU's climate and energy policy.

Article 191 to 193 TFEU establish the details for EU policies in the area of environment. Article 191(1) TFEU clarifies the objectives for EU environment policy:

- “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.”

Although environmental policy is an area of shared competence, implying that Member States generally may only act if the EU has not done so, Article 193 TFEU allows Member States to introduce more stringent environmental measures than those introduced by the EU.

Article 194(1) TFEU provides guidance for the EU's energy policy and specifies that “[i]n 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;
- (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.”

The specific reference to the preservation and improvement of the environment operationalises the principle of environmental integration which serves as an overarching principle to be respected by EU policy. This principle is explicitly mentioned in Article 11 TFEU: “environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development” (Article 11 TFEU).

Article 194 TFEU excludes from EU competence energy policy measures that would affect the:

- Member States' right to determine the conditions for exploiting its energy resources;
- Member States' choice between different energy sources; and
- the general structure of a Member State's energy supply (Article 194(2) TFEU).

However, such measures may possibly be adopted under the environmental chapter of the TFEU, also given that Article 192(2)(c) specifically mentions measures significantly affecting a Member State's choice between energy sources and the general structure of its energy supply – a provision to which Article 194 TFEU refers to explicitly.¹

2.2.3 Categories of competences: the EU and Member States

The EU enjoys exclusive competences for certain areas, meaning that Member States have completely yielded powers to the EU in these domains. Hence, only the EU may legislate for these policy areas, and Member States may only act if the EU empowers them to do so (Article 2(1) TFEU). The TFEU lists among these areas of exclusive competence, for example, the establishing of competition rules necessary for the functioning of the internal market.

More relevant for energy and climate policy is the concept of shared competences. For certain policy areas, EU and Member States share the competence, meaning that both may legislate. However, the EU has a prerogative to act, and Member States may only exercise the competence to the extent the EU has not done so (Article 2(2) TFEU). The respective areas are, among others, agriculture, environment, energy, transport or the internal market.


Despite this EU prerogative, it needs to be highlighted that the EU is a union of individual Member States that still exercise a high level of power, also in areas of exclusive EU competence. The degree to which Member States can influence policies in these competence areas is mainly determined by the role of the Council – which represents the governments of the Member States – and the decision-making procedures applicable for the respective policy area.

2.2.4 Decision-making

Legislative proposals are prepared by the European Commission, which has the “right of initiative” for submitting proposals (Article 17(2) TEU). However, other actors – for example, the Council, the Parliament or a citizen's initiative – may solicit the Commission to submit proposals.

The TFEU provides for two different types of legislative procedures: the ordinary legislative procedure and special legislative procedures. Most widely used is the ordinary legislative procedure which grants equal weight to the European Parliament (EP) and the Council. As a

¹ For a more detailed discussion of this possibility, see section 3.3 “Overlaps between climate and energy policies”.



general rule, the ordinary legislative procedure finds application for both the areas of environment and energy. It requires that both the EP and Council approve the legislative proposal. The Council adopts decisions by qualified majority. As of 1 November 2014 “qualified majority” is defined as at least 55% of the members of the Council, comprising at least 15 members and representing at least 65% of the European population. Until then, a more complicated system applied, based on votes allocated to each Member State according to their population size; qualified majority corresponded to 260 votes out of 352.

There is also a range of special legislative procedures that find application for specific cases. Such a special procedure is only applicable to certain areas of environmental policy, namely provisions primarily of fiscal nature; measures affecting town and country planning, quantitative management of water resources or land use; and “measures significantly affecting a Member State’s choice between energy sources and the general structure of its energy supply” (Article 192(2) TFEU). For these areas, the EP is consulted, but not asked for approval, and the Council is required to act unanimously. The same special procedure applies for energy policy measures when they are primarily of a fiscal nature (Article 194(3) TFEU).


2.2.5 Choosing the legal basis for action

Policy projects could impact different EU areas of competence. Especially in the area of climate and energy policy, where policy objectives often overlap, the legislator could see a link to different treaty provisions as a basis for action. The European Court of Justice has ruled that the choice of legal basis for policy measures shall take into account the aim and content of the measure (ECJ Case C-300/89). If the measure is based on two different provisions, the legislator is required to adopt the measure on the basis of both these provisions (“dual legal basis”), unless this approach is incompatible with the decision-making procedures at hand and, for example, jeopardises the involvement of the EP in the decision-making process (Case 165/87).

2.2.6 Competition law and State Aid rules

The EU’s Competition Policy aims at safeguarding that competition is not distorted in the EU internal market by ensuring that similar rules apply to all companies operating in this sphere. Establishing competition rules is an exclusive competence of the EU, based on Articles 101 to 109 TFEU.

One of the most important areas in Competition Policy is the control of state aid, which aims to ensure that government interventions do not distort competition or trade between Member States. According to EU law, any form of public assistance that is provided on a discretionary basis and which has the potential to distort competition and affect trade between Member States is considered state aid (Article 107 TFEU). Under the general rule, state aid is considered illegal. However, the EU state aid regime provides for a number of exemptions which enable Member States to legally grant certain kinds of state aid, e.g. in the case of aid of social character or aid for damages caused by natural disaster (Article 107(2) TFEU). In other cases, the Commission “may” declare state aid compatible with the internal




market if certain conditions are met (Article 107(3)(c) TFEU). For several policy areas, the Commission has adopted guidelines which establish the compatibility of certain aid measures with the common market.

The guidelines on state aid are drafted and adopted by the European Commission. Member States are merely consulted. However, state aid rules can have a considerable impact on, for example, Member States' subsidy policies for renewable energies or energy efficiency. Member States according to Article 108(3) TFEU are requested to notify and seek approval from the Commission before they provide state aid. According to the "standstill clause", the Member State may not put in place the state aid until the Commission has authorised it (Article 3 of Council Regulation (EC) No 659/1999). It is thus not surprising that the new guidelines on environmental and energy aid, published by the European Commission in early 2014 (European Commission 2014f), raised concerns among Member States that the Commission was bypassing national and European legislators (cp. Bundesregierung 2014).

A recent conflict between Germany and the Commission on the validity of the German renewable energy policy exemplifies the significant influence of state aid guidelines on national climate policy. In December 2013, the European Commission opened an in-depth investigation to assess whether the German Renewable Energy Sources Act (EEG), in its version of 2012, violated EU State aid rules, namely the 2008 guidelines on state aid for environmental protection. The 2012 EEG grants exemptions from the feed-in tariff surcharge to energy-intensive industry, and the Commission considered that these exemptions might constitute unjustified state aid. Furthermore, the Commission was concerned that the green electricity privilege, which is available under the 2012 EEG, discriminated between domestic and imported electricity (European Commission 2013b). In February 2014, Germany challenged the Commission's investigation before the General Court of the EU (Case T-134/14). While the formal decision about the outcome of investigations was still pending, Germany and the Commission already agreed that 350 companies would pay back the surcharge reductions granted to them in 2013 and 2014 (ENDS 2014) – showing the political power of such investigation. The Commission and Germany also engaged in intensive negotiations on the 2014 version of the EEG to ensure its compatibility with the 2014 guidelines on environmental and energy aid. In the course of the negotiations Germany scrapped the green power privilege in the new version of the EEG and also agreed to open a 5% share of its tendered capacity to electricity producers in other Member States on the basis of cooperation agreements (Reuters 2013). The Commission finally approved the 2014 EEG in July 2014, stating that it constituted state aid but was justified on the basis of the new guidelines (European Commission 2014).

This decision may also have been influenced by a recent judgement by the ECJ against the Finnish wind energy producer, Ålands Vindkraft. Ålands Vindkraft had challenged Sweden's refusal to grant Swedish electricity certificates to the company, arguing that Sweden's national support scheme was violating EU rules on the free movement of goods. However, the Court rejected this view and stated that the support scheme did constitute a restriction of the free movement of goods, but that this restriction was justified by its public interest



objective. Notably, the Court acknowledged that reserving the support scheme for national electricity production was necessary to promote long-term investment in renewable energy (ECJ Case C-573/12; see section 4.4.2 below). The decision was welcomed by several Member States as well as renewable energy producers who feared that opening support schemes to foreign producers would undermine the affordability and feasibility of those schemes (ENDS 2014a).

The framework described above currently determines how the EU addresses (1) the overlap between climate and energy policies and (2) the extent to which the EU can use centralised or decentralised policy approaches. Chapter 3 will analyse how overlaps are currently being addressed, which alternative approaches to overlaps could be more conducive to ambitious climate policy, and which concrete steps could be taken in this respect. Chapter 4 will address the question of centralisation versus decentralisation. The report highlights to what extent these approaches are currently being used in the EU's climate policy, considers the question of a desirable level of centralisation and analyses factors driving decentralisation or centralisation.

3 Part I: How to address overlaps between climate and energy policies at the EU level


Energy issues have been present from the earliest stages of formalised European cooperation – starting in 1951 with the European Coal and Steel Community in 1951. Climate change started to feature as a relevant policy issue during 1980s – driven by scientific insights and warnings. While efforts in the early stages were “largely limited to programmatic statements and informal coordination measures” (Pallemmaerts et al. 2006; Mehling et al 2013), their reach and impact have grown particularly since the turn of the century and it has become increasingly evident that energy policies and policies mitigating climate change often overlap and/or influence each other.

This chapter focuses on overlaps between climate and energy policies at the EU level and examines how these overlaps have been and are dealt with in the EU at the legal, institutional and instrumental level. The authors were guided by questions of how these overlaps influence climate policy and how the relationship between the two policy areas should be designed to reap the best results for climate protection. The overlaps of climate and energy policies will be evaluated in light of the EU’s target to reduce greenhouse gas emissions by 80-95% by 2050.² As mentioned³, it is questionable whether the existing instruments are sufficiently ambitious to meet the EU’s 2050 greenhouse gas emissions reduction target. In any case, significant efforts are necessary to meet this objective. Promising policies to that end are those fostering emission reductions as well as an expansion of the share of renewable energy, and those contributing to improve energy efficiency.

Intermediate milestones determined at the EU level to reach the long-term climate target include the expansion of the share of EU energy consumption produced from renewable sources to 20% by 2020 and 27% by 2030, and an energy efficiency improvement of 20% by 2020 and 27% by 2030. Currently, the predominant energy policy goals are threefold. Building on the 2006 Commission Green Paper “A European strategy for sustainable, competitive and secure energy”, the EU aims to ensure that energy is sustainable, competitive and secure (European Commission 2014c). The first objective relating to sustainable energy can easily be read in light of the climate objective as it implies actively combating “climate change by promoting renewable energy sources and energy efficiency” (European Commission 2006). But also the objectives “competitiveness” and “security of supply” can have a climate-related dimension. Competitiveness relates to an improvement of “the efficiency of the European energy grid by creating a truly competitive internal energy market” while the aim to secure the EU’s energy supply focuses on improving the coordination of “the EU’s supply of and demand for energy within an international context”

² Cp. European Council Conclusions 2009 for the 2050 GHG reduction target: “The European Council calls upon all Parties to embrace the 2°C objective and to agree to global emission reductions of at least 50%, and aggregate developed country emission reductions of at least 80-95%, as part of such global emission reductions, by 2050 compared to 1990 levels; such objectives should provide both the aspiration and the yardstick to establish mid-term goals, subject to regular scientific review. It supports an EU objective, in the context of necessary reductions according to the IPCC by developed countries as a group, to reduce emissions by 80-95% by 2050 compared to 1990 levels.”

³ See section 2.1 on EU targets for 2030 and 2050.



(European Commission 2006). Climate policies can also be beneficial from an energy perspective and vice versa. An example are the benefits of a higher share of renewable energies for the energy supply security and for decreasing the dependency on imported fossil fuel resources (IEA 2008; cp. also e.g. Neslen 2014a). Then again, more ambitious climate policies often trigger fears of detrimental effects on the overall competitiveness of a system or economic growth etc. as well as on energy prices and security of energy supply. Sometimes issues of competitiveness and climate protection are even portrayed as antipodes (for the debate see, for example, Aldy/Pizer 2011).

This shows the interrelation of the two policy areas, which has to be taken into account for climate policy design and to understand political dynamics. Especially given that “energy-related emissions account for almost 80 per cent of the EU’s total greenhouse gas emissions” (EEA 2012; cp. also Dupont/Primova 2011), the reduction of which is a declared EU objective, it is important to look at the ways in which climate concerns are approached and dealt with within or in the context of energy policies. Thus, this chapter focuses on a number of selected questions pertaining to the constellations in which energy and climate policies are interlinked or overlap.

In this context, the broad notion of “overlaps” is meant to sum up the fact that climate and energy policies should not – and in some cases cannot – be viewed in isolation. In fact, numerous linkages and interdependencies exist and, in some cases, energy policies can be seen as climate policies. Thus, the two policy areas affect and interact with each other.

The following examples illustrate the broad range of interdependencies that exists in the context of climate and energy policies:

Table 1: Selected synergies and conflicts between climate and energy policies

Selected synergies	Selected conflicts
<ul style="list-style-type: none"> • A larger share of renewable energies can have a positive climate impact by reducing greenhouse gas emissions from fossil fuels. • A larger share of renewable energies can reduce dependency on fossil fuels, thereby increasing the security of energy supply. • Greater energy efficiency can increase energy security and, at the same time, reduce greenhouse gas emissions from the energy sector. 	<ul style="list-style-type: none"> • Expanding the market share of renewable energies has an impact on other players in the market – for example, coal and gas power plants. Stranded investments and employment effects in certain sectors can raise political and economic questions. • The short- and medium-term increase of energy prices <i>inter alia</i> due to the support schemes for renewable energies and the levy for greenhouse gas emissions may have a negative impact on competitiveness and affordability of energy. • Energy policies, such as coal subsidies, can be harmful in terms of their climate impact.

The IPCC Working Group III report holds that “[c]limate policy intersects with other societal goals creating the possibility of co-benefits or adverse side-effects. These intersections, if well-managed, can strengthen the basis for undertaking climate action” (IPCC 2014).

The following addresses examples of ways in which interdependencies between climate and energy policies are dealt with in the EU. The chapter examines related legal requirements and proceeds to analyse to what degree the overlaps are reflected at the European level in policies and official EU documents. It also considers topical institutional matters and, in view of the findings, provides recommendations.

3.1 The policy integration concept

Overlaps of policies are often dealt with in the context of what is referred to as “integration”. Environmental Policy Integration (EPI) has been discussed as a topic for several decades. It is an umbrella concept and essentially the predecessor of parallel debates on the more specific and more recent concept of “Climate Policy Integration” (CPI). Although the notion of environment is not defined in the EU treaties, it is undisputed that the definition covers climate too (see, for example, Article 191(1) TFEU: EU policy on the environment shall promote “[...] measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change.”). In the following, references to the broader notion of EPI can thus generally be understood as applying to CPI as well.

3.1.1 Brief historical background

In 1987 the World Commission on Environment and Development published the Report “Our Common Future” (often referred to as “Brundtland Report”). The report highlights the importance of “integrating” economic and ecological considerations in decision-making, noting that “[t]he ability to choose policy paths that are sustainable requires that the ecological dimensions of policy be *considered at the same time* as the economic, trade, energy, agricultural, industrial, and other dimensions on the same agendas and in the same national and international institutions” (United Nations 1987, pp. 48, emphasis added). A few years later, “Agenda 21”⁴ dedicated a whole chapter (“Integrating Environment and Development in Decision-Making”) to Environmental Policy Integration (UNEP 1992). In 1998 the European “Cardiff Process”⁵ called for “the Council to develop guidelines for the integration of environmental concerns into those sectoral policies that have a direct or indirect effect on the environment, such as transport, energy, agriculture, etc” (Creitaru 2008, p. 55). Evaluations of the Cardiff process show that the concept of integrating environmental concerns into other policy areas can have positive effects, including raising awareness for environmental problems and protection requirements as well as the need to set clear targets and enhance cross-sectoral cooperation (cp. Kraemer/Von Raggamby 2000).

3.1.2 Different levels of integration – weak, strong, very strong level of integration

Despite the frequent reference to “integration” in the academic and political debate, there is no common definition of integration, or policy integration. While the broad understanding of the concept is relatively intuitive, precise interpretations vary. They range from integration constituting a process of considering various interests at the same time, or combining them as equally important in a broader concept, to integration as the priority treatment of one dimension over another in the sense that there is a hierarchy between different sectors and interests.

Numerous approaches and variations can be identified. In European documents it is held, for example, that “environmental integration means making sure that environmental concerns are *fully considered* in the decisions and activities of other sectors” (European Commission 2014b, emphasis added). Literature states “that environmental protection requirements *cannot be viewed in isolation*” (Czeberkus 2013, p. 32, emphasis added) or that “[EPI] stands for the *continual process of taking into account* environmental considerations in the design and implementation of non-environmental policies [...]” (Creitaru 2008, p. 55, emphasis added). Elsewhere it is noted that integration means tackling two different topics together (Eggenberger/Partidario 2000, p. 204; cp. also Persson 2004, p. 15; Hertin/Berkhout 2001, p. 6) or, adopting a wider view, that the environmental concerns should be treated with

⁴ Agenda 21, the agenda for the 21st Century, was an outcome of the United Nations Conference on Environment and Development (UNCED) – the “Earth Summit” – in Rio de Janeiro, Brazil, in 1992. It is a non-binding agenda on environment and sustainable development, addressing various international and national policy makers and stakeholders.

⁵ European Commission (2014b): “Cardiff Process” is a process “launched by European heads of state and government (The European Council) at their meeting in Cardiff, in June 1998, requiring different Council formations to integrate environmental considerations into their respective activities, putting article 6 of the EC Treaty into practice.”

“principled priority” (cp. Jordan/Lenschow 2010, p. 147). Following a functional definition, integration is also held to mean “forming, coordinating, or blending into a functioning or unified whole; uniting with something else or incorporating into a larger unit” (cp. Persson 2004, p. 10; Czeberkus 2013, p. 38). In the context of climate policy, the aim of the concept is to ensure that climate policy objectives are promoted “in the policy process and the output in non-environmental policy sectors” (Dupont/Oberthür 2011).

Regardless of the precise definition, three broad approaches to climate policy integration are distinguished in the literature, ranging from weak to very strong (Dhondt 2003). At the EU level, a **weak interpretation** would call upon EU institutions to consider climate requirements or reflect on them when adopting other policies. A **strong interpretation** would imply an obligation to incorporate the specific climate policy into a larger unit, i.e. to coordinate or find a balancing compromise between two (or more) policies. A **very strong interpretation** would actually require treating climate requirements as a priority, overriding other concerns, interests and values (cp. Czeberkus 2013, p. 38). The latter position essentially argues on the basis of the “irreversibility of some damage to life-support systems” (cp. Eckerberg/Nilsson 2013).

3.2 Climate policy integration at the EU level

As stated, three broad approaches to CPI can be distinguished – weak, strong and very strong. The following examines which approach is adopted at the EU level in practice. To that end, both European primary law and selected official European documents are reviewed to understand the supported degree of CPI.

3.2.1 Reflection on climate policy integration at the legal level

The EPI/CPI debate is not only addressed at the academic level. The concept is in fact reflected in EU primary law. Article 11 TFEU states that “[e]nvironmental protection requirements *must be integrated* into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development” (emphasis added). This includes energy policies in which environmental concerns need to be integrated. However, Article 11 TFEU remains vague. How the integration is to be achieved remains open, leaving quite a bit of discretion for policy makers.

Table 2 - Development of relevant provisions in EU primary law

Year of signature	Treaty	Wording
1986	European Single Act	Article 130r (2): Environmental protection requirements <i>shall be a component</i> of the Community's other policies (emphasis added).
1992	Treaty of Maastricht	Article 130r (2): Environmental protection requirements <i>must be integrated</i> into the definition and implementation of other Community Policies (emphasis added).
1997	Treaty of Amsterdam	Article 6: Environmental protection requirements <i>must be integrated</i> into the definition and implementation of the Community policies and activities referred to in Article 3, in particular with a view to promoting sustainable development (emphasis added).
2001	Treaty of Nice	Article 6: Environmental protection requirements <i>must be integrated</i> into the definition and implementation of the Community policies and activities referred to in Article 3, in particular with a view to promoting sustainable development (emphasis added).
2007	Treaty of Lisbon	Article 11: Environmental protection requirements <i>must be integrated</i> into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development (emphasis added).

The overview presented in table 2 reveal two main development: firstly, the initial rule has been subject to a textual amendment, changing it from environmental protection requirements having to be “*a component*” of European policies to the requirement that they “*must be integrated*”; secondly, the rule is now found more prominently at the beginning of the TFEU. Although the changes are not too significant overall, the more prominent position of the integration approach emphasises its role in comparison to its prior position in Article 130r (2) Single European Act.

Article 11 TFEU does not indicate any sort of priority treatment of environmental concerns, but notes that environmental protection requirements *must* be integrated. A communication on the Cardiff process notes that the integration principle is a matter of “joint responsibility” of the Council, Parliament and Commission. The communication also emphasises the integration requirement’s status as a “legal obligation of the Treaty” (European Commission 1998; cp. also Client Earth 2010) and further notes that “[a]dherence to the integration requirement is in principle subject to judicial control by the European Court of Justice as is the case with the subsidiarity principle” (European Commission 1998).

The ECJ has ruled in the ADBHU case that restrictions in other policy areas are generally admissible as long as they are proportionate: “measures [...] may have a restrictive effect on freedom of trade and of competition, they must nevertheless neither be discriminatory nor

go beyond the inevitable restrictions which are justified by the pursuit of the objective of environmental protection, which is in the general interest” (ECJ 1985).

In summary, it can be held that Article 11 TFEU entails a legal obligation and suggests what would be categorised as a “**strong level**” of EPI/CPI. The law does not require orientation on the highest possible level of environmental and climate protection and does not make environmental and climate protection a priority. Restrictions in other policy areas resulting from the integration approach need to be proportionate and shall not be discriminatory (see ADBHU Case).

3.2.2 Reflection on climate policy integration in official environmental, climate and energy-related documents

As stated, Article 11 TFEU requires that environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities. In the following the most important and most recent policies and political statements will be considered to assess to what extent they address and recognise the overlaps between climate and energy policies and meet the requirement to integrate environmental and climate protection requirements into the definition and implementation of Union policies and activities.

