CECILIA 2050
OPTIMAL EU CLIMATE POLICY

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

The Role of Law and Institutions in Shaping European Climate Policy

Institutional and legal implications of the current climate policy instrument mix

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LIST OF ABBREVIATIONS

BAT	Best Available Technology
BMU	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment)
BMWi	Bundesministerium für Wirtschaft und Technologie (Federal Ministry for Economics and Technology)
CCC	Committee on Climate Change
CCL	Climate Change Levy
CDU	Christlich Demokratische Union (Christian Democratic Union, German party)
CJEU	Court of Justice of the European Union
CSU	Christlich Soziale Union (Christian Social Union, German party)
DECC	Department for Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DEHSt	Deutsche Emissionshandelsstelle (German Emissions Trading Authority)
DG	Directorate-General
EAP	Environmental Action Programme
ECCP	European Climate Change Programme
ECJ	European Court of Justice
EEA	European Environment Agency
EEC	Energy Efficiency Commitments
EEG	Erneuerbare Energien Gesetz (Renewable Energy Sources Act)
ETS	Emissions Trading Scheme
EU	European Union
EUA	European Union Allowance
FDP	Freie Demokratische Partei (Free Democrats or Liberals, German Party)
GG	Grundgesetz (German constitution)
GHG	Greenhouse gas
KASHUE	Krajowy Administrator Systemem Handlu Uprawnieniami do Emisji - National Administrator of the Emission Allowance Trading System

KOBiZE	National Centre for Emission Management
MEPs	Members of European Parliament
MWh	Megawatt hour
NAP	National Allocation Plan
NFFO	Non-Fossil Fuel Oblications
NFOŚiGW	National Fund for Environmental Protection and Water Management
NGO	Non-governmental organisation
Ofgem	Office of Gas and Electricity Markets
PiS	Law and Justice Party, Poland
PLN	Nowy polski zloty (Polish currency)
PO	Civic Platform Party, Poland
PSL	Polish People's Party
RE	Renewable Energy
RNE	Rat für Nachhaltige Entwicklung (German Council for Sustainable Development)
RO	Renewable Obligation
SNP	Scottish National Party
SPD	Sozial-demokratische Partei Deutschland (Social Democrats, German Party)
SRU	Sachverständigenrat für Umweltfragen (German Advisory Council on the Environment)
UBA	Umweltbundesamt (Federal Environment Agency)
WBGU	Wissenschaftlicher Beirat Globale Umweltfragen (German Advisory Council on Global Change)

Executive summary

This report provides a conceptual, a legal and an institutional overview of the European Union as well as three Member States – Germany, Poland and the United Kingdom – to highlight prominent regulatory approaches. The three Member States were chosen for their contrasting characteristics: they represent different legal systems (civil law vs. common law), different approaches to governance (centralised state vs. federal state), and different historical attitudes towards certain regulatory approaches (e.g., market based instruments). Besides arguably differing in their overall approach to climate policy (e.g., progressive vs. cautious), they have chosen different instruments with which to accomplish EU climate and energy provisions (e.g., feed-in tariffs vs. quota system to achieve renewables targets). Lastly, while the United Kingdom and Germany are "old" Member States, Poland is one of the "new" Member States of the EU.

With its diverse membership and unique supranational governance framework, including a sophisticated distribution of powers and decision-making process, the EU has seen remarkable developments in the choice of instruments for its climate policy mix. Initially opposed to market-based instruments for climate mitigation, for instance, it has turned to emissions trading as a central policy for GHG mitigation in key economic sectors.

In Germany, the subnational level plays an important role in shaping climate policy. From a national perspective, this can cause challenges with respect to achieving the most efficient solution (e.g., regarding infrastructure). The introduction of a new regulatory approach like the emissions trading scheme triggered a considerable number of court cases over claimed infringements, e.g., of constitutional rights.

Poland, as a new member state, was not involved in much of the decision-making process that led up to many climate related directives it had to transpose over the past few years. Implementation challenges arose also in the face of low political support for ambitious climate protection, leading to a number of legal conflicts, e.g., between the Poland and the EU.

The UK has a comparatively long history in using market-based instruments. This was reflected also in its climate policy choices, especially in the early stages. Distinct features are also the often innovative and experimental character of policy instruments, and the rather economistic focus on cost-effectiveness.

In light of this diversity among (and evolution of) climate and energy policy approaches in the respective countries, the work package extracts certain trends and patterns. Policymakers can be advised to take these aspects into consideration:

- Economic theory provides useful criteria such as environmental and cost-effectiveness to guide the choice of climate policy instruments. In practice, however, such abstract criteria

play a limited role only, and need to be complemented by political, legal and institutional considerations to understand real-life instrument choices.

- Using new regulatory approaches can trigger legal conflicts. The settlement of such conflicts comes at economic and possibly political cost and can delay implementation of a regulation. On the other hand, the resulting court