The **Fifth Environmental Action Programme** (1993) held that “[t]he challenge of the future will be to ensure that economic growth, *efficient and secure energy supplies* and a *clean environment* are *compatible objectives*” (European Commission 1992; emphasis added). The **Sixth Environmental Action Programme** (2001) emphasised that “*integration of environmental concerns into other policies* must be deepened” and specifically noted that “all Commission policy initiatives should be fully assessed in this light” (European Commission 2001, emphasis added; cp. also Von Homeyer et al. 2011). Thus it did not only define a challenge or requirement but actually requested increasing integration efforts and a critical review of current practices in this context. The **Seventh Environmental Action Programme** (2013) even made it one of the Programme’s priorities “to improve environmental integration and policy coherence” as its “integration in all relevant policy areas is essential in order to reduce pressures on the environment resulting from the policies and activities of other sectors and to meet environmental and climate-related targets” (cp. European Parliament 2013, para. 29).

In these Action Programmes, a slight shift from “compatible objectives” to “essential environmental integration” can be identified. While the Fifth Environmental Action Programme already recognised the need to consider numerous sectors at the same time to ensure they are compatible, it did not, unlike the Seventh Environmental Action Programme, highlight the integrative approach as a priority for the purpose of meeting environmental and climate-related targets. The perceived level of importance seems to be increasing. The statements in the EAPs also show that the debate has been ongoing for decades and that – from an environmental perspective – the adequate level of integration has not yet been achieved.

Similarly, the Climate Change Programmes also address integration and overlaps between climate and energy. In 2000 the Commission launched the **first European Climate Change**

Programme. It did not only include climate-related aspects, but also covered several energy-related areas, including energy supply, energy demand and energy efficiency in end-use equipment and industrial processes. In view of the **second European Climate Change Programme** (2005), it is held that the Commission realised that “a successful policy framework would have to bridge the existing divide between environmental policy and energy and transport policy” (Mehling et al. 2013a).

As far as the **2020 Climate and Energy Package** adopted in 2007 – according to some a “landmark document” (Mehling et al. 2013, p. 512/513) marking “a paradigm shift in the EU from the domination of market consideration to a more climate-centred energy policy” (Frogatt et al. 2012, p. 2) – is concerned, the Commission itself notes that “[t]he 20-20-20 targets represent an *integrated approach* to climate and energy policy that aims to combat climate change, increase the EU’s energy security and strengthen its competitiveness” (DG Climate Action 2014a, emphasis added).

However, the integrative approach adopted in the 2020 Climate and Energy Package is not consistently assumed in other contexts. Apart from including a reference to energy efficiency, the **Energy 2020 Strategy** (adopted in 2011 and thus not too long after the Climate and Energy Package) does not directly emphasise interests related to climate change in its “five priorities”⁶ (DG Energy 2011, p. 7). Regarding energy efficiency it is noted in the Energy 2020 Strategy that it “needs to be mainstreamed into all relevant policy areas, including education and training, to change current behavioural patterns” (DG Energy 2011, p. 8). However, unlike the mentioned environmental and climate policies, the Energy 2020 Strategy does not deal with climate and energy as significantly interacting matters. In contrast, the Commission’s **Energy Roadmap 2050** expressly refers to the EU’s climate commitment “to reducing greenhouse gas emissions to 80-95% below 1990 levels by 2050” (European Commission 2011) and recognising the links between the two fields.

The Commission Green Paper “**A 2030 framework for climate and energy policies**” (2013) is a good example of a paper highlighting both the benefits of overlaps of climate and energy policies as well as the conflicts that arise. It notes that the 2030 framework must “identify how best to maximise synergies and deal with trade-offs between the objectives of competitiveness, security of energy supply and sustainability” (European Commission 2013a, p. 3). It explicitly emphasises that “the current climate and energy targets for GHG reduction, the share of renewable energy sources and energy savings were designed to be mutually supporting and there are indeed interactions between them. Higher shares of renewable energy can deliver GHG reductions so long as these do not substitute other low-carbon energy sources while improved energy efficiency can help reduce GHG emissions and facilitate attainment of the renewables target” (European Commission 2013a, p. 7). However, it notes that the 2030 framework “should also recognise that higher shares of renewable energy sources and greater energy savings will not alone ensure greater competitiveness or


⁶ In addition to achieving an energy-efficient Europe (1), the priorities are (2) building a truly pan-European integrated energy market, (3) empowering consumers and achieving the highest level of safety and security, (4) extending Europe’s leadership in energy technology and innovation, and (5) strengthening the external dimension of the EU energy market.

security of supply” (European Commission 2013a, p. 7). Regarding potential trade-offs the Green Paper notes that “more than anticipated energy savings and greater than expected renewable energy production can lower the carbon price by weakening the demand for emission allowances in the ETS. This in turn can weaken the price signal of the ETS for innovation and investments in efficiency and the deployment of low-carbon technologies whilst not affecting attainment of the overall GHG reduction target” (European Commission 2013a, p. 7) (on the crisis of the EU ETS and the reasons for it see below section 4.6.1).

The Commission Communication “**A policy framework for climate and energy in the period from 2020 to 2030**” (European Commission 2014c) highlights the energy policy objective of ensuring “competitive, secure and sustainable energy system”. It proposes a renewable energy target of 27% to be achieved by 2030 by the EU as a whole, without nationally binding targets (European Commission 2014c; see also Bausch et al. 2014). In contrast to the current Renewable Energy Directive 2009/28/EC, Member States will not have individual nationally binding targets and it is not clear how Member States would be called to responsibility if the EU target is not met. The proposed renewable energy target should allow for “flexibility for Member States to set national objectives” (European Commission 2014c; cp. also Fouquet/Nysten 2014). As the “centre piece of the EU’s energy and climate policy for 2030”, it is further proposed to set a “reduction target for domestic GHG emissions of 40% compared to 1990, to be shared between the ETS and non-ETS sectors” (European Commission 2014c).⁷ As far as energy efficiency is concerned, the European Commission proposed a 30% energy savings target for 2030 (DG Climate Action 2014b). The European Council Conclusions of October 2014 endorse at least a 40% greenhouse gas reduction target for 2030, a 27% renewable energy target to be achieved by the EU as a whole and an indicative energy efficiency target of at least 27% (European Council 2014a).

In response to this Communication, the **European Parliament** adopted a **Resolution** in February 2014. It explicitly recognises the links between climate and energy and deals with the synergies and trade-offs of combining the two policy dimensions. It notes that “climate targets, sustainable growth, security of energy supply, economic and technological competitiveness and the completion of the single energy market are of the utmost importance for the EU and *are deeply linked*” (European Parliament 2014; emphasis added). Apart from this general recognition of overlaps between various sectors, the Resolution elaborates on the links in further detail. It goes on to note that “the 2030 framework for climate and energy policies needs to combine careful consideration of climate commitments (both long- and short-term) with the need to address compelling economic and social issues such as energy security, high energy costs for industry [...]” (European Parliament 2014) but also notes that “the impact of various energy sources on the environment and the climate should be comprehensively monitored” (European Parliament 2014, para. 42). It is interesting to note that the Parliament also points to the differentiation of long- and short-term

⁷ See for details Chapter 4 “Decentralisation/Centralisation”.



perspectives – a recurring theme when considering costs and benefits in the context of different measures, both with respect to the climate and the energy objectives.

Regarding what has been stated above in relation to the binding and non-binding targets proposed by the Commission for the 2030 framework, the Parliament “notes that a so-called ‘package approach’ made up of energy efficiency, renewable energy and greenhouse gas emissions targets, defined in line with existing cost-effective energy saving potential, would enable the EU to meet its competitiveness, energy security and decarbonisation goals with a lower CO₂ price and a smaller burden on industry than if it only had a greenhouse gas emissions target” (European Parliament 2014, para. 69) and thus “asks the Commission to examine the interactions between climate and energy objectives in order to achieve the most efficient policies at EU level, so as to avoid the problems encountered when targets and measures have not been set coherently” (European Parliament 2014, para. 72). In doing so, the Parliament underlines that the climate objectives (reduction of greenhouse gases) and policies should be specified and supported by measures related to energy policy (i.e. renewable energy and energy efficiency targets) and that such policies are mutually influencing the prospects of achieving their respective goals efficiently.

As far as **European Council Conclusions** are concerned, several of them address both climate and energy issues (cp. e.g. Council Presidency October 2008; Council Presidency April 2009; European Council 2014a). In these Conclusions, the emphasis is nonetheless mostly on growth, competitiveness, energy prices and energy security. The March 2011 Conclusions, for example, note that energy and innovation “are key to Europe’s future growth and prosperity” and that “safe, secure, sustainable and affordable energy contributing to European competitiveness remains a priority for Europe” (European Council March 2011). In a similar vein, the May 2013 Conclusions note that it is “important to have a well-functioning carbon market and a predictable climate and energy policy framework post-2020 [...]”, adding that “the supply of affordable and *sustainable* energy to our economies is crucial” for competitiveness, jobs and growth (European Council May 2013, emphasis added).

It does not come as a surprise that before the Copenhagen Summit the focus on climate aspects was stronger than it is currently, with the debate dominated by other topics, including economic challenges. As the prominent Paris climate summit approaches (2015), and in the context of the need to define the European climate policy for 2030 and beyond, climate action seems to gain a bit more prominence again, although economic concerns (which are closely related to energy policy) continue to dominate. However, the European Council Conclusions of October 2014 on the “2030 Climate and Energy Policy Framework” put strong emphasis on both climate and energy.

The Conclusions of 20/21 March 2014 that were adopted in response to the above mentioned Commission’s framework proposal (European Commission 2014c) state that “a strong, resource-efficient and competitive European industrial base must be seen in relation to a coherent European climate and energy policy, including through addressing the issue of high energy costs, in particular for energy-intensive industries” (European Council March 2014). The Conclusions of 7/8 February 2013 are noteworthy in so far as the statement strongly reflects the notion of policy integration by emphasising that “[t]he optimal

achievement of objectives in some policy areas depends on the mainstreaming of priorities such as environmental protection into a range of instruments in other policy areas” (European Council February 2013).⁸ More recently, the European Council emphasised the importance of “bring[ing] together energy and climate actions as well as actions in other relevant policy areas, leading to more and longer-term policy coherence” (European Council 2015, p. 17/18).

3.2.3 Summary

EU primary law provides the required legal basis for the integration of environmental concerns into other policies, including energy policies. The legal framework aims for only a **strong level** of policy integration based on the categorisation proposed. Furthermore, environmental policy integration as provisioned in Article 11 TFEU remains vague.

The EU treaties do not aim for or require the highest possible level of climate protection. They do not provide a prioritisation of climate change policy objectives over other objectives, including energy policy objectives. Overall, while policy makers have to take integration objectives into account, they have a lot of freedom with respect to how they do this and how they evaluate certain policy approaches and combinations.

In practice, EU policies and statements have partially taken up the integration approach and in some cases highlighted its importance – especially from the environmental perspective: It is noteworthy that the need for (deepened) integration and its assessment is stressed explicitly in the Climate Change and the Environmental Action Programmes, for example, but not in the Energy 2020 Strategy, which lacks explicit references to environmental and climate change concerns.

⁸ Other European Council Conclusions (Examined European Council Conclusions date back until 2008) only focus on energy and do not mention climate-related issues or the overlaps between the policies. In the context of Europe 2020, the June 2010 Conclusions, for example, link the “EU's growth potential” with “innovation and energy policies” (European Council June 2010). The Conclusions of January 2012 also only comment on energy: “We set orientations for the further development of energy policy, as regards completing the internal market, enhancing energy efficiency, developing infrastructure, ensuring coherence in the EU's external relations, and enhancing nuclear safety and security” (European Council January 2012). Then again, other Conclusions focus exclusively on climate change issues (rather than energy). They concentrate on UN climate negotiations rather than climate policy at the European level only (cp. European Council November 2011, November 2010, March 2010, December 2009). In the wake of the Copenhagen Climate Summit, a December 2009 Presidency Conclusion, for example, stated that the EU should “play a constructive role during the final phase of the negotiation, particularly on key issues such as financing, technology transfer, adaptation, mitigation and good governance” (Council Presidency December 2009); José Manuel Barroso: “Europe 2020 is the EU's growth strategy for the coming decade.

In a changing world, we want the EU to become a smart, sustainable and inclusive economy. These three mutually reinforcing priorities should help the EU and the Member States deliver high levels of employment, productivity and social cohesion.

Concretely, the Union has set five ambitious objectives - on employment, innovation, education, social inclusion and climate/energy - to be reached by 2020. Each Member State has adopted its own national targets in each of these areas. Concrete actions at EU and national levels underpin the strategy”, cp. http://ec.europa.eu/europe2020/index_en.htm.

The analysis of official EU documents shows two elements that are relevant for how climate policy issues are considered:

- the institutional setting (e.g. DG Energy or the European Parliament);
- broad political and economic trends at international and European level

An examination of the most recent European Council Conclusions shows that, in some cases, climate and energy issues are mentioned in the same context, but energy matters are addressed more frequently and prominently. In general, the European Council Conclusions address, for example, energy security or competitiveness, but do not highlight how climate policies could impact such areas. The Conclusions that exclusively address climate change issues deal with climate change negotiations at the UN level.

3.3 Overlaps between climate and energy: two examples for the current climate and energy debate

Two issues that are currently subjected to intense debate are illustrated and discussed in the following sections to exemplify how the integration of climate change concerns other policies, and overlaps between climate and energy policies are addressed. In addition to their relevance in the current political debate, these issues have been chosen as they are clear-cut examples of the overlaps between climate and energy policies and clearly reveal the potential synergies and conflicts.

3.3.1 A joint Commissioner for Climate Action and Energy and a new Vice President for Energy Union

In autumn 2014, the Commission decided to amend the system of having two separate Commissioners for Climate Action and Energy. While the DGs remain individual bodies, the same Commissioner now coordinates them. Miguel Arias Cañete (Spain) has been appointed to function as the Commissioner for both Climate Action and Energy.

The initial creation of DG Climate Action in 2010 with its Climate Action Commissioner sent out a strong political signal about the importance of the issue and constituted an important improvement to foster climate-related matters. While it did not free other Commissioners from the obligation to integrate climate change concerns in their policies, it certainly established a strong advocate for climate policies within the Commission.

A comparison of the views of the former Commissioners for Climate Action and Energy (Connie Hedegaard, EU Commissioner for Climate Action; Günther Oettinger, EU Commissioner for Energy) confirms, somewhat predictably, that Hedegaard pursued climate goals more ambitiously than Oettinger. Hedegaard, for example, supported a 40% greenhouse gas emission reduction target for 2030 while Oettinger suggested 35% (Van Renssen 2014). Even after the publication of the climate and energy policy framework proposal, which envisions a 40%-target, Oettinger publicly noted: “I have to be constructive as I am a member of the team but I’m sceptical” (Bawden 2014). In the past, Oettinger has held that “industry means CO₂ emissions” (Harvey 2011). He has also expressed his opinion that an energy savings target should be “indicative but politically binding” (Bloomberg 2014). From a climate perspective and considering the significant share of energy-related emissions, such views do not give sufficient weight to the impacts of energy policies on climate. In

addition, they fail to address the potential synergies between the two policy fields. In contrast, Hedegaard has frequently highlighted the interdependencies of climate and energy policies and supported certain energy policies while explicitly acknowledging energy objectives such as competitiveness. She held, for example, that “Europe’s dependence on foreign fossil fuels is growing every year. That means more expensive and unaffordable energy bills for Europeans. This is not very wise. It’s obviously not wise for the climate, but it’s also not wise for our economy and our competitiveness” (European Commission 2013). Emphasising the benefits for both climate and energy, Hedegaard also stated that “[e]nergy security and the fight against climate change are inseparable: without climate policies there can’t be energy security. And this is why energy efficiency and renewables will continue to be two key ingredients as they are good both for the climate and energy security” (European Commission 2014).

Consequently one can argue that the decision to change this structure is negative from the climate perspective. However, whether or not this decision is good or bad for the achievement of climate objectives depends on numerous factors.

In fact, an entirely separate DG for climate action is not *per se* beneficial. It needs to be backed by sufficient resources, competences, influence, high-level commitment and power. In light of the inter-linkages of climate and energy policies it also needs to be treated roughly on equal footing with DG Energy to be able to assert the climate perspective. DG Climate Action was a relatively small DG with a comparatively prominent Commissioner from a small Member State. Considering the importance of the climate change issue and the urgency to act, DG Climate Action was not able to exert the influence needed to push e.g. ambitious energy efficiency policies or more ambitious 2030 targets.


Moreover, in the new structure the topic area Climate Action does not seem to be treated on equal footing with the Energy topic area as far as resources are concerned. DG Climate Action has three Directorates (DG Climate Action 2014c)⁹ while DG Energy has five (DG Energy 2014).¹⁰ As of 1 December 2014, the total number of staff working at DG Climate Action amounts to 138. In contrast, DG Energy has 494 members of staff, DG Environment has 461 and DG Competition employs 749 EU officials. DG Climate Action’s limited human resources have been emphasised as a crucial “drawback” (Frogatt et al. 2012, p. 7).

Under such circumstances, DG Climate Action is disadvantaged. This disadvantage becomes even more significant if DG Energy focuses predominantly on energy and less on the integration of climate into energy policies or fails to sufficiently address the synergies of climate and energy. This has been the case in recent years.

An independent DG Climate Action would be preferable from a climate policy perspective. As such, it is more capable of maintaining a strong focus on climate issues and can better sustain its position. A strong and individual DG Climate Action is more resilient to political changes

⁹ Directorate A – International & Climate Strategy; Directorate B – European & International Carbon Markets; Directorate C – Mainstreaming Adaptation & Low Carbon Technology.

¹⁰ Directorate A – Energy Policy; Directorate B – Internal Energy Market; Directorate C – Renewables, Research and Innovation, Energy Efficiency; Directorate D – Nuclear Safety and Fuel Cycle; Directorate E – Nuclear Safeguards.



paying lesser attention to ambitious climate action. It should ideally be supported or backed by DG Energy and other DGs that integrate climate concerns and recognise the overlaps when performing its functions in their respective policy field. In addition, DG Climate Action needs to be treated on equal footing with DG Energy with respect to resources.

In the case that Energy and Climate Action are dealt with by one Commissioner, it can be assumed that roughly only half of the Commissioner's time will be allocated to Climate Action – under the optimistic assumption of the same level of interest and institutional backing. Depending on the profile of the Commissioner, the perspective might look less positive for Climate Action. The nomination of Miguel Arias Cañete who has been, for example, linked to the petroleum companies Petrolífera Ducar und Petrologis Canarias (Corporate Europe Observatory 2014) has been criticised in some instances – despite the fact that he has given up his shares (cp. e.g. ENDS Europe Daily 2014).

Despite noting that the new approach can, potentially, be disadvantageous for climate protection, *Mehling* highlighted that the dual role of the new Commissioner can be beneficial in terms of contributing to an integrated and streamlined climate and energy policy approach, depending on the person in charge (Mehling 2014). *Oberthür* assumes that climate policies will be at a disadvantage in cases of conflicting interests between climate and energy. He particularly emphasised the lack of special attention that will be paid to climate interests without an individual Commissioner for Climate Action (Oberthür 2014). Naturally, climate action will only receive half as much attention – a logical consequence but important factor also emphasised by *Baldock* (Baldock 2014).

Further concerns are raised in light of the fact that the new Commissioner is also required to report to the newly established Vice President for Energy Union (Maroš Šefčovič, Slovakia). The idea for a so-called Energy Union (see more details below p. 53) stems from the newly elected president of the European Council, Donald Tusk (Poland). He formulated his proposal in April 2014 mainly as a response to dependency on Russian gas (Tusk 2014) and with the aim of placing a strong focus on energy security, infrastructure and promotion of coal. The European Council endorsed the idea of an “Energy Union with a forward looking climate policy” in its Conclusions of June 2014, “aiming at affordable, secure and sustainable energy” (European Council 2014b). It is clear from the new Commission structure that the Energy Union will play a priority role in the work of the Commission that started its work in November 2014. The Vice President for Energy Union is one of five vice presidents who each take a strategic overview of a number of portfolios. The Vice President for Energy Union is responsible for coordinating and steering the work of seven Commissioners, including the Commissioner for Environment, Maritime Affairs and Fisheries, the Commissioner for Climate Action and Energy, and the Commissioner for Transport. Among the Vice President's key mandates is the task to coordinate “Commission efforts to ensure the EU achieves its targets in the field of energy for 2020 and 2030, including as part of the Europe 2020 Strategy”. While he is also responsible for “contributing to managing the reduction of greenhouse gas emissions from the industrial and transport sectors in particular”, the focus of his tasks seems to lie on infrastructure and energy security. Mr. Cañete will operate “under the steer and

guidance” of the Vice President for Energy Union (Juncker 2014), who will have a “strategic filtering role” in relation to new policy proposals (ENDS Daily 2014a).

A potentially positive development is the express commitment of the European Council to greater policy coherence, stating: “[t]he Energy Union also needs an integrated governance and monitoring process [...]. The governance process should serve the following purposes: [...] bring together energy and climate actions as well as actions in other relevant policy areas, leading to more and longer-term policy coherence. This also provides long term certainty and guidance for investors.” (European Council 2015, p. 17/18).

3.3.2 A policy framework for climate and energy in the period from 2020 to 2030

In view of the Commission proposal “A policy framework for climate and energy in the period from 2020 to 2030”, the European Parliament held that the “package approach” – combining energy efficiency, renewable energy and greenhouse gas emissions targets – “would enable the EU to meet its competitiveness, energy security and decarbonisation goals with a lower CO₂ price and a smaller burden on industry than if it only had a greenhouse gas emissions target” (European Parliament 2014, para. 69). As it is now, the suggested policy framework, however, does not deal with the overlaps of climate and energy in a way that contributes to maximising the synergies.

The approach to energy efficiency makes this even more evident. In general, “energy efficiency policy objectives are more compatible with the climate goals than other energy policies” (Abramczyk 2013, p. 43). Energy efficiency improvements have the potential to lead to positive effects for both policy fields. In the past the Commission has held that “energy efficiency is the most cost-effective and fastest way to increase security of supply, and is an effective way to reduce the greenhouse gases emissions responsible for climate change” (European Commission 2011; European Climate Foundation 2014). The European Parliament has been particularly clear in terms of its support for energy efficiency policies, noting that “energy saving and energy efficiency are the fastest and cheapest routes to addressing issues such as energy security, external dependence, high prices and environmental concerns”, pointing out “increased energy efficiency should be seen as one of the cornerstones of the EU's climate and energy policy” and recalling “the Commission’s promises to set *binding energy efficiency targets* for 2020” (European Parliament 2014, paras. 43 and 44, emphasis added).¹¹

However, the opportunity to contribute to both policy areas will be missed if there is no binding energy efficiency target. As it is now, there will be only an *indicative* EU level target of at least 27%, which is subject to review by 2020 (European Council 2014a). Despite the fact that energy efficiency policies provide a common instrument potentially beneficial for both climate and energy with an obvious overlap between the two fields, the lack of ambition

¹¹ Also the IEA has highlighted the importance of energy savings to keep temperature increase below the 2°C limit (IEA 2013, pp. 53 et seq.; cp. also Client Earth 2013, p. 57).

regarding support for strong and binding energy efficiency targets negatively affects the exploitation of existing synergies.

Similarly, the framework's approach to renewable energies, an EU target of at least 27%, does not maximise the benefits for both climate and energy.¹² Generally the reasons for promoting renewable energies are not primarily or exclusively based on climate considerations. Referring to the old 2020 energy and climate package, it is held that at the EU level "a key driver [...] has been the concern for the internal market" while energy insecurity and climate change have contributed to support for renewable energy policies at the national level (Hildingsson et al. 2011, p. 28). The European Commission noted that "[a]n internal electricity market for Europe is not an end in itself. It is urgently needed to achieve the objectives of the Union policy on energy. Those include: secure and competitively priced supplies; renewables and climate change targets of 2020 and beyond" (European Commission 2013c). Overall, it is assumed that "the additional presence of concerns over energy security and climate change made it considerably easier for the Commission to make the case for more ambitious and, perhaps even more crucially, *binding targets*" (Hildingsson et al. 2011, p. 28, emphasis added).

While the 2020 energy and climate package had nationally binding renewable energy targets (established under Directive 2009/28/EC), the current 2030 package as proposed by the EU Commission and reflected by the European Council Conclusions of October 2014 does not suggest nationally binding targets but merely a target for the EU as a whole. The Member States seem to oppose nationally binding targets (Fouquet/Nysten 2014, p. 5). Without nationally binding targets, however, the Commission cannot initiate an infringement procedure under Article 258 TFEU in case that the targets are not met. Thus, the isolated EU level target is essentially unenforceable as there is "nobody to punish for failing to comply" (Bawden 2014). Experience with the former Renewable Energy Directive 2001/77/EC that did not include nationally binding targets shows that a lack of binding targets in combination with a "lack of political will by the Member States" can lead to a failure to meet the targets (Fouquet/Nysten 2014, p. 7/8). Given that EU renewable energy policy has generally been held to have positively contributed to the achievement of climate policy objectives in the past (cp. Dupont/Primova 2011, p. 8/9), it is unfortunate that the new European renewable energy policy approach is weakend. It remains to be seen in how far the new EU Governance will contribute to meeting the EU renewable energy target. One of its functions is to "facilitate coordination of national energy policies and foster regional cooperation between Member States" (European Council 2014a).

The two policy instruments that are generally held to contribute considerably to the achievement of climate objectives are proposed in a way that does not indicate how the targets shall be met. Hence, the potential synergies between climate and energy policies are not dealt with in a way that maximises the benefits for protecting the climate.

¹² See also chapter 4.

3.4 Prioritisation of climate change in the EU legal and institutional framework: possible options

The previous sections have illustrated institutional and strategic challenges and shortcomings in the area of climate and energy policy overlap. The required level of climate policy integration remains vague and, in practice, climate concerns are not always adequately integrated in other policies and coherently and comprehensively addressed. Due to the lack of high-level political commitment as well as legal and structural shortcomings, climate policy was not passed with the ambition many scientists consider appropriate. Accordingly, many co-benefits of the two fields were not fully exploited.

Given that energy-related concerns were among the reason to create the European (Coal and Steel) Community in the first place and energy politics has ever since been viewed as “high politics” with a major security aspect attached to the debate (cp. Mehling 2014), it is not surprising that perceived concerns, e.g. over national sovereignty, energy mix and energy prices, and related concerns over industrial growth and international competitiveness are obstacles to better align climate and energy policies. Considering the far-reaching impacts of climate change and the potential of energy efficiency measures and the expansion of renewable energies for economic development, market opportunities and decreasing energy dependencies, the current structure and practice cannot be satisfactory.

For such reasons it is worth analysing whether the promotion of climate change concerns can be strengthened. In order to contribute to ambitious climate-related outcomes, a very strong notion of climate policy integration in the sense that climate concerns are given priority may appear to be the most suitable approach.

There are several arguments in favour of prioritising climate over other political objectives. An obvious argument relates to the far-reaching impacts climate change has on society and to the equally far-reaching benefits climate change mitigation and adaptation measures have (cp. e.g. IPCC 2014). In addition, the impacts of climate change can have negative effects on all other major societal goals (IPCC 2014). Another reason – as already mentioned – relates to the significant growth potential of climate-relevant technologies and to the immediate and noticeable positive effect of greening the economy on the availability of green jobs (European Commission 2014d).

3.4.1 What priority do climate protection objectives have at the EU level?

As held above, the current EU treaties aim for a high level – but not the highest possible level – of environmental protection (cp. Article 11 TFEU, but also Article 3 (3) TEU or Article 191 (2) TFEU). Of course, Union policies must adhere *to certain principles such as the precautionary principle* (cp. also Article 191(2) TFEU). The principle “aims at ensuring a higher level of environmental protection through preventative decision-taking in the case of risk” (European Union 2014). However, it does not lead to a principled priority of environmental and climate issues.

3.4.2 At which levels could the mitigation of climate change be prioritised?

Climate concerns could be strengthened at the legal level. This would require a revision of EU primary law, which is – admittedly – very ambitious. However, it is worthwhile to look at the options:

The first is to amend the EU treaties introductory provisions, especially Article 3 TEU or Article 11 TEU. The wording of **Article 3 (3) TEU** highlights that the Union shall establish an internal market which shall work for the sustainable development of Europe. Rather than referring to “sustainable development”, a strengthening would be reflected, for instance, by adding after “sustainable development” “, including the transition to a low-carbon society in particular”. A prioritisation could also be achieved by adding “with transition to a low-carbon society being the overriding priority.” To even strengthen it further, a time-frame could be added, e.g. “by mid of this century” after “society”. It would remain in the discretion of policy makers to determine, what a “low-carbon society” is.

Alternatively or in addition, **Article 11 TFEU** could be amended so as to reflect a very strong level of environmental policy integration. Rather than stating that environmental protection requirements “must be integrated” it could be held that such requirements “must be integrated and in the case of climate policy be given priority in case of conflict”. This does not yet define the level of ambition needed in the context of climate policy, but it creates a hierarchy.


Furthermore, a manifest option would be to amend the TFEU’s environment or energy titles. In **Article 194 TFEU** (Title XXI – Energy), climate protection could be included as a distinct objective rather than as an element of environmental protection that merely needs to be considered. In addition, Member States could be requested explicitly to contribute to climate protection, even when acting in accordance with their sovereign right to exploit their energy resources, as well as to choose between different energy sources and the general structure of their energy supply. This could be established by including a formulation such as “the energy mix of the Member States shall contribute to climate protection”.

An option to prioritise climate protection within **Article 191 TFEU** (Title XX – Environment) would be to state that EU policies “shall protect the climate”. This is a stronger affirmation of climate protection objectives than currently reflected in Article 191 TFEU¹³ which requires that “Union policy on the environment shall contribute to pursuit” of the listed environmental objectives. In addition, Article 191 (2) TFEU could refer to the “highest level of protection”, rather than a high level of protection.

Another, probably more feasible but potentially less effective option would be to use secondary law instruments to prioritise climate protection. A new secondary law instrument could, for example, establish a high target for the use of renewable energy sources. However,

¹³ Article 191 TFEU: “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.”



secondary law needs to be in compliance with the overriding primary law. Secondary law is subject to judicial control by the Court of Justice pursuant to Article 263 TFEU. This judicial review of the legality of legislative acts includes infringement of the Treaties. Thus, secondary law could not, for example, circumvent the rule in Article 194 (2) TFEU on the Member States' sovereign right to exploit their energy resources, choose between different energy sources and the general structure of their energy supply.

An advantage of a primary law amendment is that the outcome of such a process would be a reliable and comparatively stable solution, as primary law is not easily and not often amended. It gives also a framing for any policy, which is then subject to judicial review. However, there are numerous obstacles that make such amendments in the near future unlikely.

First of all, adopting an amendment to primary law is a lengthy process and the success of an initiative to amend the treaties is uncertain. The revision of the treaties is subject to formalised procedures set out in Article 48 TEU and guided by democratic decision-making processes. Currently, there is no Member State that seems willing to even consider initiating such a revision by submitting a proposal for the amendment of the treaties in general, and not for strengthening climate policy in particular.

Second, an amendment requires the ratification by all Member States, which appears very unlikely in case of an isolated climate change related initiative.

Third, any proposed amendment would be subject to changes in the course of negotiations and far-reaching proposals as outlined above – if at all successful – would most likely be watered down considerably.

Overall, it thus seems very unlikely that an amendment of the treaties strengthening or even prioritising climate protection will happen (cp. also Oberthür 2014).

Prioritisation of climate protection could also be reflected at the political level. All available options would require less time for implementation than an amendment of primary law.

A first option is to include statements that make climate protection a priority concern in European Council Conclusions. Pursuant to Article 4(1) TEU “[t]he European Council shall provide the Union with the necessary impetus for its development and shall define the general political guidelines thereof.” A stronger emphasis on climate change concerns in European Council Conclusions would thus reflect stronger high-level commitment.

Similarly, the European Commission can issue political statements. With green or white papers, for example, or through the publication of guidelines it can initiate political debates and raise awareness. In addition, the Commission can provide country-specific recommendations, for example highlighting the need to improve energy efficiency in the respective country (cp. for example European Commission 2014a).

A clear advantage of political measures is that they are quicker to realise than legal amendments. Furthermore, high-level commitment to climate protection is important for raising awareness and can help keep the issue high on the political agenda. Political commitments have the potential of contributing to and influencing ongoing debates. Presumably it would also increase the likelihood of more ambitious climate policies– and possibly a revision of primary law at a much later stage.

However, the downsides of such non-legally binding political rather than legal initiatives are a lack of predictability and enforceability. Political moods can alternate quickly and are susceptible to short-term incidents. While the latter is not necessarily negative, it does make a sufficient consideration of the long-term vision of protecting the climate for future generations less likely.

Furthermore, political statements and commitments also require a group of influential frontrunners pushing the initiative. As European Council conclusions have not indicated an appetite for such far reaching statements thus far, such political signals appear extremely unlikely considering the many views represented in the Council. For instance, Poland, heavily reliant on domestic coal, has blocked certain “progressive” Council conclusions on climate change (Kulovesi/Cremona 2013; cp. also Nielsen 2012; Keating 2012).

Despite recent progress in UN climate negotiations, an impetus from the international level which would politically incentivise a prioritisation at European level, is not to be expected.

And while there is broad public support in many Member States for climate protection, there are no indications that there will be a strong bottom-up movement pushing for a prioritisation of climate change over other objectives.

A less far-reaching alternative to an overall prioritisation of climate change could be a prioritisation over energy concerns in case of conflict. For the reasons outlined above, this also appears very unlikely.

3.5 Conclusions and recommendations

The analysis above has shown that the need to integrate climate concerns into other policy areas is recognised at the legal level in the EU. Primary law does not give clear guidance, however, on how climate policy is to be integrated and it does not provide a prioritisation of climate objectives over other objectives. Furthermore, it does not provide clear guidance on the level of ambition.

As a result, the analysis of official documents shows that the level of importance given to the climate change issue and the level of ambition depends, on the one hand, on the broad political and economic landscape at European level in particular, but also at international level, and, on the other hand, on the political player as well as the given institutional set-up.

The analysis showed further that climate and energy policies are not only intertwined and interdependent, but that climate policy is partly perceived as an obstacle to the energy objectives and that co-benefits are not always exploited to the extent possible. Potential to maximise the benefits of overlapping climate and energy policies can easily be missed – to the detriment of climate action in particular.

Overall, energy concerns appear to be dominating the current climate and energy debates. In the past there had been a positive EU trend towards more ambitious policies, measures and commitment on the mitigation of climate change, particularly in the years 2007-2009, which saw also a unusual dynamic at international level in the context of the UN climate summits. However, this trend did not prevail after the failure of the 2009 Copenhagen summit. The focus is now shifting back to energy, not only because of the interest to complete the internal energy market (cp. Tews 2014) but also due to energy security concerns arising in conflicts

such as the 2014 Crimean crisis or arising in the context of rising energy prices (cp. Oberthür 2014).

In the context of the energy security debate, synergies between energy and climate protection objectives and the respective synergetic policy solution do not seem to get adequate attention. These developments exemplify, however, how broad political developments (and power struggles) influence policy making. This shows that it is important to find political approaches, legal rules and institutional set-ups that create a foundation for ambitious climate action which withstands the tides of political day-to-day trends (we will call this “**political resilience**” in the following).

Given that the same politicians that resist stronger climate action would have to adopt such rules and create such institutions, it currently seems quite challenging to see such rules adopted and institutions set up. The political window of opportunity for further action – even strengthening political resilience – might manifest itself, however, following e.g. some trigger event (such as extreme weather events in Europe) and policy entrepreneurs might then be able to exploit this by inserting these new ideas in the political and policy domains.

While an explicit prioritisation of mitigating climate change would be a suitable means to address shortcomings, it is unlikely that such an approach will be adopted.

Recommendations:

- **Strengthen climate action institutionally:** Due to the large overlaps of climate and energy policy, one could argue that merging the policy areas institutionally in one DG is advantageous to create a harmonious set of integrated policies. An integrated DG could also help to accelerate policy-making processes.

However, this would only lead to ambitious climate policies if the respective Commissioner would be willing to strengthen his or her climate profile or would agree with the beneficial effects of climate policy, including for energy goals. Given the multitude of political arguments and profile, this condition cannot be guaranteed. Indeed, any DG and its policy work is part of an intricate web of social rules, potentially conflicting worldviews, and power struggles as well as uneven levels of competence and funding, which make it difficult to predict political results in case of a merged DG.

From the perspective of political resilience (see above), it is therefore to be recommended to install a **separate and institutionally strong DG Climate Action with its own Commissioner**. An independent DG is more resilient to the risk that political trends at the EU level prioritise energy matters over the mitigation of climate change (as far as these policies conflict). This constellation is less likely to suffer from a lack of attention being paid to climate policy and less likely to lack climate-relevant ambition at the level of the DG. To award equal political weight as compared to a parallel DG Energy, staff and budget of the DGs should be adequately apportioned. In addition, the integration of climate issues in other policy fields has to be upheld and intensified. In the case that the new institutional level of Vice-Presidents is maintained within the European Commission, it could be useful to install one “**Vice President for Climate Action**”. This would appropriately reflect the cross-cutting nature and importance of climate policy and the far-reaching impacts of climate change and climate action on all sectors of industrialised societies. However, so far the Vice President offices are not

supplied with a DG and the respective staff. Thus, while the Vice Presidents have considerable political power within the European Commission they depend on the Commissioners and their DGs with respect to a lot of the work which is needed to draft, monitor and enforce policies. From a climate perspective, introducing a Vice President for Climate Action may not entail a loss of personnel resources for a DG Climate Action as this could negatively affect ambitious climate policies. It would therefore need some structural approach not yet practised.


In case of a **joint Commissioner for Climate Action and Energy** - as is currently the case - equal weight needs to be given to the two policy fields with respect to political attention and resources (e.g. staff). The interlinkages between climate and energy policies need to be recognised and adequately addressed. Giving equal weight to both climate action and energy becomes even more important in the light of the new reporting mechanism obliging the Commissioner for Climate Action and Energy to report to the Vice-President for Energy Union, whose focus seems to lie on infrastructure and energy security and who will have a “strategic filtering role” in relation to new policy proposals (ENDS Daily 2014a). In this context, one political instrument to strengthen the political profile of climate mitigation policies could be the mission letters issued by the President of the European Commission.

- **Policy proposals by the EU Commission should deal with potential synergies between climate and energy in a way that maximises the benefits for both.** In general, more attention needs to be paid to the synergies between climate and energy policies. They can be mutually beneficial (e.g. reducing dependency from external fossil fuel energy sources). In this context, it continues to be important to highlight and further analyse the economic benefits of reduced climate change (cp. Working Group III 2014), decoupling of economic growth from growth in emissions (Energy Global 2014) and the fact that (unmitigated) climate change poses a threat to economic growth (Hume 2013). In this context, European and national dimensions of such arguments have to be further elaborated to address challenges and embrace opportunities.

Trends within the EU Commission of neglecting climate objectives over energy objectives have to be identified and broken. Research already identified the example of completing the internal energy market (cp. Tews 2014). In case of conflicting objectives, these have to be clearly identified and transparently weighted against each other to allow a public debate over priorities.

In the context of the debate over the Energy Union, climate change mitigation has to gain more prominence. In the end, this debate has to focus on an “**Energy and Climate Union**” to find an adequate response for the climate challenge and not be misled into an area of fossil fuel expansion. This Union should – taking into account the competences of the EU (see section 2.2 above) – focus on energy efficiency and renewable energy expansion as a first priority.

- **Climate action needs high-level political commitment.** While the European Council Conclusions do not constitute legislative agreements, they play an important role for setting the political agenda of the EU. As seen, the Conclusions, however, lack such high-level political commitment to ambitious climate action. Overall, greater support



from the European Council for ambitious climate action is required – also to create the political weight to be adequately considered in the context of energy policy. In this context it is worth mentioning that **decision-making by qualified majority in the European Council could benefit climate action**. European Council Conclusions are subject to consensus¹⁴, giving each Member State the possibility to veto certain decisions. In the past, especially Poland which is heavily reliant on domestic coal, has blocked certain “progressive” conclusions on climate change (Kulovesi/Cremona 2013; cp. also Nielsen 2012; Keating 2012; Van Schaik 2010). Thus it can be stated that the consensus approach within the European Council has practically watered down the EU’s ambition in the climate change policy area. In contrast, decision-making by qualified majority is assumed to foster climate action (cp. Dupont/Oberthür 2011) while succeeding problems with political buy-in in the case that majority decisions have to be considered.

¹⁴ For certain topics, the European Council decides by majority or unanimity, see Articles 235, 236 TFEU.

4 Part II: How to serve climate protection best: centralised versus decentralised policies?

4.1 Guiding questions

This report addresses the question how certain governance approaches can help the EU to successfully achieve its climate targets. As outlined above (see section 2.1), the EU's objective is to reduce GHG emissions by 80 to 95% by 2050 compared to 1990 levels.

Evidently, in addition to the measures already put in place, much more far-reaching policies are needed at EU and Member State level to achieve this goal. While the question whether the EU is on track to reach its targets is controversially discussed (see section 2.1), the GHG reduction objective undoubtedly requires a fundamental shift, especially in the way Member States and their societies produce and consume.

Therefore, the **governance framework has to be conducive to adopting ambitious climate and related energy policy measures and implementing them successfully**, including by providing monitoring and review functions. This section analyses whether centralised or decentralised climate policy approaches are more conducive to reaching the outlined mitigation objective. In this context, a number of questions arise:

- **Rules:** Is a centralised or a decentralised system beneficial for passing more ambitious and effective rules for governing climate protection?
- **Implementation:** Is a centralised or a decentralised system beneficial for more rigorous and efficient implementation of climate protection rules?
- **Speed:** Is a centralised or a decentralised system beneficial for achieving emission reductions more quickly?
- **Innovation and learning:** Is a centralised or a decentralised system beneficial for learning and innovation?

While each of these questions is crucial for successfully combating climate change, it is beyond the scope of this study to analyse all these elements in depth. The following elaborations will therefore put a particular focus on the aspect of rule-setting, given that this is the starting point for most policies.

4.2 Definitions: Centralisation, plurilateral cooperation, decentralisation

As a working definition, “centralisation” can be understood as the shift of competences to a higher governance level (hierarchical shift). “Decentralisation” in turn is the process of moving power away from a central to a lower level. For instance, if a regime leaves little room for discretion for Member States, this implies strong elements of hierarchy (Hey 2008), i.e. centralisation. However, the terms of decentralisation and centralisation are by no means clearly defined.

First, the terms can refer to a variety of different institutions and actors (e.g. EU, Member States, subnational level, civil society actors). The following will mainly focus on the **relationship between the EU level and the Member States level**. Thus, when referring e.g. to decentralisation, this is understood as shifting responsibility for action towards the Member

State level (e.g. in the context of shared competences) or possibly even transferring competences (back) to the Member State level.


At the same time, the history of the EU shows that there are no binary relationships between the EU and its Member States. The example of the Schengen area or the Eurozone shows that plurilateral solutions involve a certain number of EU Member States but not all of them are an important part of European policy and integration. Also in the field of climate and energy policies, **plurilateral approaches** are part of the political, economic and regulatory landscape (some examples will be outlined below). Therefore, looking at the sliding scale between a fully decentralised and a fully centralised regime, the authors will also consider plurilateral approaches. In this context, plurilateral approaches are understood to be a formal or informal cooperation between a number of Member States. Such cooperation can be supervised, initiated or supported by EU level institutions. There is no minimum number of players involved – as long as it encompasses at least two Member States and not all of them. Plurilateral approaches might be fall-back solutions in cases in which an EU-wide approach cannot be agreed upon. While they do not have to be solutions under the institutional roof of the EU and while they are not EU-wide solutions from the start, they might grow into EU (wide) solutions over time. For example the Schengen Agreement was a treaty between a number of European States, which later on, with the Amsterdam Treaty, was integrated in the main body of European law – while still not all Member States belong to the Schengen Area¹⁵. In some instances plurilateral approaches might, however, simply be the adequate approach to reflect similarities and differences between certain groups of Member States, e.g. a common interest or interdependence regarding a specific challenge or similar geographic characteristics (e.g. coastlines) or infrastructure-related interconnectedness. Plurilateral approaches can be driven bottom-up, i.e. by Member States themselves, or top-down, i.e. by EU institutions, or in a joint effort of Member States and EU institutions.

Second, the literature offers different **criteria** for measuring the degree of centralisation or decentralisation. The authors follow the approach of Wettstad et al. (2012), who define different elements for what they call “vertical integration”. Understanding vertical integration as centralisation, the following characteristics or elements are taken into account to evaluate the level of centralisation:

- **degree of legal bindingness;**
- **degree of European harmonisation;**
- **degree of EU-level institution-building.**

With respect to legal bindingness, this is admittedly forceful only in combination with relevant content which goes beyond general statements and aspirational language; the specificity of the rule, its prescriptiveness and the compliance regime have to be taken into account.

¹⁵ Ireland and the UK do not belong to the Schengen Area. On the other hand, non-EU states such as Norway or Switzerland joined the Schengen Area.



Furthermore, evidently many policy measures and packages include both binding and non-binding elements. They might provide for harmonisation of certain aspects and freedom of choice for the Member States on other issues. For example, the Renewable Energy Directive sets binding renewable energy targets for the EU and its Member States, and thus features a centralised element. At the same time, the Directive also provides for a decentralised element: Member States have a certain degree of discretion when choosing the policy instruments to be used to achieve their national target. This interplay adds to the complexity of potential designs and policy choices. It also allows, however, for the drafting of political compromises and – in an optimal case – utilisation of the advantages of both centralised and decentralised approaches.

4.3 Advantages and disadvantages of centralisation and decentralisation

Both, centralised and decentralised approaches have their advantages and disadvantages. The following table reflects some arguments for and against different levels of (de)centralisation.

Table 3: Advantages and disadvantages of centralised, plurilateral and decentralised rule-setting

	Centralised rule-setting	Plurilateral rule-setting	Decentralised rule-setting
Advantages (climate specific)	<p>Efficiency gains (economically)</p> <p>Level playing field for MS (markets)</p> <p>Can strengthen EU position at international level</p> <p>Ambitious climate protection policies difficult to amend</p> <p>Can drive climate policy in 28 Member States</p> <p>Can allow for measures which might not have been possible at national level</p> <p>EU level can create packages and dynamics which create incentives for hesitant states to join the effort</p>	<p>Efficiency gains</p> <p>Similar advantages as decentralised rule-setting (though at multi-national level)</p> <p>Can accelerate solutions which need cross-border implementation</p> <p>Politically easier to implement than EU approach</p> <p>Possibility to have a more tailor-made design according to specific e.g. regional circumstances and concrete purpose as compared to a more centralised approach</p> <p>Can be a driver or model for EU-wide solutions</p>	<p>Flexibility of policy design allows for tailor-made solutions</p> <p>Higher probability of successful implementation because of design and political buy-in</p> <p>Potential for more ambitious rules as less parties are to be considered than under a European solution</p> <p>Member States can serve as policy laboratories and thus enhance the innovation and learning potential</p>

	Centralised rule-setting	Plurilateral rule-setting	Decentralised rule-setting
Dis-advantages (climate specific)	<p>Risk of losing political buy-in at MS- and subnational level</p> <p>= can contribute to negative public perception of EU</p> <p>= Risk that MS do not implement rules</p> <p>Risk of thwarting front-runners</p> <p>Risk of adopting only the smallest common denominator (race to the bottom)</p> <p>Risk of deficiency in implementation</p> <p>Risk of path-dependencies / lock-ins due to harmonisation</p> <p>Problematic policies difficult to change</p> <p>Risk of losing room for learning and innovation (too much/inflexible harmonisation)</p> <p>Possibly time-consuming monitoring necessary to ensure implementation / control outcome</p> <p>Risk of (too) many parallel, possibly incoherent overlapping reporting duties</p>	<p>Fragmentation in EU</p> <p>= which will be difficult to overcome once established</p> <p>= loss of efficiencies</p> <p>Risk of (too) many parallel, possibly incoherent and overlapping reporting duties / monitoring processes</p> <p>Risk of free riders – certain countries do not address the challenges</p> <p>Risk of fragmentation / lack of consistent EU approaches</p>	<p>Risk of free riders – certain countries do not address the challenges</p> <p>Fragmentation / lack of consistent EU approaches</p> <p>= Inefficiencies due to higher complexity</p> <p>= Less transparency over measures and impacts</p> <p>Easy to avoid action on climate change</p> <p>Less stability as rules are easier to be changed in case of changing political majorities in a country</p>

The table is, however, only a starting point for evaluating governance approaches and developing recommendations since these arguments cannot always be generalised. Instead, it is important to assess specific policies and approaches on a case-by-case basis while considering the specific context and particular policy. In this context, one also needs to analyse whether in a specific policy the weaknesses of one approach are diffused by good counterbalancing measures or if the strength of an approach is undermined by the specific policy: for instance, the strength of a centralised emissions trading scheme could be undermined by a weak policy design of the trading scheme itself.

There is thus no “one size fits all” answer to the question whether a centralised or a decentralised system is more beneficial for passing more ambitious and effective rules for governing climate protection. The specific circumstances of each case need to be assessed.

4.4 Who can drive centralisation/decentralisation how and why?

For specific circumstances a centralised, a decentralised or a plurilateral approach may be the most beneficial to ambitious climate action. There are different factors that might drive the decision in one or the other direction. First, the EU primary law sets the boundaries for the development of policy approaches (though primary law can also be subject to change). It influences options of how to centralise policies. Second, different actors might influence the choice of policy approaches. Third, there are different factors that explain why these actors support one or the other approach. Any strategy pointing towards centralisation or decentralisation will have to take these aspects into account.

4.4.1 EU primary law

Primary law defines the basis for European policy making and defines the framework for options for centralisation. It is in itself already a result of the struggle to find a balance between different interests which are driving towards centralisation on the one hand and protect specific national competences on the other.

Of course, the complex body of secondary law is also shaping options for future rule-setting, harmonisation and European institutions. It can influence both the scope and the timeframe of designing and implementing policies in the field of climate and energy. Existing secondary law is often the starting point for future legislation and might increase or decrease political costs of certain solutions. It can be an obstacle to new approaches if established institutions and expectations (e.g. in the context of the EU ETS) impede new pathways. It can be a driver if it paved the way for future solutions (e.g. by installing monitoring and review mechanisms or providing the basis for transparency). The body of secondary law is, however, too broad to be fully analysed in this publication. The authors take a closer look at particularly important policy developments in section 4.6 (i.e. the EU ETS, renewable energy policies, the policy framework for electricity grid development and target setting).

The basis for climate action in primary law has already been outlined above (see Legal foundation^{2.2} above). In addition to the more specific norms, the treaties provide general principles that guide the action of the EU. In the context of the struggle between centralised

and decentralised approaches, the **subsidiarity principle** is of particular importance. The principle of subsidiarity (Article 5(2) TEU) addresses the question which level of government should exercise powers in those areas where the EU and Member States share competences (see 2.2.3 above). The principle thus does not aim to allocate powers but to provide guidance on the use of powers (de Sadeleer 2012). It is hence explicitly not applicable to areas of exclusive competence of the EU (Article 5(3) TEU), but only to those of shared competences, like energy and environment. For the area of shared competences, the principle of subsidiarity is aiming to “ensure that **functions are delegated to the lowest level capable of performing them effectively**” (Davies 2006: 5). The principle aims to strike a balance between additional European integration and the loss of competences of Member States, aiming to ensure the highest possible level of decentralisation (Calliess/Ruffert 2011). The underlying idea is that **action at lower levels is often conducive to more effective policy making, while simultaneously serving as a remedy to the much invoked democracy deficit of the EU** (van Zeben 2014).

The subsidiarity principle does, however, not lend itself as an instrument to structure the discussion when assessing the usefulness of centralisation or decentralisation in climate policy. Legal practice shows that it is too broad and vague to be a decisive instrument to drive decentralisation or a decisive obstacle to centralisation (see Annex on Subsidiarity in section 5).

4.4.2 State actors who can drive centralisation/decentralisation of policies

There is a wide range of actors that can potentially influence the character of policy approaches; these include both state and non-state actors. **Focusing on state actors**, as they are the most important driving forces in the context of rule-setting, the important players having influenced centralisation and decentralisation in climate and energy policy in the past include:

- **EU institutions**
 - The **EU Commission** has historically been a driving force for centralising environmental policy in the past, although this record might change in the future under the new 2014-EU Commission (Baldock 2014). In any case, due to the Commission’s competences and its importance in policy development, it certainly has the power to contribute to a process of centralisation at the political and legal level.
 - While the **European Courts** are not involved in rule-setting, their power to interpret has contributed to the development of the law. While the courts generally could be seen by driving centralisation, this assessment is not as clear cut in the field of energy and climate policy. Prominent decisions like *PreussenElektra* (2001, ECJ Case C-379/98) on state aid and more current ones like the *Ålands Vindkraft* case (2014, ECJ Case C-573/12; see page 16 above) on the free movement of goods strengthened options for decentralised approaches in renewable energy policies. Other cases like the *Vent de Colère*

case (2013, ECJ Case C-262/12), in which the ECJ qualified a French support scheme as state aid, exemplified the tension between European state aid rules and decentralised support schemes.

- The **European Council** has no legislative powers. It is, however, the relevant actor for the political framing for rule-setting as it provides the EU with the necessary impetus for its development and defines the general political directions and priorities (Article 15 TEU). Specifically in the field of climate and energy policy, their conclusions recently raised the question if (and how) the European Council wants to extend its influence. Such ambition could develop into a further obstacle for the centralisation of policies (and climate ambition at European level). It could even develop into a driver for certain decentralisation trends, especially in the field of renewable energy policy.
- The **Council** together with the **European Parliament** is responsible for the rule-setting in the European Union. They are therefore important institutions when considering centralisation driven by rule-setting.
- **Member States** have played very diverse roles in the context of centralisation and decentralisation of climate and energy policy. First, as a group they staff the European Council and the Council. With the involvement of their ministers and heads of state, they have played a decisive role in defining the pace of centralisation. Furthermore, they are instrumental for most of the implementation of European rules though this is outside the scope of this paper.


These actors clearly interact and influence each other. Furthermore, their general political orientation, which might change over time, has a strong influence on their policy making. In addition, changes in governance of institutions can have an impact on their action (in this context see section 3.3.1 above).

While this analysis will not be able to go into detail, it has to be acknowledged that the state actors mentioned above interact with and are influenced by a broad range of non-state actors. The non-state actors can have strong ties to specific interests of state actors (e.g. re-election), they can help or distract from achieving certain policy goals and can be instrumental to the implementation and evaluation of the policies.

4.4.3 Drivers for centralisation - international relations perspectives

Why do these actors opt for a centralised or decentralised approach to climate policy? What drives states and institutions to act in a certain way has been the subject of many research projects. International relations scholars have extensively analysed reasons for and circumstances under which states are willing to delegate their sovereignty to a supranational institution like the EU. Wettestad et al. provide an overview over the different theories and their arguments (Wettestad et al. 2012). The authors point to different kinds of interpretation:

The **intergovernmentalist interpretation** sees the state as the main driver for the delegation of sovereignty to “higher” institutions and sees the state driven by the gains. These gains can



also involve the wish to prevent others from deviating from the respective policy. If the lack of harmonisation is perceived as a threat e.g. to national competitiveness, the willingness of conceding national powers to the EU level to create or secure a level playing field for economic interaction is greater (though this does not yet ensure a coherent implementation practice across the EU).

The **supranationalist interpretation** focuses on transnational actors and takes into account the interest in transnational activity as well as the power of the supranational actor itself. It argues that integration is most likely to progress when the utility of the transnational actors increases. This can be enhanced by the ability of the supranational actors to further the interests of transnational players. A supranational player like the EU, however, has different bodies and can thus speak with different voices aiming at different goals. The supranationalist interpretation points to the fact that unity between these bodies enhances the probability of successful centralisation. Investing time, increasing knowledge and securing continuity within supranational actors can strengthen them as drivers for centralisation.


Finally, the **external institutional interaction** perspective takes into account the political dynamic stemming from international circumstances and regimes like the UN climate regime or oil and gas imports. Accordingly, changes e.g. in the global climate regime – as may arise from the 2015 climate summit in Paris – or in the way energy suppliers provide their goods – as has been happening within the OPEC – can affect centralisation in the EU. One past example is the implementation of the obligations under the Kyoto Protocol by the EU and its Member States. One current example might be the Ukrainian crisis which contributed to the EU debate on an Energy Union.

Obviously, the perspectives can overlap and are not necessarily mutually exclusive. Especially the external institutional interaction perspective can be understood to add another variable to the equation of driving forces, but does not replace or deny other drivers.

Furthermore, when discussing questions of centralisation or decentralisation the authors understand the reality of the European Union also as one of co-operation and interdependence. The different actors and institutions are part of a complex web of formal and informal relationships and processes which influence each other, and thus render systematisation problematic. It is a combination of hierarchical and co-operative elements interwoven with co-dependencies, which is in a constant state of evolution or change. Therefore, despite the elaborations on interests and drivers, it has to be acknowledged that the European reality does not allow for a simple separation e.g. between Member States and European institutions. One recent example is the first proposal for the 2030 climate and energy package of the EU Commission. In this case, the lack of sufficient Member State support for nationally-binding renewable energy targets made the Commission turn away from such a proposal.

4.5 Centralisation and decentralisation as defining struggle in the EU

As highlighted above, there is no simple answer to the question whether decentralised or centralised approaches are more beneficial to ambitious climate policy. The following section



will take a closer look at past and present climate policies in the EU to draw more specific conclusions to the question which policies should be centralised or decentralised to deliver better climate protection. This section first provides a broad overview of general centralisation or decentralisation trends in the history of EU climate policy, before analysing a set of specific policy instruments in greater depth.

The history of climate policy in the EU has been a constant tug of war between Member States and European institutions wanting a more centralised approach, and other Member States who fought for a more decentralised practice. Already the founding fathers of the Union (then: “Community”) knew about this tension and addressed it in primary law – likely reflected most prominently in today’s Article 5(2) TEU, which lays down the subsidiarity principle. This principle addresses the question which level of government should exercise powers in those areas where the EU and Member States share competences (see section 5 for further elaboration on the principle).

While overall centralisation has been a dominating trend in the EU over the last decades, this tendency has been subject to major struggles and set-backs. Most prominently the no-votes on the European constitution by France and the Netherlands in 2005 caused a serious crisis within the Community and the announced referendum (set for 2017) of the UK on its EU membership has caused heated debates. This struggle has been settled for only a limited number of topics: in general e.g. in areas where the Union has exclusive competences (i.e. the EU alone is able to legislate and adopt binding acts) according to Art. 3 TFEU. For other areas, recent history shows the falling and rising tide of this struggle as will be outlined and exemplified below.

With respect to climate policy, the arguments and struggles differed depending on the topic (e.g. GHG reduction, energy sources or infrastructure measures) and the instrument used (e.g. market-based instruments or command and control measures). The centralisation is neither consistent nor uniform across policy fields (cp. Tews 2014), but instead reflects the political struggles at a given moment in time. Over the long history many different modes of policy coordination developed, ranging from loose, very decentral approaches (potentially linked with loose intergovernmental coordination) to detailed EU regulation (Tews 2014; cp. Wettestad et al. 2012; Jordan et al. 2010).

Interestingly enough, there does not appear to be a correlation between a Member State being a proponent of ambitious climate protection and favouring centralised (or decentralised) approaches in general. Also, one and the same Member State might be in favour of ambitious European action in one policy field, while opposing ambitious European action in another (and changes might occur over time).

For example, Germany is generally perceived as one of the more ambitious proponents of climate action in the European Union. But while it supported e.g. three European targets in the context of the 2030-debate (see section 4.5.2 below), it opposed strong European efficiency standards to protect its car industry and also strongly defended its national renewable energy support scheme against DG Competition – taking the conflict in both cases to the highest political level. On the other hand, the UK – which was also long perceived as a

frontrunner in climate policy in general (Mehling et al. 2013) – favoured only one European target in the context of the 2030 debate and agreed on a renewables target under the condition that it is not binding on Member State level. With respect to a renewable energy support scheme, however, the policy debate indicated the UK was favouring European-wide trading opportunities.

4.5.1 Brief history of centralisation trends in climate policies

Passing ambitious centralised policies mitigating climate change was not always easy at EU level. Most prominently, attempts by the European Commission to push centralised approaches e.g. in form of an energy/carbon tax in the 1990s failed and had to be scrapped. Other examples of failed policy attempts include regulatory measures against environmentally harmful subsidies or a proposed European-wide mandatory renewable energy certificate trading scheme.

The beginning of this century, however, saw a rise in the political profile of climate policy at EU level – e.g. in 2000 and 2005 the European Commission launched its first and second European Climate Change Programme. At the international level, the EU and its Member States ratified the Kyoto Protocol in 2002 (and agreed on the burden sharing of emission reduction efforts within the EU). In the same year, the European Parliament and the Council adopted the 6th Environmental Action Programme. It set out the framework for environmental policy making in the European Union for the period 2002-2012 and outlined actions that need to be taken to achieve its objectives. Climate change was identified as one of the only four priority areas.

During this period a number of relevant legislative measures were passed and thus strengthened a more centralised approach to climate policy, for example:

- Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources: The directive was adopted after years of controversial negotiations. The final version had a fairly decentralised approach with an only indicative EU target and non-binding MS targets.
- Directive 2003/87/EC establishing the EU ETS: The Directive was revised several times in subsequent years¹⁶; the ETS directive started as a fundamentally decentralised system in first and second trading phase (2005-2007, 2008-2012).

A push towards more comprehensive climate policy at EU level took place in 2007. Germany, which took over the European presidency in 2007, had declared climate protection as one of its Presidential priorities (Deutsche Bundesregierung, 2007) and the European Commission took the lead by presenting its energy and climate package, which – for the first time – took an integrated approach to energy and climate policy (for details on energy-climate-policy-overlaps see section 3.2 above) but also defined European targets and timetables (see also

¹⁶ For an overview over the legislative acts on the EU ETS see http://ec.europa.eu/clima/policies/ets/documentation_en.htm.

Bausch/Görlach 2009). Finally, the European Council agreed on the so-called 20-20-20 targets, which was an important basis for a rule-based centralisation.¹⁷

As Wettestad puts it, this was a “new pace in climate and energy governance at EU level” (Wettestad et al. 2012). It built on scientific insights (including the so-called Stern Report (Stern 2006) and the IPCC 4th Assessment Report (IPCC 2007)) as well as information for the broader public, like the 2006 Academy Award winning documentary film, “An Inconvenient Truth” by former US Vice President Al Gore. This brought the issue of climate change to the front pages, made it a topic discussed at the level of heads of states and government and a priority in political fora like the G8 (in preparation for the UN climate summit in Bali) (see also Oberthür/Roche Kelly 2008). This dynamic allowed the EU to find the political will to pass the 2020 package and the respective legislative acts for the implementation thereof.

Building on this, the European Commission proposed a legislative package, which was negotiated throughout 2008 and – additionally supported by a positive dynamic at international level – finally adopted by the European Council and the European Parliament. The implementation and further development of the 20-20-20 climate and energy package have defined European climate policy since then.

The main elements of the package were the “effort sharing” between Member States with respect to the GHG reductions in the non-ETS sector, the review of the EU ETS and the member-state specific targets for the RE expansion (Bausch/Görlach 2009). Building on the 2007/2008 conclusions and proposals, a great number of legislative acts entered into force in 2009, including for example

- the Renewable Energy Directive 2009/28/EC with its binding targets for each Member State and requirements for Member States to develop national action plans and voluntary flexible cooperation mechanisms = moderate increase in centralisation;
- the EU ETS revision which lead to a substantial increase in centralisation. Abandoning the approach of National Allocation Plans and caps, an EU-wide cap was introduced with a central role of EU institutions regarding the allocation of allowances. Furthermore, the scope of the ETS was expanded (Wettestad et al. 2012; Bausch/Görlach 2009).

The international agenda – building up considerable political pressure in the wake of the 2009 UN Copenhagen summit – can be assumed to have positively influenced the ambition and pace of decision-making at European level. With the failure of the Copenhagen summit, however, this positive dynamic was destroyed – at least for some years.

¹⁷ These targets set three key objectives for 2020: 1) A binding 20% reduction in EU greenhouse gas emissions from 1990 levels (with binding Member State specific targets); 2) A binding raise of the share of EU energy consumption produced from renewable resources to 20% (with binding Member State specific targets); 3) An indicative 20% improvement in the EU's energy efficiency.

4.5.2 Recent developments


Thus far, the European Commission has generally been a driving force for more ambitious climate action at European level. It remains to be seen whether the new 2014 EU Commission will and can maintain this important function.

2030 package

In 2014 the debate on climate policy focussed on the 2030 climate and energy framework. Building on the 20-20-20 debate, where new ground was established for centralised approaches as has been outlined above, the approach could have been strengthened (e.g. by establishing binding efficiency targets, instead of an only indicative one) or retained (e.g. with binding targets for GHGs and renewable energies). But the political climate favoured a more decentralised solution. Already the proposal by the European Commission was a reaction to the impression that many Member States lacked the appetite to approve binding, Member State-specific targets for the expansion of renewable energies. Member States like the UK, Hungary and the Czech Republic argued in favour of only one target – focusing on GHG reduction. They argued that everything else would follow from the GHG reduction target with no need to specify the European pathways on energy efficiency and renewable energies. Poland even argued against agreeing on a new GHG target until after the international climate summit in 2015. In the course of negotiations, the strong player UK was willing to agree on an EU renewable energy target, as long as it was not binding for Member States. In the end, a more decentralised solution as compared to its 2007 approach was agreed upon – with the renewable energy target only binding for the EU as a whole, with no specification for single Member States – with a rather low level of ambition with respect to both the GHG and the renewables target according to many stakeholders and scientists (Meyer-Ohlendorf et al. 2014; cp. above section 2.1; cp. Tews 2014). Germany has emphasised that a reliable governance is “the compromise for refraining from national binding targets for renewable energies and energy efficiency” and “is the minimum needed for creating the necessary investment security that enables a cost-efficient deployment of renewables and increase of energy efficiency in line with the agreed EU targets.” (Federal Republic of Germany 2015, p. 4)

Presumably aware of the lack of appetite for binding targets and solutions at EU level, the European Commission steered already in its initial proposal from January 2014 towards increased plurilateral/regional cooperation and coordination for the period after 2020. It proposed a **new energy governance** to streamline reporting and better coordinate in particular at regional level, while preserving the Member States’ right to define their national energy mix. While many questions regarding this new governance remain open (for more details see section 4.6.2 below), the concept appears to be closely linked to the debate on the Energy Union (see following section).

Energy Union



The debate over establishing an Energy Union was mainly driven by the conflict between Russia and the Ukraine, and the impacts on the EU gas supply. It was strongly pushed by then Polish Prime Minister Donald Tusk, who argued for full use of fossil energy available in Europe to reduce dependency from imports (ENDS Europe Daily 2014b). In an article published in the Financial Times, Tusk argued: “Europe should make full use of the fossil fuels available, including coal and shale gas. In the EU’s eastern states, Poland among them, coal is synonymous with energy security” (Tusk 2014). This is, of course, a very challenging position from a climate policy perspective. Nevertheless, the general idea resonated well in many EU capitals due to the shared concerns over energy security.

The new EU Commission, established in 2014, even designated a Vice-President (Maroš Šefčovič (Slovakia)), who is responsible for the Energy Union (see page 53 above) with Tusk currently presiding over the European Council. The general aim of the Energy Union is to reduce energy dependency, diversify energy sources and reduce costs. Its aim is not primarily to foster ambitious climate action, although “sustainability” is referenced in descriptions of the Energy Union’s functions. Šefčovič’s “5 point Energy Union plan” refers to climate-relevant issues particularly under point 3 and 4, referring to reduced energy consumption as well as the decarbonisation of the energy mix, while highlighting a role for carbon capture and storage (CCS) in the context of the energy mix (ENDS Europe Daily 2014c). The European Council Conclusions of June 2014 state that the Energy Union shall aim to support “affordable, secure and sustainable energy” (European Council 2014b). Pursuant to the October Conclusions, the Energy Union is also of relevance to foster investment in Europe (European Council 2014a).

The EU Commission presented a strategic framework on the Energy Union in February 2015 (“A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy”, European Commission 2015), accompanied by a Roadmap for the Energy Union (European Commission 2015a). The Framework Strategy sets out a number of “visions” for the Energy Union, including the vision “of the Energy Union as a sustainable, low-carbon and climate-friendly economy that is designed to last” (European Commission 2015, p. 2). The Framework Strategy also addresses centralisation questions, stating that the goal “of a resilient Energy Union with an ambitious climate policy at its core is to give EU consumers - households and businesses - secure, sustainable, competitive and affordable energy”. To reach this goal the EU should “move away from an economy driven by fossil fuels, an economy where energy is based on a centralised, supply-side approach and which relies on old technologies and outdated business models” (European Commission 2015, p. 2). The Framework further states that “ambitious climate policy is an integral part of our Energy Union” (European Commission 2015, p. 14).

Shortly after the Framework Strategy was published, the European Council Conclusions of March 2015 confirmed the commitment to “building an Energy Union with a forward-looking climate policy on the basis of the Commission's framework strategy, whose five dimensions are closely interrelated and mutually reinforcing (energy security, solidarity and trust; a fully integrated European energy market; energy efficiency contributing to moderation of

demand; decarbonising the economy; and research, innovation and competitiveness)” (European Council 2015, p. 1).

So far, the public response of stakeholders and actors in the field to the Energy Union and related EU statements has been mixed. Fischer/Geden, for example, expect that the Energy Union will be insufficient and reach its practical limits when it comes to debating the design and content of an improved coordination of national climate and energy policies (Fischer/Geden 2015, p. 4). The German Renewable Energy Federation (BEE) welcomes the Commission decision to promote renewables but notes that it is totally unacceptable that fossil fuels and nuclear power are considered necessary and worth promoting (German Renewable Energy Federation 2015).

The concept of an Energy Union could develop into a driving force towards centralisation of climate-relevant energy policy as its ambition is to address – with a European perspective – the energy mix, which is traditionally and legally a mainly decentralised issue, as well as other relevant policies with strong decentralised elements like energy efficiency. In theory, the medium- to long-term ambition could go as far as changing primary law to expand European competences with respect to the energy mix – though this has not yet been prominently promoted in the public debate. The debate over energy mix in Europe – including controversial issues like nuclear, shale gas and the role of CCS – is ongoing (cp. ENDS Europe Daily 2014c; ENDS Europe Daily 2015).

While recommendations with respect to centralisation will be elaborated below, it should be noted that the “overlap” chapter above (see section 3.5) recommends turning the discussion into a debate over an “**Energy and Climate Union**”. This recommendation has been addressed within the ongoing public debate about the future design and governance of the Energy Union (see for example: ZEW 2015).

4.6 Detailed look at core policies from a centralisation/decentralisation perspective

Examining trends of centralisation and decentralisation, the following section analyses in more detail four prominent policies/policy areas:

- the EU ETS;
- prominent renewable energy policies, with a focus on electricity;
- development of the electricity grid infrastructure; and
- target setting.

The areas have been selected based on their prominence, impact and importance in the context of cross-border cooperation as well as climate protection. The guiding questions when looking at the policies are:

- Was a **centralised or a decentralised approach** chosen? Why?
- Did they deliver effectively on **the climate protection**? And was that because of the (de)centralised approach chosen?
- **Should the policies be centralised/decentralised** to deliver better climate protection?

4.6.1 EU Emission Trading Scheme

After attempts to introduce European energy taxes failed in the 1990s, the European Emission Trading Scheme (EU ETS) was introduced by the EU ETS Directive¹⁸ in 2003 and complemented by the so-called Linking Directive¹⁹ in 2004. The scheme started its first phase in 2005 – a learning phase lasting three years until the end of 2007. The second phase took place from 2008-2012 in parallel with the first commitment period under the international trading according to the Kyoto Protocol.

Despite the fact that, as such, the introduction of an EU ETS was a centralising measure, its design was strongly imprinted by decentralised elements. For example, during the early stages of the EU ETS, Member States were responsible for drafting national allocation plans (and methods) and allocating allowances. They even defined their specific ETS cap. The EU had mainly the role of a “watchdog” (Wettestad et al. 2012). This shows that the bindingness of an instrument as such cannot be the only measure when evaluating the degree of centralisation. It is decisive to also analyse the concrete content of the legislative act

Especially in the first phase, the market experienced a massive overallocation of allowances and, accordingly, extremely volatile prices. Furthermore, many electricity producers generated windfall profits by passing on the cost of the allowances (opportunity cost) despite the fact that the allocation was for free (cp. for Germany: Lückge/Bausch 2006).

Aware of these problems, policy makers introduced fundamental changes in 2009 for the third trading period (2013-2020). The nationally determined allocation plans were abolished. Instead, an EU-wide cap was introduced with linear emission reductions over time – and national allocation derived from it. With respect to the allocation methods, the percentage of auctioning was increased and benchmarks were further harmonised. At the same time the role of the EU Commission within the system was strengthened. Wettestad et al. qualify this as a **significant increase in centralisation**. According to them, the EU ETS now had not only legally binding character, but also a high degree of harmonisation and a medium degree of EU institution building. As drivers for this development they identify, for example, concerns over an economic **level playing field** and **public opinion** which was in favour of EU level measures as the “**decentralised ETS led to a certain “race to the bottom” dynamic**” (Wettestad et al. 2012). This led to a high degree of agreement among Member States on increasing the centralisation of the EU ETS. Also, the overwhelming majority of experts interviewed for this report saw no need to (re-)decentralise certain elements of the current EU ETS (IVM 2014).

¹⁸ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

¹⁹ Directive 2004/101/EC of the European Parliament and of the Council of 27 October 2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project mechanisms.

However, due to the continued oversupply of EU emission allowances (EUAs) in the EU ETS²⁰ the price remains very low also in the current third trading period. Oversupply has been the result of allocation rules, banking rules, options to buy offset allowances from JI and CDM projects and the economic downturn. While some say that the EU ETS has reached its goal effectively – fulfilling its cap – others argue that the low price does not provide the required incentives for investment in a carbon-friendly economy. Thus, the EU ETS is a good example of a highly centralised policy, which, however, does not constitute a convincing case for an ambitious climate policy successfully driving the transformation to a low-carbon economy.

The latter is mainly a consequence of the design of the policy instrument and not of its centralisation. The centralisation was a reaction to shortcomings of a more decentralised approach and can be seen as an improvement of the instrument, while it could not ensure its performance as such from a climate protection perspective. It did, however, improve the possibilities to advance the instrument from a climate protection perspective as well.

Currently, different initiatives – e.g. the introduction of a market stability reserve – aim to improve the policy design by reducing oversupply of allowances in the market. According to analysts, the current proposals would trigger tangible effects in the pricing of EUAs, but only in about a decade (neglecting smaller, more near-term price effects from backloading) (cp. BMUB 2014). Even if the proposals were passed and implemented and some anticipatory investments were executed, it is fair to argue that the challenge of climate change and the transformation to a low-carbon economy require earlier ambitious action in the sectors covered by the EU ETS – be it in a centralised or a decentralised manner.

The discontent with the performance of the EU ETS led some Member States to take action at national level. The UK, for example, introduced a top-up tax levied on high-carbon fuels used to produce electricity, which is referred to as “carbon price floor” (see Ares 2014). In case the price of EUAs falls below the set threshold, the companies covered by the EU ETS need to pay the difference to the UK Treasury. This is supposed to create certainty for businesses that want to invest in low-carbon solutions.²¹ This national initiative has, however, been criticised *inter alia* for undermining the EU ETS (Deblock 2014) and destroying a level playing field in the EU, while not contributing to climate protection: In the case that emissions drop in the UK due to the measure, they will just rise elsewhere in the EU as the European cap remains the same.

In Germany the debate over supplementary measures in the electricity sector in addition to the EU ETS is also ongoing (cp BMUB 2014). Germany is under pressure as it has committed itself unilaterally to deliver a 40% GHG emission reduction by 2020 compared to 1990. To achieve this, there is a gap between 62–121 MtCO_{2e} (depending on source and perspective) to be closed (Förster et al. 2014). To close this gap, there are attempts to address, *inter alia*,

²⁰ The combination of the ETS policy design and Europe’s economic down-turn lead to a surplus of about 2 billion permits. Prices fell from over 30 €/t to around 5 €/t (BMUB 2014).

²¹ Though some argue that the primary goal of this measure is to raise revenues (Burke 2014).

emissions from the power sector. According to a decision by the government, measures in the power sector should contribute another 22 Million tons of CO₂ emission reductions. Accordingly, there is also a debate about additional measures in sectors covered by the EU ETS. The debate in this context is politically difficult and some stakeholders argue that national emission reductions might just lead to more emissions in other Member States due to the EU ETS (unless the allowances are retrieved from the market) (cp. IVM 2014; BMUB 2014). Others argue that due to the oversupply of allowances within the EU ETS there will be no significant impact on the emission patterns of other countries in the foreseeable future and furthermore underline additional positive climate relevant effects of a policy mix. The latest proposal by Minister Sigmar Gabriel would circumvent this debate: It impacts power plants older than 20 years with high emissions – i.e. old lignite plants. Such plants have to hand in additional EUAs for emissions above a certain threshold. These EUAs would then be cancelled. The measure is to start in 2017 (BMWiE 2015). As of May 2015, there is an ongoing controversy over this proposal and it is not yet clear, where the legislative landing ground will be. Considering the interest of Germany as the to show that the German “coal problem” has been solved before the G7 summit and the upcoming climate summit in Paris, there appears to be great political interest to settle this problem in the short-term.

These two examples stand for many Member States (e.g. also Sweden and the Netherlands) taking additional national measures in sectors covered by the EU ETS. This shows that the malfunctioning of the EU ETS in the eyes of many lead to Member States thinking about or implementing initiatives at national level (while admittedly the incentives for the national policy initiatives are diverse and manyfold). While experts have differing views on such national measures, both in general and with regard to the usefulness of the specific measures taken (IVM 2014) and legal questions might arise over certain approaches, a Polish expert expects to see more national measures like the UK carbon price floor in the future (Burny 2014). Rieseberg recommends developing a strategy to expand such national solutions to the European level (Rieseberg 2014). Matthes points out that some of the problems related to national measures might be solved by **regional approaches**, though a robust design would be needed to avoid perverse effects (Matthes 2014).

The examples above also indicate that a centralised market-based approach can make it more difficult for frontrunners at national level. While Member States have the freedom to act at national level, the incentive system is diminished. National approaches to increase ambition are politically and structurally undermined by the argument that the contribution of additional reduction goals or measures will not contribute to climate protection due to the EU ETS, as increased national action does not affect the European cap.

4.6.2 Prominent renewable energy policies, with a focus on electricity

Policies to promote renewable energies have a long history in Europe. While there was no explicit competence for energy policy before the Lisbon Treaty and while the energy mix is still the competence of Member States (see page 14), renewable energy policy has been part of the European policy mix for many years.

Moderate centralisation in the first decade of the millenium

The last two decades have seen a considerable expansion of renewable energies in Europe (Bausch/Mehling 2013). The policy development started rather slowly, with indicative targets only and vague legal language (see e.g. Article 3 para 1 of the Directive 2001/77/EC on the promotion of electricity from renewable energy sources). While this triggered national action and was seconded by a European debate e.g. on support schemes (cp. EU Commission 2005; Resch et al. 2007), it did not yet lead to a high degree of legally binding rules, harmonisation or institution building. And while the share of renewable energy sources increased, the indicative European target for 2010 (12% renewable energy share in gross inland consumption) was not achieved (Eurostat 2012; EU Commission 2011). The only aspirational nature of the targets and the ample discretion of Member States regarding their implementation were among the reasons for this failure (Mehling et al. 2013).

The dynamic – and the degree of centralisation – changed when the 2007 EU renewable energy target (20% share of RES in final energy consumption by 2020) was operationalised by the 2009 RE Directive (Directive 2009/28/EC on the promotion of the use of energy from renewable sources), which introduced binding targets for the national level as well. This dynamic was triggered by the Conclusions of the European Council in March 2007 (European Council 2007) and built not only on internal but also external factors like the 2007 IPCC report, the political attention of the Stern-report and the popular award-winning film “An Inconvenient Truth”, the 2007 break-through at international climate negotiations in Bali and the build-up of political pressure before the climate summit in Copenhagen at the end of 2009.

With respect to harmonisation, however, the Directive did not go very far. It left a lot of discretion to the Member States on how to achieve their respective targets, so Member States were able to follow their preferences and the pathways they had already previously chosen to support their renewable energies. While some players pressed for more harmonisation, others did not want to change their existing policy and favoured freedom for Member States to choose their policies. In the field of electricity, for example, some influential Member States like the UK favoured quota systems with tradable units, while other countries like Spain and Germany favoured a feed-in regime (cp. Mehling et al. 2013). Hence, despite the fact that some of the arguments in favour of harmonisation were similar to the one in the case of the EU ETS (i.e. level playing field, use of market based instruments to gain efficiency), political agreement on the concrete policy approach could not be reached, leading to a fundamentally decentralised approach. Accordingly, Wettestad et al. characterise the developments between 2000 and 2010 as a moderate increase in vertical integration, with only a low degree of harmonisation (Wettestad et al. 2012). Looking back, this might not have been a bad approach, as the Member State approaches could serve as policy laboratories. Learning from each other, systems adapted and even the UK, one of the most prominent supporters of the quota-system, finally introduced a feed-in tariff (FiT) for small-scale electricity operators. Furthermore, FiT systems allowed for overachievements,

which generally is welcome from a climate-policy perspective (while, with a long-term policy perspective, cost implications of a policy have to be kept in mind as well).

The different approaches, however, remained an obstacle to utilise the full efficiency potentials of a market-based approach (e.g. trading green certificates). Furthermore, the legally binding obligations of Member States do not necessarily mean that they all will be fulfilled. A 2012 overview by Eurostat reveals significant gaps between the national achievements so far and the 2020 renewable energy target e.g. in the UK, the Netherlands or in France (Eurostat 2013). The gaps might be closed by later action but research confirms political struggles at national level, e.g. in the UK: “Frequent changes of the regulatory framework for renewable energy has been a major barrier for progress and has, for example, prompted companies to draw back from major wind energy projects. The adoption of the Energy Act in late 2013, including the electricity market reform, gives hope for more political certainty for investment but the details of its implementing legislation are still to be decided” (Donat et al. 2014). Nevertheless, according to a project led by EUROFORES, the UK seems to be on track to meet its renewable energy targets. The Netherlands and France, in contrast, do not seem to be on track according to this analysis. With respect to the Netherlands, EUROFORES states: “The Netherlands missed both their NREAP 2012 target and the interim target 2011/2012” and “Growth in RES ... shares needs to be accelerated significantly if the 2020 targets are to be achieved.” The same is found for France (EUROFORES 2014). This finding is supported by analyses of the European Environment Agency (EEA). But despite some outliers, the EEA finds the EU overall being on track reaching its 20% target on renewable energies for 2020 (EEA 2014).

Decentralisation and regionalisation in the 2030 energy and climate package

While the first decade of this millennium saw a trend towards centralisation of renewable energy policies in the EU, the developments in 2014 point in the other direction. The already mentioned 2030 climate and energy package includes a binding RES target at EU level (27%), but no national targets (on the impact assessment of different targets see European Commission 2014g). How and whether the EU Commission will be able to ensure that the EU target is met remains unclear. Many experts assume that, “[a]bsent support from Member States, the Commission did not include national renewable energy targets for individual Member States in its climate and energy package for 2030, but instead set an EU-wide goal in combination with a proposal on an EU-governance” (Bausch et al. 2014, p. 1; cp. Fischer 2014). Indeed, the European Council underlines that “the Member States’ freedom to determine their energy mix” will be “fully” respected (European Council 2014).

Instead – as mentioned above – the EU Commission proposed a new governance to streamline reporting and to better coordinate, while preserving the Member States’ right to define their national energy mix. The EU Commission envisages “an iterative process led by the Commission to assess the Member States’ plans regarding these common issues and to make recommendations as appropriate” (European Commission 2014c, p. 12). A decisive step within this governance should be consultation with neighbouring countries. “Regional

approaches (based around regional electricity groups for example) should be promoted as they will contribute to further market integration from joint decisions on renewables deployment, balancing markets, generation adequacy and construction of interconnectors” (European Commission 2014 c, p. 13). Recently, the European Commission reaffirmed this proposed approach of strengthening regional cooperation also in the context of the Energy Union, stating that “[i]n an Energy Union, Member States must coordinate and cooperate with their neighbours when developing their energy policies” (European Commission 2015, p. 10). The Commission furthermore noted that it “will develop guidance on regional cooperation and engage actively in regional cooperation bodies with Member States and stakeholders” (European Commission 2015, p. 19/20). In its March 2015 Conclusions, the European Council also called for “developing a more effective, flexible market design which should go together with enhanced regional cooperation, including with neighbouring countries...” (European Council 2015, p. 2).

This is interesting, as another prominent attempt to further climate-relevant regional cooperation on energy – the cooperation mechanisms under the 2009 Renewable Energy Directive – has barely been used to date (Umpfenbach et al. 2015). Looking at existing regional initiatives, Umpfenbach finds that they predominantly focus on the completion of the single market for electricity, driven by the expectation that connected markets will provide electricity at lower costs and increase the security of supply. In contrast, decarbonisation objectives and cooperation on renewable energy deployment and its impacts have only played a minor role thus far (Umpfenbach et al. 2015; cp. Tews 2014).

The EU Commission’s reference to regional cooperation might have been a reaction to the fact that a) a combination of a European and related national RE targets was not politically possible and b) the Member States’ national energy mixes (in combination with the state of the grid infrastructure) influence neighbouring electricity markets and grids, which can have political, economic and technical repercussions. One recent example of this is the increase in German renewable electricity generation and its impacts e.g. on the grids in Poland and the Czech Republic due to transit flows of electricity (cp. Piria et al. 2014).

The proposal remained, however, very vague, raising more questions than providing answers. Some researchers propose to take it as an opportunity to push the climate agenda (cp. Oberthür 2014; cp. Duwe 2014; cp. Bausch et al. 2014), for example, by:

- filling reporting gaps;
- streamlining reporting e.g. towards a comprehensive new climate and energy plan, with some kind of regional consultations;
- preventing e.g. backsliding with respect to the renewable energy shares in the national energy mix (while potentially allowing different levels of speed for different Member States regarding the expansion of the RE share);
- framing an obligation to have a national target (despite not defining the target itself);
- strengthening regional electricity infrastructure planning.

The process of establishing governance of this type should be inclusive and consider experiences of existing fora and best practices. Also, the governance should build on existing structures, as far as this is feasible (cp. Bausch et al. 2014; cp. Ziemann 2014). On the other hand, researchers also see the risk of increasing bureaucracy and conflict (cp. Bausch et al. 2014).

Member States seem to be hesitant to engage in the political debate as some fear an expansion of European Commission influence in the context of the proposal. Institutions like the European Parliament fear being shut out of the new governance (ENDS Europe Daily 2015).

Nevertheless, the EU Commission appears to already reach out to Member States, encouraging them to increase regional exchange and work with their neighbouring Member States to improve issues like grid-planning and reduce conflicts connected to changes in the national energy mix.

A driving force for this “renationalisation” in the field of renewable energy target setting is a general political trend at Member State level. Several governments see themselves confronted with EU-critical movements like the “UK Independence Party” (UKIP) or – less radical – the “Alternative for Germany” (AfD). Furthermore, the willingness to engage in ambitious climate protection policy has diminished due to a shift in political priorities as well as concerns over economic development and competitiveness in many countries. In combination with trends towards renationalisation this has led countries like the UK to favour a single GHG target over a policy mix approach combining three interrelated targets (GHG, RE and energy efficiency). Additionally, countries like Poland with its high share of fossil fuel electricity production raised concerns. In the end, a compromise was reached: the three-target approach as proposed by the EU Commission prevailed – though many stakeholder and scientists requested or advised setting a more ambitious renewables target (see for example Meyer-Ohlendorf et al. 2014; Eichhammer 2013; Höhne et al. 2013) and opening questions with respect to its implementation prevail.

There are no indications that the new EU Commission under Jean-Claude Juncker will radically change the pathway laid out in the 2030 package. On the contrary, it appears that he is very sensitive to Member States’ concerns over EU influence and will take this into consideration in his policy approaches. In addition, the fact that DG Climate Action and DG Energy are now represented by one Commissioner may point towards a structural weakening of EU climate policy institutions – which could imply a trend away from centralisation in this policy field (see section 3.3.1).

From the climate perspective, it is positive to see the commitment towards a binding European renewables target. The loss of binding targets at Member State level, however, weakens European climate policy. As there is no clarity on the implementation of the EU target and the related new governance, the incentives to invest in the sector have been weakened. This also has negative implications for other related areas – for example, a coherent European vision to guide electricity transmission system operators in the development of an adequate grid is missing (see section 4.6.3 below).

Calls for harmonisation of renewable support schemes

As shown above, the decentralised approach to support schemes for renewable energies has provided opportunities for horizontal learning between Member States within the EU. Accordingly, some Member States have adapted their national policy approaches. For example, the UK introduced feed-in tariffs for small-scale electricity operators after having not achieved satisfactory results with a quota system in this sector.

There are, however, ongoing calls for a harmonisation of support schemes to further the internal market, create a level playing field and reap efficiencies. The EU Commission had already engaged in efforts to bring about regulatory harmonisation during the 1990s, and recently increased its engagement again in 2013 (Tews 2014), including indirectly via the above mentioned state aid guidelines (see section 2.2.6). In the already mentioned summary of responses of a public consultation, DG Energy states: “There are strong calls for ... a European harmonization for support schemes as the least distortive solution. ... Consultation responses repeatedly highlighted the policy uncertainty and national uncoordinated interventions of various kinds, in particular support for renewables, as being critical elements in discouraging investment. This was highlighted frequently by industry and also by academics and think tanks.” (DG Energy 2013, p. 1, 2). More specifically, the German Advisory Council on Global Change (WBGU) states in its 2013 flagship reports “World in Transition: Governing the Marine Heritage” that a harmonised remuneration for renewable electricity produced by offshore installations would increase the efficiency of the support, incentivising renewable electricity production where it costs the least (WBGU 2013).

Obviously, there can be different degrees of harmonisation with respect to

- the subject: for example, only specific installations (e.g. offshore wind installations) or only specific energies (e.g. electricity) and
- extent of harmonisation with respect to conditions, instruments and design elements: e.g. harmonised rules with respect to the instruments and support level, but discretion of Member States with respect to (certain) design elements (cp. del Rio et al. 2012).

Researchers have been looking at impacts of harmonised support schemes on the uptake of renewable energies. The project “Design and impact of a harmonised policy for renewable electricity in Europe” coordinated by the Austrian Energy Economics Group (duration 2011-2013), for example, also pointed to relevant legal limitations with respect to harmonisation options (Fouquet et al. 2012; see also section 2.2 above). They have also looked at the impacts of different support schemes on climate change mitigation objectives (cp. Tews 2014). However, despite all these insights and efforts the debate over the harmonisation of renewable energy support schemes is highly politicised and controversial. While the discussion remains open, the EU Commission uses instruments like the centralised state aid competences to push its harmonisation agenda, not shying away from controversies at the highest political level with influential Member States like Germany (cp. Tews 2014).

Future challenges for renewable electricity expansion: capacity mechanisms

The expansion of renewable energy in the electricity market triggers debates on market design and changes in different countries and at European level. Two characteristics drive the debate: 1) the intermittency of electricity supply by wind and solar energy, as these energy sources have massively increased their market share over the last two decades and are considered to be instrumental for the expansion of renewable electricity in Europe in the future considering cost and potential; 2) the fact that wind and solar energy require high up-front investments (fixed cost) but low variable cost as they do not have fuel costs.

A capacity mechanism has been introduced in the UK. However, this mechanism came under attack for favouring fossil fuels, including coal, over e.g. demand management. It has been reported that Tempus Energy, a specialist in demand management, challenged the respective state aid approval of the EU Commission before the European General Court (ENDS Europe Daily 2014d and e). As reported in the news following the end of the first auction in 2014: “NGO WWF estimated that £291m would go to coal-fired plants over the entire duration of the scheme. This undermines the UK’s international credibility on climate change, the group said” (ENDS Europe Daily 2014 f). Indeed, in several countries environmentalists fear capacity mechanism debates to be an instrument to prolong the revenue streams for fossil fuels.

In addition, poor plant economics in the Netherlands leading to a shut-down of gas-fired power triggered controversial debates over capacity mechanisms. Industry could not agree on a common position. As reported in the media: “Whilst Germany’s RWE, which owns Essent, is in favor of capacity markets, Dutch utility Delta is still considering the matter, while Vattenfall-owned Nuon is firmly against” (Ajuonuma 2014).

In Germany, the change in the energy mix causes challenges at the spot market (which was designed for electricity producers with relevant fuel costs) and raises energy security concerns as the share of intermittent sources in the market increases. This triggered a prominent and controversial debate on changes in market design and on the introduction of e.g. a capacity market or a strategic reserve. Politicians at the highest level remain very sceptical about the introduction of a capacity market.²²

While the debate on market design is rather new and still predominantly taking place at the national level, it has European dimensions due to inherent cross-border effects and also influences the Internal Energy Market. This raises questions as to whether policies should be centralised. The EU Commission took up the topic more prominently in 2013. A project sponsored by DG Energy concluded:

²² The debate saw different proposals to address the energy security challenge. The introduction of capacity markets or a strategic reserve are two prominent proposals. It is, however, outside the scope of this paper to go into detail with respect of all the options and proposals. It should be mentioned, however, that Sigmar Gabriel as Minister for Economics and Chancellor Angela Merkel are reportedly sceptical about the introduction of a capacity market.

“It is difficult on an empirical basis to determine whether the energy-only market design of the target model will yield adequate investment signals. Moreover, the academic literature is inconclusive too. Whereas some hold that energy-only markets are fundamentally flawed and that there is a need for permanent capacity remuneration mechanisms (CRM), others argue that the need for such mechanisms is mainly linked to temporary market interventions and uncertainties ... The empirical analysis shows that there is generally no urgent need for capacity mechanisms in Europe. ... Still, it cannot be ruled out that capacity mechanisms may be necessary to ensure sufficient peak and back-up capacity in the future low carbon European electricity system, or as a transitory precaution in some individual member states in the shorter term. Design and implementation of a common European target capacity mechanism is premature. ... [A]dverse investments incentives could easily be the result” (Tennbakk et al. 2013, p 1-2).

With respect to Member State initiatives and the internal market, the report states: “Model simulations of individual CRM in France and Germany, respectively, confirm that unilateral mechanisms distort investments and trade and lead to higher system costs” (Tennbakk et al. 2013, p. 2; on the relationship of internal market and national renewable energy policies see also Tews 2014).

Summarising the input from a public consultation (with an overwhelming participation from energy industry), the DG Energy found: “Views are almost evenly divided as to whether the existing market framework (i.e. without capacity mechanisms) could deliver the necessary investment to achieve security of supply ... There is limited support for ... an EU blueprint for capacity mechanisms, but widespread support for detailed European criteria governing the implementation of such mechanisms. Some MS (UK, FR) express caution about developing overly restrictive criteria at European level” (DG Energy 2013, p. 1).

4.6.3 Development of the electricity grid infrastructure

The energy market is not an isolated national endeavour but already embedded in a European framework – technically, institutionally and legally. Grid infrastructure is the backbone of the energy market. In the electricity sector, grid infrastructures are natural monopolies regulated by a legal framework and embedded in a complex web of codes, cooperation and institutions to ensure the stability of the grid. Furthermore, the electricity grid is a so-called essential facility: it constitutes a bottle-neck to access the electricity market.

The change towards a low-carbon economy also impacts the grid. New challenges arise as it has to accommodate electricity from intermittent sources like wind and solar, which are located at sites that were formerly not places of production. Higher penetration with renewable electricity has to be considered in the context of running and developing the grid. The electricity grids of the EU Member State have been interconnected for many decades. Cross-border electricity exchange takes place at a technical as well as at an economic level. Institutions were built to reflect this reality – some with regional, some with European scope.

Already in the 1950s grid operators united in unions and associations to improve grid efficiency, stability and sustainability and to facilitate the internal electricity market in Europe (see Bausch 2004).²³ Instruments were, for example, the harmonisation of rules for grid operations. By 2002 the European Council concluded that in 2005 10% of the installed capacity should be interconnections. This goal, however, was not achieved.

Nevertheless, with the liberalisation of the market and changing production patterns challenges increased – driving the expansion of the European regulatory framework. Building on existing structures, European institutions like the European Network of Transmission System Operators for Electricity (ENTSO-E)²⁴ were legally mandated with certain tasks and new institutions like the Agency for the Co-operation of Energy Regulators (ACER)²⁵ were installed “top-down”. ENTSO-E was mandated to biannually develop a (non-binding) European Ten Year Network Development Plan (TYNDP) – the first pilot of which was published in 2010. Such plans take into account regional investment plans and undergo a consistency check by regulators. This European TYNDP is considered in the context of the development of national TYNDPs, which are binding, and linked with non-binding biannual regional investment plans (cp. Ziemann 2014).

In 2010 the strategy “Europe 2020” underlined once more the urgency to upgrade the European networks. The ensuing EU Commission communication “Energy infrastructure priorities for 2020 and beyond – A Blueprint for an integrated European Energy network” was followed by EU Council conclusions and a resolution of the European Parliament in 2011, all

²³ Already in the early 1950s around a dozen grid-operators associated with each other e.g. in a union for the coordination of transport of electricity (UCPTE or, later, UCTE). Such unions were founded to increase security of supply and reduce cost for producing and transporting energy. When the European electricity markets liberalised at the end of the century, the interconnections and unions were the basis for market operations and trade. To enhance the market and trade in the internal electricity market, four different European unions and associations (ATSOI, UKTSOA, Nordel and UCTE) founded the “Association of European Transmission System Operators” (ETSO) in 1999. ETSOs membership encompassed all European MS as well as some third-party countries (see Bausch 2004).

²⁴ As a successor ETSO, which was founded in 1999, ENTSO-E was founded in 2009. It currently consists of 41 Transmission System Operators from 34 countries. Internally, ENTSO-E has regional cooperation initiatives. Different regulations lay out the mandate and tasks of ENTSO-E, most importantly Regulation (EC) 714/2009.

ENTSO-E describes its mission as follows: “to fulfill its various legal mandates for the benefit of electricity customers, and to leverage its mandated work products to shape future energy policy for the benefit of society at large in the face of significant challenges in the areas of: **Security** - pursuing coordinated, reliable and secure operations of the interconnected electricity transmission network, while anticipating the decision to cope with upcoming system evolutions.; **Market** - providing a platform for the market by proposing and implementing standardised market integration and transparency frameworks that facilitate competitive and integrated continental wholesale and retail markets.; **Sustainability** - facilitating secure integration of new generation sources, particularly renewable energy, as well as significantly contributing to the EU's greenhouse gases reduction and renewable energy supply goals.

These challenges also imply addressing: **Network Adequacy** - promoting the adequate development of the interconnected European grid and investments for a reliable, efficient and sustainable power system.” (ENTSO-E 2014)

²⁵ ACER was established by Regulation (EC) 713/2009 in the same year like ENTSO-E. It was mandated with additional tasks by Regulation (EU) No 1227/2011 and Regulation (EU) No 347/2013. It includes the regulators of all 28 MS and is predominantly occupied with monitoring, evaluating and coordinating.

calling for an improved EU infrastructure policy to strengthen the European network development. But the measures that followed were not able to overcome the fragmentation of the grid. Therefore, in a most recent attempt to set incentives, Regulation (EU) 347/2013 on guidelines for trans-European energy infrastructure (TEN-E) defined that Projects of Common Interest (PCIs)²⁶ are identified on the basis of the European TYNDP and agreed upon and monitored on European level. The TEN-E regulation provides that PCIs should profit from improved and accelerated permitting procedures for such projects. The permitting should generally not exceed 3.5 years. Furthermore, PCIs can benefit from the possibility to apply for financial support from the Connecting European Facility (CEF).

In parallel, plurilateral/regional political fora like the North Seas Countries Offshore Grid Initiative (NSCOGI) were founded bottom-up to tackle concrete questions²⁷.

Limited interconnection capacity, however, remains an obstacle to the internal market²⁸ and a challenge for the future expansion of renewable energies. The European Council of October 2014 states in its conclusions: “The integration of rising levels of intermittent renewable energy requires a more interconnected internal energy market and appropriate back up, which should be coordinated as necessary at **regional level**” (European Council 2014a; emphasis added by author).

Most recently the European Council also set minimum targets for electricity interconnection for 2020 to ensure the functioning of the internal market and confirmed the “objective of arriving at a 15% target by 2030” (European Council 2014). This target is also closely related to the renewable energy target, as the expansion of variable renewable energy generation can be integrated at lower costs where interconnected grids provide more flexibility (Umpfenbach et al. 2015; Hogan and Weston 2014).

The PCIs were mentioned as the instrument of implementation. Furthermore, the new energy governance proposed by the EU Commission in the 2030 climate and energy package (see p. 53 above) proposes regional approaches to promote *inter alia* joint decisions on the construction of interconnectors (European Commission 2014). In 2015, the Commission reiterated that it “will support the implementation of major infrastructure projects, particularly the Projects of Common Interest, through the available financial means, e.g. the Connecting Europe Facility, the European Structural and Investment Funds and the future European Fund for Strategic Investments to leverage the necessary private and public funding.” (European Commission 2015, p. 19/20).

²⁶ PCIs have to utilise significant benefits for at least two MS.

²⁷ NSCOGI is a forum to discuss and exchange information. It has three working groups (technology, market/regulation, planning). Members include energy ministries, TSOs, regulators and the EU. Other fora include for example the Baltic Energy Market Interconnection Plan (BEMIP) – a process including high level representatives of the countries involved – initiated by the European Commission; and the Northern European Energy Dialogue (NEED) in which Energy Ministers, the European Commission, ENTSO-E, industry, investors...

²⁸ A 2013 public consultation of DG Energy found, that almost 70% of the participants found the lack of interconnection capacity still to be a barrier to effective market functioning (DG Energy 2013).

How the future of the European 2050 grid should and will look depends on many variables, including the targets for GHG reduction and RE expansion at European and national level, and regulatory frameworks. Decisions made in the next decade will shape the grid until 2050. Different researchers arrive at different results when trying to model the least cost future of the grid (see e.g. Egerer et al. 2013).

Overall, there has been a **very moderate increase of centralisation** over the years – with some legally binding framing, harmonisation and in particular institution building with institutions equipped with moderate decision-making powers (cp. Tews 2014). This has helped to support grid stability and coordination, to open the view to the European perspective as well as regional challenges, and to support projects that benefit more than one Member State.

With respect to climate protection, it can be assumed that the increase of cooperation and interconnection has helped to improve efficiency and increase grid stability, which overall helps to integrate and promote renewables (cp. Sander 2014). Furthermore, increased interconnection and coordinated grid-planning appears favourable for an increase of intermittent sources in the electricity mix. In this context, interconnections and coordination with countries neighbouring the EU – like Norway with its large capacities of hydro power, which can be used as a reserve, – should also be considered.

Looking at the low pace of improving interconnections and the many obstacles faced by more visionary projects like an integrated North Seas Grid, improved incentives and structures to coordinate and cooperate regionally and in Europe appear necessary. This also includes contemplating topics like regulatory coordination and maybe even harmonisation – potentially at regional level.

4.6.4 Target setting

Target setting is a common policy instrument. It has been used in many policy fields, including climate-relevant policies. Research found that “[t]he instrumental value of limits and targets ... is beyond doubt” (Leggewie/Messner in: Knopf et al. 2012). Different targets can enhance or hinder each other (on target mixes Tews 2014; European Commission 2014g). There are many different kinds of targets. They can have different reference points. For example, prominent targets in climate policy include those for emission reduction, renewable energy expansion, energy efficiency improvement and interconnection capacity or the 2 degree Celsius limit. Targets can be binding, aspirational or voluntary. They can be absolute (e.g. concentration of GHGs in the atmosphere) or relative (e.g. energy efficiency increase compared to business as usual). They can be defined by bottom-up pledges or top-down rules (a debate very prominent in the context of the UN climate negotiations). Overall, a target is just as useful as its ambition and implementation.

While the debate over the usefulness of specific targets and target designs is controversial (see e.g. Knopf et al. 2012 on the 2 degree Celsius limit), binding targets with a clear timeline are the backdrop for discussing policy options and their respective challenges, advantages and risks. Targets allow the definition of roadmaps to reach the targets. Binding targets

create incentives and planning security – for policy makers as well as administration and business.

There are, however, also risks related to target setting. Targets with the wrong reference point, for example, can create wrong incentives. A controversial target in this context was, for example, the European target that at least 10% of each Member State's transport fuel must come from renewable sources. Subsequently, a heated debate arose about its negative impacts, e.g. with respect to global land-use change because of increasing EU biofuel imports. Furthermore, if the level of ambition of targets is too high, the related costs might inflate. If the ambition is too low, the aspired goal might not be reached. Therefore, a scientific basis for target setting is to be recommended as well as review procedures to take into account e.g. new scientific findings and technological developments as well as economic and social trends.

In the specific setting of the EU, the design of climate-relevant targets should avoid implementation challenges as well as free riding. Therefore, in many cases a set of targets is to be recommended: one for the EU and in addition, specific targets for Member States. They should be minimum targets for two reasons:

- Looking at past experience and the different interests involved in the decision-making, it is highly probable that targets which can be agreed upon at EU level will not be as ambitious as optimal climate protection pathways would suggest.
- Front runners should always have the incentive and possibility to overachieve for two reasons: 1) Others might underachieve; 2) Considering the global gap regarding climate protection (UNEP 2014), every overachievement is helpful and needed.

The examples above have shown that binding targets are much more likely than aspirational targets to create the political dynamic needed to achieve the targets. Furthermore, the need for reliable long-term targets – and thus development pathways – has been exemplified in the context of grid development.

As shown above, the EU has seen an increase in European climate-relevant targets over the last decades. This centralisation trend was accompanied by a trend of increasing bindingness. It was driven by factors within the EU, but also by international developments, especially in the context of the UN climate negotiations. The targets helped to create the backdrop for policy roadmaps. The trends in the renewable energy sector, however, – with countries like the Netherlands and France not being on track towards meeting their targets – show that even legally binding targets do not equate automatically to successful implementation at Member State level. With respect to the question of centralisation it shows the importance of central monitoring, reporting, review and a functioning compliance regime.

The debate about the 2030 climate and energy package has shown that some Member States are increasingly hesitant towards this centralisation trend in setting of climate-relevant targets. There was a heated debate over the kind of targets and the level of ambition. Indeed, the 2030 package did weaken the EU targets as the EU renewable energy target is not backed by related national targets – making the process of achieving the EU target predictably cumbersome (cp. Umpfenbach et al. 2015).

In addition, the degree of ambition is controversially discussed.

4.7 Conclusions and recommendations

The **general** dynamic struggle to find the right balance between centralised and decentralised approaches is as old as the European project. Centralisation has been driven by hopes for political strength, economic growth and efficiency gains while concurrently being influenced by power struggles and differing or converging policy approaches.

Looking at the complex European situation with its mutually dependent structures and formal as well as informal dynamics in an ever changing environment, no final optimal state of centralisation can be defined or achieved. On the contrary, the EU is in a constant state of learning and adapting, testing and reviewing – driven by national and European political dynamics. There is no “perfect” equilibrium between centralised and decentralised policies, but an ongoing challenge exists in finding a good balance. Furthermore, it is not necessarily only a binary system: Options of combinations and plurilateral approaches in general (or regional approaches more specifically) also have to be considered. And while this was not the focus of the elaborations above, subnational entities and non-state players have to be taken into account alongside EU bodies and Member states, which can be both instrumental in driving (or hindering) policies and their implementation (cp. Mehling et al. 2013). Implementation can be assumed to be particularly challenging in cases where legislation is passed by majority vote against the will of some Member States. The implementation challenge can even increase if new regulatory approaches are used as these are likely to trigger legal conflict, the settlement of which can delay implementation (cp. Mehling et al. 2013).

Centralisation as well as decentralisation can be driven bottom-up by the Member States or top-down by EU bodies. In the past the EU has been a motor driving environmental protection in the EU as a whole (Baldock 2014). But this can change, especially if the general trends in the Member States shift and in turn influence the European Commission and its political focus.

In the field of **energy and climate policies**, a general trend towards centralisation could be observed over the last two decades. This trend, however, was not linear. First, some attempts to centralise certain policies have been difficult or unsuccessful (e.g. in the field of energy taxation particularly in the 1990s; cp. Kühleis/Arnold 2014). In addition, 2014 in particular saw a move towards renationalisation, especially in the field of renewable energy. The political debate over the 2030 package reflects that the ambition of European institutions – like the EU Commission – to push towards centralisation can be restrained by the reluctance of Member States to support such approaches.

What incentivises states in general to transfer sovereign rights has been elaborated above (cp. Jordan/Huitema 2014, cp. Wettestad et al. 2012; cp. Tews 2014; cp. Umpfenbach et al. 2015). Looking at the concrete examples stated, the trends towards centralisation or decentralisation are both influenced by factors including:

- specific policy preferences of Member States (e.g. preference for FiT or quota system to support renewable energies);
- political priorities of relevant European bodies (e.g. important parts of the European Commission being driven by the objective to complete the internal energy market rather than by climate objectives);
- general political trends and drivers (e.g. financial crisis and increasing influence of EU sceptics in the political systems; public opinion with respect to climate change and respective policy measures);
- political developments at international level (e.g. dynamics arising in the context of international climate summits);
- institutional structures (e.g. the creation of a DG Climate Action) and people in power within these structures (e.g. Chancellor Angela Merkel driving climate policy in the year of the German double presidency (G8 and EU)).

The level of centralisation or decentralisation, however, is not necessarily an indication of the level of ambition in climate policy. While the EU ETS, for example, was a prominent and politically ambitious instrument and example for centralisation, it did not live up to expectations from the climate perspective. While its increasing centralisation improved the instrument as such, the EU and its Member States were politically not able to solve e.g. the problem of oversupply of allowances. The solutions passed and proposed were not ambitious enough and will not solve the problem in a satisfactory way for at least another decade. At the same time, the centralised approach turned out to be a problem for national frontrunners as certain stakeholders argued that more ambitious measures in the EU ETS sectors would not lead to additional emission reduction due to the EU wide cap. At the same time, others question the argument considering the significant oversupply of allowances in the EU ETS and uphold the value of a policy mix to further climate change mitigation and (on policy mix see also Görlach 2013).

Nevertheless, centralised approaches can also help national ambition. Increasing grid integration and coordination is needed in the face of increasing national shares of intermittent renewable electricity sources. This shows that regionalisation and centralisation can be instrumental on the pathway to a low-carbon economy.

The process of transition towards a low-carbon society can be expected to be the permanent condition for the years to come. In such a context, it appears impossible and counterproductive to define a final and static equilibrium of centralised and decentralised policies. Climate change poses a challenge as it demands a fundamental transformation of industrialised economies in Europe within a relatively short time-frame. Policies designed to help pave the way for this societal transformation will have to be flexible so as to react to the changes, challenges, scientific insights and technological developments. While each policy solution and initiative has therefore to be judged in view of the concrete circumstances, some general lessons can be drawn from the analysis above. They will be outlined in the following elaborations.

4.7.1 What should be considered in the context of a climate policy choice and design?

A number of general considerations should be taken into account when deciding to centralise certain policies. These differ, of course, depending e.g. on the policy field and the political context. The following section describes important aspects that policy makers should consider when discussing if and how to centralise climate policy.

Take into account political, technological and economic uncertainties

From a perspective of mitigating climate change it is important to create policies and structures which are – as far as possible – **“weather-proof” against changes in the political landscape** that are adverse to climate protection ambition. This has been referred to as “political resilience” above (see section 3.5). At the same time, as the transition to a low-carbon economy poses new opportunities and challenges in so many areas and sectors, it is impossible to predict all technological, economic, environmental and social implications of the policies that will shape the next decades. Such uncertainties have to be taken into account when designing policies. The following outlines some concrete examples for what that can mean in the context of centralisation or decentralisation of policies.

Freedom and incentives for frontrunners

Structures and political trends influence policy framing. Depending on the current political circumstances, this can be advantageous for climate policy setting – or the other way around. While in theory certain policies can be optimal at centralised or decentralised level, in the end their concrete design will be strongly influenced by the political circumstances and political majorities at the time when they are proposed and adopted, and it is the individuals in power who essentially shape the design and implementation of policies.

Given these political uncertainties, it seems advisable to design centralised policies in a way which

- leaves freedom for national frontrunners to act (be it single Member States, a group of Member States or even several different such groups) and
- does not destroy incentives for frontrunners.

For example, Member States are free to overachieve their emission reduction targets. Using this freedom, Germany unilaterally committed to an emission reduction target for 2020 which is higher than its European obligation.

However, some argue that due to the EU ETS this overachievement in **the sectors covered by the EU ETS** will not contribute to lowering the EU emissions in that time due to the EU cap. In case of the proposed German approach outlined above, a cancellation of additional EUAs would circumvent this problem. However, even without such a cancellation of EUAs, some argue against that due to the current significant surplus of allowances in the market there will not be additional emissions in the EU. Furthermore, some point to the climate-relevant

effects of a policy mix, which is particularly relevant in case of low prices of the EU ETS (on optimal policy mixes cp. Görlach 2013). Practice shows that additional measures are favoured by many Member States due to the low ambition in the EU ETS. At the same time, practice shows that the centralised cap at least impedes incentives as in many cases it is held against additional measures in the political debate at national level.

An example of how to alleviate this impediment for frontrunners in the context of the EU ETS could have been a policy design that

- specified a renewables target for installations covered by the EU ETS (“ETS-RE-target”) (this being a part of a climate policy mix);
- allowed for overfulfillment of this specific national ETS-RE-target; and
- if a Member States decides freely to unilaterally commit itself to a ETS-RE-target higher than the one set out originally, bows to the general European compliance regime in place and notifies this to the EU Commission.
- triggered the cancellation of a certain amount of EU ETS allowances according to a European calculation procedure taking into account the energy mix being replaced by the increased share of renewable electricity; the extra commitment would be reflected in an increase of the European targets on RE expansion and GHG reduction (the latter being a reflection of the fact that EUAs have been cancelled).

Such a design would have generally followed a centralised approach while still granting room for certain decentralised decisions by individual Member States. In support for such a procedure, it can be argued that it can strengthen

- the incentives for frontrunners to act while not burdening other Member States to increase their efforts;
- the position of the EU at international level by creating potential for alleviating the EU targets through Member State action.

In this specific example, however, both designing such an approach and finding the political majorities to support it would be challenging. Furthermore, taking into account the political realities and the significant surplus of allowances in the market, it currently appears even more urgent and politically more promising (while still challenging) from a climate perspective to improve the design and functioning of the EU ETS, e.g. by an early introduction of the market stability reserve and the cancellation of the massive surplus of EUAs.

Consider anticipatory investments and ensure the adequate framework

The transition process to a low-carbon society has only begun in Europe. As experience with renewable electricity shows it is difficult, if not impossible, to foresee how solutions will evolve technically and economically. New challenges e.g. with respect to regulation and market design can arise. Therefore, especially in situations where different pathways and solutions are not yet ready to be decided – but a decision is nevertheless required – it seems reasonable to consider anticipatory investments. While they might incur higher costs at the moment of investment, these costs have to be weighed against the costs and opportunities related to the options of future developments.

Especially in fields of long-term investments with high fixed cost which pay off over several decades (e.g. grid infrastructure), different scenarios of the future should be taken into account. An expert workshop addressing the future development of offshore wind electricity in and around the North Seas suggested, for example, that anticipatory investments (e.g. building a larger platform to later accommodate additional equipment without incurring major additional cost) should be taken into account to prepare for the option of a meshed grid. Retrofitting offshore installations later was not considered a viable option – at least not for all relevant aspects. Even if developments over the next decade or two are difficult to predict – including with respect to technological and regulatory developments – anticipatory investments could keep options open at a comparatively lower cost, building in latency for future integrated solutions in current plans for offshore wind grid connections and interconnectors.

However, the environment to make such investments has to be created in certain cases. In the areas of grids, for example, to accommodate the option for such anticipatory investments, changes in regulation of network charges would be necessary to allow the cost to be included in the cost basis to calculate grid charges. Alternatively, anticipatory investments – as far as they are of European relevance – could be financed by a European mechanism, potentially in the context of the PCI framework. Thus, the need for anticipatory investments and the necessary respective policy environment should be considered in centralised and regional/multilateral approaches, or, inversely, multilateral or even European approaches could potentially help preparing the ground for certain anticipatory investments.

Monitoring, reporting and review – drivers for understanding and improving

Experience has shown that the future pathway towards a low-carbon economy has many unknowns. How policy designs – especially new ones – can turn out to be less than perfect after controversial political bargaining processes, fall short of expectations and have to be improved in a step-by-step approach is shown by the example of the EU ETS. How unforeseen economic and technological developments as well as unpredicted effects of policy instruments can considerably influence transformation pathways has been exemplified at national level by the introduction of the German feed-in tariff.

It is safe to assume that similar experiences will be made until 2050, although it is impossible to predict with certainty in which economic sectors and in which fields of policy or technology. However, developments have to be monitored and policies revisited to ensure that the goals of policies are achieved and to accommodate the unforeseen as it materialises. Therefore, policies which e.g. aim at contributing to the achievements of the climate-relevant targets – or in case of the absence of such targets policies that are particularly relevant for climate protection – should include monitoring mechanisms and review clauses. In most cases, this would have to be linked to reporting obligations of Member States.

Linking these insights back to the question of centralised and decentralised approaches, the following approaches are to be recommended:

- Binding European targets should optimally be broken down into binding targets for Member States (i.e. high degree of centralisation with respect to targets is needed, see p. 79). If political agreement at EU level can only be reached with respect to a European target (as has been the case for the RE 2030 target), monitoring, report and review aspects become even more important to create transparency about national and aggregated European trends. Transparency in turn can contribute to a political environment more favourable to passing the necessary policies in the future. The review process – which should be linked to clear dates – will make sure that the topic will be back on the political agenda.
- For the same reason it is advisable to implement monitoring, reporting and review in case certain policies – for example targets – cannot be agreed at European level at all.

At the same time, the data gathering and analysis creates a burden for all parties involved. It is therefore important to streamline such obligations and processes as far as possible. The European Council has explicitly addressed this issue recently in its Conclusions of March 2015, highlighting the importance of reporting requirements and stated that “[t]he governance process should serve the following purposes: [...] streamline current planning and reporting requirements, avoiding unnecessary administrative burden;” (European Council 2015, p. 17/18).

Room for learning: Member States as policy laboratories

In an environment that is changing rapidly on a pathway with many unknowns, room for learning appears particularly important. Learning is a complex topic, can involve very different players (e.g. government officials, policy networks or even communities) as well as very different topics (e.g. learning about processes, instruments, ideas or social interaction dynamics; learning about economic, technological, or environmental impacts and potentials). Also, many obstacles to learning can be identified, e.g. power struggles, lack of time or knowledge, or aversion to admit failure. Without diving into the broad debate on the why and how of policy learning or innovation, some practical advice can be drawn from the examples above.

Especially, but not only, in cases of **complex new policy instruments**, it should be considered trying them first – with a broad discretion regarding the choice of policy instrument or design as appropriate – at Member State or regional level before introducing a harmonised regime at European level. Regulatory competition might well trigger innovative solutions (Tews 2014).

A dynamic governance system should be open to learning and adaptation. As could be seen with the renewable support schemes, the experiences made at Member State level can provide valuable insights about the effectiveness, efficiency and other impacts of a policy before expanding one regime throughout the EU. While this might under certain circumstances lead to challenges with respect to the internal market, this European objective has to be weighed against climate change mitigation objectives.

The framing should be such as to **prevent choices which undermine the general European policy goal**. The first phase of the EU ETS with its overallocation of allowances and windfall profits for incumbents in the electricity sector exemplifies the potential for problems with a partially decentralised regime. Particular interests of Member States will shape their choices. The European framing should ideally prevent that these run counter to European interests.

The insights gained from the implementation of different renewable energy support schemes were, for example, a valuable source in Europe for understanding policy options and their impacts. Some countries even started introducing feed-in tariffs in combination with their existing quota-system. As Ragwitz et al. state: “After only nine EU Member states having started with a feed-in system in 2000, today 20 countries are applying feed-in schemes as main RE supporting instrument and four more countries as a supplementary instrument for selected technologies and plant sizes. Feed-in systems have been proven to be flexible on the adjustment to market developments” (Ragwitz et al. 2012 p. 16; cp. Resch et al. 2007). Comparative studies have shown impacts of different policy design (e.g. cp. Campoccia et al. 2009). Also at regional level, interesting dynamics might arise and could be studied. Proponents argue that such a “policy laboratory” “appears more effective to test [...] cross-border policymaking process in smaller groups than trying to find a solution that fits all 28 EU member states at once.” (Held, Ragwitz, Resch et al. 2015, p. 8). Researching national and regional approaches can then provide valuable insights for improving instruments at national and regional level as well as making informed decisions also at European level.

In cases where Member States are given discretion in policy choice and/or design to serve as policy laboratories, a **European monitoring** process is important to ensure the learning and a **review** is to be recommended to ensure the debate on the political agenda. Furthermore, there are also downsides. For example, Member States, after having introduced a certain policy design, might not feel inclined to change it, making European policy making more difficult.

Taking a smaller unit as a laboratory to test policy approaches is not unusual. China, for example, introduced different pilot schemes for emissions trading in different regions to learn more about the instrument. While some elements are uniform (e.g. the trading period), others differ (e.g. the CO₂ emissions per year threshold). While the dynamics and structures are very different in the US, individual States are also referred to as policy laboratories. While the political structures of the EU as a supranational institution cannot be compared to countries like China and the US, the general idea remains the same.

Ensure institutional capacity

If policies and rule-setting become centralised at European level, it is important to create and ensure the **institutional capacity** to cope with the new tasks related to this. In the context of the EU ETS, for example, Kühleis/Arnold point to the limited capacity of DG Climate to deal with the issues related to the administration of the EU ETS and also to the fact that

institutions need **capacity building** when they take on such new tasks (Kühleis/Arnold 2014). A separate agency might have been helpful to cope with this challenge.

Market based instruments do not automatically require immediate centralisation

Theoretically market-based instruments work most efficiently in a centralised system with a large market and a level-playing field for market participants. But even in cases where the market-based instrument is seen as the best policy instrument at hand to achieve climate protection goals, practical experience reveals arguments for step-by-step approaches starting at a decentralised level to test policy elements and their impacts.

In this context, the introduction of the EU ETS is not the optimal example. The EU ETS started with a hybrid approach in 2005, with some centralised and some decentralised elements. The specific combination led to significant problems, in particular with respect to overallocation. But in China, for example, emissions trading was tested in **pilot markets** at regional level in different formats – with a roll-out for a national scheme planned for 2016 (Chen/Reklev 2014). Such policy learning can be very valuable before a broad roll-out and might help to diminish the impact of early design flaws (such as the wind-fall profits in case of the EU ETS). It might also help identify elements which are necessary to not hamper the political dynamic of frontrunners (see above).

At European level, certain policy instruments could be tested at **regional level or with a group of Member States** first and then be evaluated in cooperation with the European Commission before drafting a European policy. Of course, this step-by-step approach would require the will of Member States to cooperate and time – the latter being a scarce resource considering the urgency to act on climate change mitigation. Facing the time challenge, an alternative might be an evaluation of policy approaches which have already been implemented at Member State level. However, this approach would require that the policy of interest has been tried at national or regional level, at least in some Member States. In addition, of course, the analysis of experiences of countries outside the EU is also a valuable resource for learning.

Furthermore, the case of renewable energy deployment has shown that it might be worthwhile to test different approaches to further certain goals before making a final decision about the one to be implemented at European level (if at all).

When to facilitate plurilateral policy approaches

Regional or other plurilateral approaches could be used, for example:

- to test policies;
- to adequately reflect relevant specificities of the group of Member States in a European policy approach;
- to solve a problem which is not only national, and does not directly affect all EU Member States, but is specific to this group of countries (e.g. political, technological and administrative challenges in the context of an offshore grid in the North Seas or

challenges because of cross-border loop-flows due to changes of Germany's energy mix);

- to bridge a lack of political dynamic towards more ambitious climate policy by engaging the “willing” and by doing this create a test case which might develop spill-over effects and create an invitation for others to follow by demonstrating socio-economic benefits on the ground (leading by example);
- where specific Member States have better access to relevant processes than the EU as an institution (e.g. in the context of work of the Arctic Council, where some Member States are members (Denmark, Finland, Sweden) or observers (e.g. France, Germany and Poland), whereas the EU has not yet been awarded with a formal role despite explicit interest).

Some of these issues can be solved by the respective countries at a “decentralised” level. In other cases, however, there might be an inherent European interest in this plurilateral cooperation or coordination to take place or to take a specific format or direction to advance climate policy. In the latter case, the European institutions could get involved as facilitators (e.g. as has been the case with respect to PCIs in the context of grid infrastructure).

However, drivers are needed to incentivise regional cooperation. As outlined above, regional cooperation was successful in the case of tangible economic incentives, but has been lagging behind with respect to e.g. renewable energy expansion (cp. Umpfenbach et al. 2015). Concrete incentives have to be created as has been attempted e.g. in the context of PCIs (regulatory advantages and financial support). Such incentives could be linked to national targets. Furthermore, barriers have to be taken into account (e.g. technical and legal barriers or uncertainties about costs and benefits) (cp. Umpfenbach et al. 2015).²⁹

Time horizon

Climate change asks for policy answers, especially in the short- and medium-term, to facilitate the timely decarbonisation of the European economy. Of course, long-term policies are also necessary, but if the EU and its Member States fail to take action in the short- and medium-term, the European 2050 targets will not be reached. This should be taken into account when considering options to centralise policies. For example, changes in primary law involve a lengthy complex process with uncertain outcome. Other new and complex policies might need a step-by-step approach – as has been the case with the introduction of the EU ETS. In the strategic evaluation of the mix of central and decentral policy approaches, the urgency of action in the context of climate change has to be kept in mind.

²⁹ In that vein, Germany for example stated in a non-paper that “EU financial resources should be set up to promote regional cooperation projects for energy efficiency and renewable energy”, emphasizing that “[s]upplementing EU resources could help unlock regional projects” and the importance of ensuring “that enhanced regional cooperation takes place on a voluntary basis that convinces by its cost-benefit analysis.” (Federal Republic of Germany 2015, p. 4).

4.7.2 Policies that should be centralised

The following will outline some policies which should be centralised at European level by setting respective rules. As far as such rules already exist, this is to be understood as a confirmation of such an approach which should prevail. The list, however, cannot be understood as a comprehensive enumeration of policy areas which should – at least to some extent – be centralised by rule-setting.

Targets

From the climate policy perspective, **binding minimum targets** for GHG reduction, RE expansion and energy efficiency would be advisable. These targets should be ambitious and outline the pathway for the transformation to a low-carbon economy until 2050 (e.g. in 5-year steps).

This would give a minimum of policy certainty. And as *DG Energy* states in a summary of responses of a public consultation (in which 72% of the participants were qualified as “energy industry”): “There are strong calls for policy certainty” (DG Energy 2013, p. 1).

This is particularly important to adequately guide investments in infrastructures which will prevail for the next few decades, e.g. electricity grids. Often the timely and precise political objective to guide infrastructure development is lacking. As *Sander* notes: For adequate planning, transmission system operators (TSOs) need a clear perspective on how the production capacities and electricity trading will develop over the next 10, 15, 20 years and beyond. In particular, binding renewables and GHG reduction targets at European and national level would provide important guidance in this context. They would lead to a higher certainty that the future electricity generation landscape will to a much larger extent be based on renewables. This certainty immediately influences the assumptions that feed into modelling future grid requirements. As long as clear guidance is missing, TSOs will have to continue to consider high-coal scenarios when developing the grid. Binding targets are therefore of critical importance in the external communication on why new infrastructure is needed as most stakeholders are much more supportive of infrastructure investment for renewables than for fossil fuels (Sander 2014). Also TSOs confirm that the climate-relevant targets will not be reached if the infrastructure is not in place in time (Ziemann 2014), and the latter requires early signals to make the right decisions with respect to developing the infrastructure.

Furthermore, binding long-term targets might at least help with another challenge mentioned by grid operators: the “growing gap between high incentives for the generation development from renewable energy sources (RE and slow processes/acceptance for new electricity lines)” (Ziemann 2014, p. 5).

Additionally, other branches such as the comparatively expensive renewable energy sources from offshore wind or marine energy need long-term investment security (and adequate rates of return) (WBGU 2013).

This exemplifies that targets can be **crucial (while not necessarily sufficient)** to incentivise investments. They are also helpful to solidify the European position at international negotiations and guide implementing policies (e.g. pricing of CO₂ and the phase-out of subsidies which are harmful for the climate).

Targets should be set at European level and be backed up by **coherent national targets** either by defining Member State specific targets or a uniform minimum target for all Member States. The EU process of negotiating and setting targets can push laggards to act or to overcome national political impasses by referring to the European level. Also, there is a possibility to offer incentives at European level to overcome obstacles within certain Member States. Setting binding targets only at European level can potentially ensure a certain degree of stability and reassurance to stakeholders, even in cases of political changes at national level. However, the enforceability of targets is certainly highest when translated into binding national targets (cp Sander 2014).

Importantly, the **freedom of frontrunners** to go beyond that minimum level should be protected (as has been the case with respect to GHG targets, where e.g. Germany chose to commit to 40% GHG reduction compared to 1990 in 2020). Certain policy approaches combined with specific policy goals (like preserving incentives for front runners) might trigger the need for a specific target or target design.

Any policy including targets should contain **monitoring and review** clauses. The latter would allow changes to accommodate e.g. the need

- to raise ambition because of new scientific insights,
- to adapt pathways accommodating unforeseen developments in a dynamic environment (e.g. new technological findings or significant changes in cost of low-carbon technologies as has been the case with wind and solar electricity) or
- to revise a target if it triggers unforeseen and unwanted effects (as has been the case e.g. with the European biofuel target).

Electricity grid infrastructure development

As shown above, the electricity grid infrastructure is not only a backbone of the internal energy market but also of the efficient expansion of renewable electricity. There is an increasing trend towards exchange and coordination in formal European fora such as ENTSO-E and ACER or political regional grouping like the NSCOGI.

While this is a useful development, the institutions should be further improved. This would not necessarily mean to significantly increase centralisation, but would contribute to the quality of the centralised elements in the governance. The development of the European grid has to be more than only the addition of the national plans. The grid development has to be guided by a European vision (Sander 2014). The frame for the latter has to be established at the political level.

With respect to the regional level, structures and expertise can be improved. The new energy governance proposed by the EU Commission could serve as an anchor for this debate and development. Furthermore, the European Commission has recently stated in the context of the European Energy Union that it “will review the regulatory framework, in particular the functioning of ACER and the ENTSOs, in 2015-2016 and will propose appropriate actions to reinforce the European regulatory framework.” Furthermore, highlighting the fact that the “right infrastructure is a precondition for completing the energy market, integrating renewables and security of supply” the Commission noted that it “will create a dedicated Energy Infrastructure Forum to discuss progress on major infrastructure projects with Member States, regional cooperation groups and EU institutions. It will meet for the first time in late 2015.” (European Commission 2015, p. 19/20) Such an approach can help to develop European infrastructure as a backbone of a carbon-friendly economy.

Another angle to strengthen regional work and link it to the European level could be ENTSO-E securing the coherence of the work of their regional groups amongst one other and with the above-mentioned European vision (cp. Sander 2014). In this context, experts also point to the need of processes like the identification of PCIs to become more transparent. A good coordination between different governing bodies and their different national, regional and European layers is a prerequisite to secure such transparency (cp. Sander 2014).

Furthermore, as outlined above, centralised binding, long-term targets are to be recommended to contribute to the adequate development of the European electricity grids (see p. 79).

Central aspects of research policy

Research policy is an important element of EU policy. The 7th Framework Programme – one of the main instruments for research policy between 2007 and 2013 – had a budget of over € 50 billion and one of its main aims was strengthening technological research in Europe. Climate-related topics like energy, environment (including climate) and transport were among the thematic key areas of the research programme. The new programme “Horizon 2020” is putting a strong emphasis on innovation and has a budget of almost € 80 billion for 2014 to 2020. Its work programme also addresses questions of climate action and environment.

The transition to a low-carbon economy puts Europe in front of unprecedented challenges. Research is of particular importance under such circumstances. Considering the many areas of research needs, this should be a priority policy area to engage in, both at European and the Member State level. Some coordination between the levels to improve the results and ensure efficient usage of the limited resources is to be recommended, although this is not a new idea.

Obviously, specific national challenges can be addressed in a decentralised manner in national research programmes – unless they have a specific European dimension or the specific Member State needs support to be able to conduct such research. There are, however, topics that are **particularly capital intensive and of relevance beyond the national**

context. If, from a climate perspective, they also have a considerable potential to contribute to creating a climate friendly future, they should be supported through European research projects – especially in cases where cost or other aspects make sufficient resources for research at national level improbable. Such projects already include e.g. carbon capture and storage technology (CCS) for power stations and other major industrial installations (Baldock 2014) – with an ongoing dispute over the feasibility and security of CCS, especially for power stations – but could also include e.g. offshore meshed grid solutions.

Furthermore, the EU should enable climate-relevant **research to enhance mutual learning, particularly in areas of non-harmonised policies**, e.g. support mechanisms for renewable energies. This would contribute to an accelerated learning curve about opportunities and challenges.

Similarly, **cross-border impacts of national pathways to a low-carbon economy** should be taken up as a research topic at European level (e.g. national expansion of renewable electricity and its impact on the European grid). This could help e.g. in preventing conflicts and adapting infrastructure to the needs of a low-carbon economy.

Furthermore, the EU could **facilitate and support cooperation and coordination** of Member States with respect to their research on climate-relevant topics. In this context, the take-up of issues relevant and of interest for a certain group of Member States could be a focus of such facilitation or support. Indeed, going even a step further, networks among Member States to spur innovation and policy transfer could be supported (cp. Jordan/Huitema 2014).

Furthermore, part of an applied research agenda should be **demonstration projects** at European level. Such projects could test technologies as well as regulatory frameworks. It might be possible to link such projects to other support initiatives, such as PCIs, to mutually enhance the scope and impact.

Obviously, European support for such projects does not have to be exclusive and Member States could support such research.

A centralised capacity mechanism for the electricity market?

A centralised European solution for a capacity mechanism seems premature. This includes flexibility solutions, e.g. demand side management. From a centralisation/decentralisation and a climate policy perspective, it appears useful to continue looking for answers to questions such as:

- What can one learn from the EU Member State experiences? (e.g. UK, France, with its introduction of a capacity market, or Sweden with its strategic reserve)
- Which cross-border effects would the introduction of a national capacity mechanism have – including on the internal energy market – and what would be the adequate reaction to such effects?

- What plurilateral, regional and European approaches to coordination, cooperation or markets would be useful or necessary to prepare for a low-carbon economy? And at which point in time do they have to be implemented?
- What kind of design is necessary to prepare for a low-carbon economy in the electricity sector?
- How do mechanisms have to be designed to be favourable to the transformation towards a low-carbon economy while avoiding supporting coal based electricity production in particular?

While it is outside the scope of this paper to provide final answers to these complex questions, the debate and examples indicate that it is **premature to implement centralised European solutions**. National policy approaches can serve as policy laboratories to allow other Member States to learn. To avoid political, technical and economic problems, the **cross-border dimension of any such mechanism should be taken into account at national level**.

Furthermore, from a climate perspective the design of any solution should be such as to **prevent strengthening coal-based power production**. As Sigmar Gabriel, German Minister for Economics, reportedly cautioned, the call for a capacity market might just cover the wish to preserve existing (fossil) over-capacities and making the electricity customer pay (Stratmann/Afhüppe 2015). Flexibility solutions like demand side management or storage opportunities have to be adequately taken into account.

Harmonisation of renewable energy support schemes?

As the elaborations above have shown, there is an ongoing debate over the harmonisation of support schemes for renewable energy within the EU – or, as Tews frames it, an “inherent governance dilemma”. While some expect harmonisation to remove market distortions, create a level playing field and efficiency gains, others fear that such a harmonisation might slow down the pace of renewable energy expansion and might destroy local incentives for small companies and citizens to get involved in renewable energy projects. Research has also highlighted the complexity of such policy harmonisation, including political challenges (which are amplified by the significant economic power of energy companies, which are still often at least in parts state owned), legal constraints and design challenges. While some see rising evidence that there is a “European convergence of national support schemes based on price-based economic instruments” (Tews 2014, p. 9), it is outside the scope of this paper to provide a final answer to the question when and how to harmonise support schemes to best serve climate change mitigation efforts. It seems strongly advisable that if the EU continues with its efforts to clarify this question, it should be guided prominently by the objective to further the climate objective – and not, as has been suggested by research, predominantly by the internal market objective (Tews 2014).

Centralised policy on the European energy mix?

Primary law sets boundaries to EU policy makers as regards policies which influence the energy mix of Member States (see section 2.2). Some climate experts see this as a hurdle to the efficient expansion of renewable energy and to the reduction of the use of fossil fuels (cp. IVM 2014). With a shift of competences to the EU to also determine the European energy mix, the EU could potentially even implement a phase-out of coal, and thus not only reduce emissions in the electricity sector but also avoid the climate-relevant risks associated with the potential future implementation of the CCS technology in coal plants. However, an EU policy on the energy mix can be seen as an opportunity as well as a risk from a climate perspective (cp. Oberthür 2014). It is not at all certain, but rather unlikely, that under current political conditions EU decision-makers would agree on an optimal solution from a climate perspective. To the contrary, such a shift of competences might even result in policies protecting e.g. electricity production from coal. It would be crucial under such conditions to protect the freedom and the incentives for frontrunners in the climate field (see p. 72 above).

In any case, such a policy initiative would require a change of primary law – meaning that the implementation would be only a long-term vision. Furthermore, it appears politically very unlikely that such an initiative would find strong support among the relevant decision-makers as the energy mix is at the core of many national policies.

Considering the urgency of action needed for mitigating climate change, the probability of a change in primary law, and the unclear outcome of such an initiative with respect to climate protection goals, it does not appear advisable to invest political capital and time in such an initiative. It appears more advantageous to build on the existing competences to further e.g. renewable energies and energy efficiency. Despite several set-backs it is worthwhile trying to accelerate and intensify the attempts to strengthen the EU ETS. If anything, the current political debate around the EU Energy Union (see p. 53 above) could be used to support climate policy initiatives, turning it into a Climate and Energy Union (see section 3.5 above).

4.7.3 Centralised policies and international politics

The EU is a player in a globalised world. Taking into account the global nature of climate change, it is important that the EU remains a progressive force in this context. **Centralised policies** are therefore to be recommended for different settings, like:

- **International climate negotiations:** Public international law is important to frame the global agreement on how to fight climate change. Different treaties are already relevant in this context, most prominently the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. While its influence and concrete positions varied, the EU has overall been perceived as a progressive force in the context of climate negotiations. It can take on the important function of a bridge-builder. But to be credible at international negotiations the EU must speak with “one voice” (also in cases of shared competences) and bring political weight and commitments as well as results to the table, showing its determination and ability to

act. This means, however, that the EU has to have an agreed position on relevant topics.

Under such circumstances, certain elements should be subject to a centralised policy: For example binding GHG reduction **targets** (including determinants on the level of international offsets allowed) at EU level are needed to take on respective commitments at the international level. In this context, a break-down of the commitment into specific Member State targets would increase the credibility of the EU target. Furthermore, successful implementation is crucial to show the EU delivers on its commitments. Other targets showing commitment and ambition – e.g. with respect to renewables and energy efficiency – will further strengthen the European position, and allow for showcasing important steps on the pathway to a low-carbon economy. It can also provide a background for mutual learning across the world. It is, however, decisive that the level of ambition, especially for domestic emission reduction etc., is such that it is adequate to the global challenge and responsibility as well as with respect to the 2050 pathway.

However, the framing of international commitments might change over time. It has already been moving away from the former approach of the Kyoto Protocol in several aspects. As the international regime evolves, other alternative or additional elements of central policy making might arise.

International climate finance is another crucial topic at international negotiations. The EU Commission should trigger a debate on whether and how Member States could bundle their financial commitments to showcase the European determination to support developing countries in the context of climate policy.

- In other sectors – e.g. aviation – there is strong **international opposition** against climate protection measures which affect international flights. While the responsibility for this topic area has been with the International Civil Aviation Organisation (ICAO) (see Article 2 (2) Kyoto Protocol), no breakthrough has been achieved yet. Frustrated with the lack of progress, the EU decided to extend the scope of the EU ETS to domestic and international flights which arrive or depart from within the EU. But faced with massive international criticism and pressure, the EU derogated: “the inclusion of international flights from their obligations under the EU ETS, and signal readiness for a compromise solution until an international market-based instrument can be adopted under ICAO in 2016, entering into force in 2020” (Gerstetter et al. 2013).

While the EU had to back down in the concrete example of aviation policy, the option to centralise efforts should be considered in areas which are internationally relevant and highly controversial. A centralised and harmonised approach would strengthen the policy vis-à-vis international pressure and criticism. It would be easier for an alliance of all Member States to withstand the international pressure – though, as the aviation case has shown, success is not to be taken for granted.

It is, furthermore, important to bring up such issues when the EU negotiates at the international level. For example, where policy areas are already centralised – e.g.

trade – it is important to adequately integrate climate concerns (including by having the relevant experts present at the negotiations). One prominent current example would be the adequate integration of climate-relevant aspects into the negotiations over the transatlantic trade and investment partnership (TTIP). As pointed out, aviation policy, for example, is not only highly relevant for climate protection but also controversially discussed between the US and the EU (Gerstetter et al. 2013).

Some areas, however, appear better suited to be approached in a **decentralised manner**.

- This can be the case where certain Member States have **access to relevant bodies and institutions**, while neither the EU nor all Member States have this particular interest or possibility. A prominent example in this context is **Arctic** climate policy. Global warming has been bringing the Arctic to the forefront of international attention. Not only is global warming most visible in the melting of the Arctic ice, but this opens up new economic and geopolitical opportunities. This relates to issues like fishing and shipping as well as access to resources like oil and gas. Many of these issues have aspects that are also relevant for climate change mitigation. Therefore, it is an important field for climate action. The EU, however, has been unsuccessful in acquiring observer status within the Arctic Council. Single Member States, on the other hand, are members of the Council (e.g. Denmark) or observers (e.g. Germany). At least as long as the Arctic Council is not willing to invite the EU as an observer, a decentralised approach to climate-related Arctic policy appears more promising at international level. European interests might be specified and solidified in an inner-European process – but then single Member States with specifically good relationships to either the Arctic Council or certain Arctic states will have better access to the relevant decision-makers than the EU itself.

In addition, of course, the EU can exert its influence – together with the Member States in cases of shared competence – in the international legal regimes of which it is member and which are of relevance in, but not exclusively limited to, the Arctic region (e.g. UN Convention on the Law of the Sea).

- Furthermore, Member States may be involved in or start **special initiatives** and may be particularly well suited for this task. This can be an asset for the EU as a whole. For example, the Petersberg Climate Dialogue³⁰ of the German government – which convened for the 5th time in 2014 – is certainly a valuable instrument to further the common climate agenda, while not being a European initiative.

While decentralised approaches can be beneficial, it could be helpful to intensify the European strategic dialogue on prominent initiatives and how they could be potentially combined to strengthen their impact or how certain policy fields could be taken up by certain countries.

Overall, an improved climate diplomacy would be helpful. In this context, it would also be preferable to have a Commissioner for Climate Action (see sections 3.3.1 and 3.5).

³⁰ For more details look online at <http://www.bmub.bund.de/en/topics/climate-energy/climate/international-climate-policy/petersberg-climate-dialogue/>.



5 Annex: The subsidiarity principle

Primary law defines the basis for European policy making and options for centralisation. It is in itself already a result of the struggle to find a balance between different interests which are driving towards centralisation on the one hand and protect specific national competences on the other.

Of course, the complex body of secondary law is also shaping options for future rule-setting, harmonisation and European institutions. It can influence both the scope and the timeframe of designing and implementing policies in the field of climate and energy. Existing secondary law is often the starting point for future legislation and might increase or decrease political costs of certain solutions. It can be an obstacle for new approaches if established institutions and expectations (e.g. in the context of the EU ETS) impede new pathways. It can be a driver if it paves the way for future solutions (e.g. by installing monitoring and review mechanisms or providing the basis for transparency). The body of secondary law is, however, too broad to be fully analysed in this publication. The authors have a closer look at particularly important policy developments in section 4.6 (i.e. EU ETS, renewable energy policies, policy framework for electricity grid development and target setting).

The basis for climate action in primary law has been already outlined above (see Legal foundation 2.2). In the context of the struggle between centralised and decentralised approaches, the **subsidiarity principle** is of particular importance. The subsidiarity principle is one of the guiding principles of the European treaties when it comes to questions of shared competences. These principles are the legal foundation upon which the EU builds and, at the same time, the subsidiarity principle can be seen as a catalyst for controversies over (de)centralisation efforts. The following will outline the principle's structure and practical relevance – with a focus on the climate and energy field – and test if this principle is a driver or an obstacle for decentralisation.

5.1 Meaning and scope

The principle of subsidiarity (Article 5(2) TEU) addresses the question of which level of government should exercise powers in those areas where the EU and Member States share competences (see 2.2.3 above). The principle thus does not aim to allocate powers but to provide guidance on the use of powers (de Sadeleer 2012). It is hence explicitly inapplicable to areas of exclusive competence of the EU (Article 5(3) TEU).

For the area of shared competences, the principle of subsidiarity aims to “ensure that **functions are delegated to the lowest level capable of performing them effectively**” (Davies 2006: 5). Since the Lisbon Treaty, environment and energy are explicitly listed as shared competences. The subsidiarity principle thus finds application and guides questions of centralisation and decentralisation concerning the exercise of these competences.

The principle aims to strike a balance between additional European integration and the loss of competences of Member States, aiming to ensure the highest possible level of decentralisation (Calliess/Ruffert 2011). The underlying idea is that **action at lower levels is often conducive to more effective policy making, while simultaneously serving as a remedy to the much invoked democracy deficit of the EU** (van Zeben 2014). The principle of subsidiarity is closely linked to the principle of proportionality (Article 5(4) TEU) and the principle of conferred powers (Article 5(2) TEU).

The subsidiarity principle establishes that the EU may only act if two criteria are met:

- (1) the action cannot be sufficiently achieved at Member State level (i.e. “comparative efficiency test” or negative criterion) and
- (2) the action can be better achieved at EU level (i.e. “added value test” or positive criterion) (European Commission 1992; Oppermann et al. 2011; Calliess/Ruffert 2011).

As to the first criterion, the Commission has argued that the test would assess whether Member States had the necessary means at their disposal to achieve the end. According to Calliess/Ruffert, this does neither imply that the national measures need to be harmonised nor that Member States need to exercise their powers – it is sufficient that they would have the means to exercise their powers (Calliess/Ruffert 2011). The European Parliament even stated that the EU was only entitled to act if there was a European interest at stake and if equality or competition were threatened.

While the wording of the Article suggests that both criteria need to be met, the ECJ often only elaborates on the second criterion or automatically affirms the first criterion when the second criterion is fulfilled (Oppermann et al 2011; Calliess/Ruffert 2011). Hence, there is no established understanding of the first criterion. This approach might potentially undermine the subsidiarity principle in allowing for EU action, even when Member States are in the position to achieve the objective concerned.

According to the Commission, the second criterion should assess the effectiveness of EU action as compared to non-action (European Commission 1992). In contrast, Calliess/Ruffert argue that the test should also compare the benefits of additional integration with the costs associated with the loss of competences of Member States. In practice, however, the ECJ has not elaborated on its assessment of the second criterion in detail (Calliess/Ruffert 2011).

5.2 Enforcement of the subsidiarity principle

The Subsidiarity Protocol to the Lisbon Treaty envisages two procedures for controlling the application of the subsidiarity principle.

First, national parliaments have the possibility to exercise an **ex ante control** when checking draft legislative acts of the EU (Protocol No 2, Article 2(6)). The Protocol also sets out that the draft acts should contain a detailed reasoning explaining how the act complies with the principle of subsidiarity. National parliaments are allowed to issue reasoned opinions with

certain legal effects if they are convinced that the draft act does not comply with the principle.

This procedure has been increasingly (in absolute numbers) used: the Commission received 88 reasoned opinions in 2013, compared to 64 in 2011 (European Commission 2012; 2014). These were issued by parliaments from almost all Member States (the most active parliament being the Swedish Riksdag) and cover a wide range of legislative proposals.

With respect to climate and energy policies, national parliaments issued reasoned opinions in 2011 on the proposed changes to the energy taxation directive (Bulgaria and Spain) and on the energy efficiency directive (Finland and Sweden). However, the threshold (18 votes of national parliaments) to trigger the so-called “yellow card”, which would oblige the Commission to review the draft act, was not met (European Commission 2012).

Second, compliance with the principle of subsidiarity can be subject to **ex post judicial control** by EU courts, triggered by Member States, national parliaments or the Committee of Regions (Protocol No 2, Article 2(8)). So far, **the ECJ seems to have been reluctant to declare a violation of the principle**. This may be due to the fact that the assessment of the two criteria mentioned above is to some degree a political question that the ECJ is hesitant to answer. The ECJ rather seeks to grant a certain leeway to the EU legislator in this assessment (Bay Larsen 2013).³¹

A conceptual difficulty of the principle is that it is based on the objective of the measure. Some argue that if the EU declares that the objective is the establishment of a common framework EU action will always be more effective (Oppermann et al. 2011). On the other hand, one can also argue that establishing a common framework cannot be considered as an end in itself, but that EU action should be justified with more substantial arguments.

There are few cases based on the principle of subsidiarity, and mostly the principle has been rather invoked as a **supporting argument** to substantiate their reasoning e.g. next to the principle of proportionality or wrong legal basis. In no case has the ECJ based its judgement on the principle to annul a legislative act (Bay Larsen 2013).


While there have been a few cases concerning environmental policy measures³², no claims have been brought forward in the area of climate and energy policy on the grounds of the subsidiarity principle.

5.3 The subsidiarity principle and centralisation/decentralisation

By its very nature, the principle of subsidiarity aims to ensure decentralisation where it is effective. As such, it has been invoked by Member States and national parliaments to prevent the EU from taking legislative action in the field of climate change and energy policy (see above). However, these attempts have shown limited to no results. The enforcement of

³¹ C-176/09, Luxembourg v EP and Council, para 35.

³² See e.g. C-377/98, Netherlands v Parliament and Council, Case T-31/07, Du Pont de Nemours and Others V Commission; Case T-526/10, Inuit Tapiriit Kanatami and Others v Commission



the principle has proven difficult, also for other policy areas. Neither the *ex ante* control by national parliaments nor the *ex post* review by the ECJ have ever led to the review of EU legislation on the grounds of the subsidiarity principle.

Various factors explain this track record:

- First, the principle is vague and does not give clear indications on how to assess the two criteria.
- Second, whether an objective could potentially be sufficiently achieved at Member State level is difficult to determine.
- Third, the ECJ has been hesitant to critically review the assessment by the Commission with respect to subsidiarity, granting a high degree of discretion to the legislator.


Additionally, some authors argue that for environmental issues there is an inherent presumption against the principle of subsidiarity. They stress that especially for the field of climate change mitigation the transboundary nature of environmental problems causes a presumption for centralisation of legislative action (van Zeben 2014). Even for purely local environmental problems, the EU could argue – according to these authors – that “heterogeneous responses to local environmental problems could result in potential trade barriers and thereby disrupt the internal market” (van Zeben 2014 p 419; cp. de Sadeleer 2012 p 65). Finally, even for areas where presumably Member States would be better suited, the Commission can define the objective of a measure so as to favour action at EU level (Oppermann 2011).

Given this lack of effective use of the principle, one can argue that in practice the subsidiarity principle has not developed the strength to achieve or preserve decentralisation of legislative action in the EU so far. On the other hand, it is difficult to assess to what extent the inclusion of the principle in the TEU has implicitly encouraged more decentralised action on climate and energy policy, or has at least been an obstacle for further centralisation. For instance, the mere fact that the Commission needs to provide reasoning on subsidiarity in the impact assessment of legislative proposals might have “the effect that sincere additional attention is given to these issues” (Bay Larsen 2013, p. 6).

The new Juncker-Commission appears to be comparatively hesitant regarding new environmental initiatives – indicating a deregulatory agenda referring to the principles of subsidiarity and proportionality. This might have been driven by some players within the EU Commission, but also by pressure towards decentralisation in countries like the Netherlands or the UK (Baldock 2014). At the time of writing, there were no indications, however, for radical changes of direction in the field of climate action.

5.4 Conclusions

While the subsidiarity principle underlines the importance of Member State autonomy and is in itself a manifest of the struggle between autonomy and integration, it does not lend itself as an instrument to structure the discussion when assessing the usefulness of centralisation



or decentralisation in climate policy. Furthermore, legal practice shows that it is too broad and vague to be a decisive instrument to drive decentralisation or a decisive obstacle to centralisation. While certain interpretations of the instrument could be more beneficial towards decentralisation than others, the principle (and its test) would need to be set out more clearly to be operationalised. It could and has been used defending decentralised approaches – it will, however, in current practice not suffice by itself to make the case.

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7 Interviews

7.1 Single Interviews

A number of tailored interviews were conducted by Ecologic Institute:

Baldock, David. 2014. “Decentralisation/Centralisation”. Interview. Personal archive: Ecologic Institute.

Mehling, Michael. 2014. “Overlaps Climate and Energy Policies” Telephone interview. Personal archive: Ecologic Institute.

Oberthür, Sebastian. 2014. “Overlaps Climate and Energy Policies” Telephone interview. Personal archive: Ecologic Institute.

Sander, Antina. 2014. “Decentralisation/Centralisation” Telephone interview. Personal archive: Ecologic Institute

7.2 Interview Series

IVM integrated a number of questions on emissions trading and centralisation in its interview series (personal archive: Ecologic Institute). This interview series and its general results will be referred to as “IVM 2014”.

As far as single statements are quoted, they are referred to with the name of the interviewee (e.g. Burke 2014). The following experts were interviewed:

Blachowicz, Andrzej (Climate Strategies)

Bolesta, Krzysztof (Environmental Ministry Poland)

Burke, Tom (E3G):

Burny, Maciej (Polish Electricity)

Deblock, Sarah (International Emissions Trading Association - IETA)

de Grandpre, Juliette (WWF Germany)

Drummond, Paul (University College London - UCL)

Egger, Alex and Danny Croon (Eurofer)

Hömann, Roderik (Wirtschafts-Gesellschaft Stahl)

Jones, Haydn (Environment Agency England)

Kühleis, Christoph and Hanna Arnold (German Emissions Trading Authority)

Limbrick, Andy (UK Energy)

Matthes, Felix (Öko-Institut)

Meadows, Damien (DG Climate Action European Commission)

Michalak, Julia (Climate Action Network (CAN) Europe)

Rieseberg, Sarah (arepo consult)

Scott, Jesse (Eurelectric)



Söker, Meike (German Ministry for the Environment – BMUB)

Stockiewicz, Marcin (Client Earth)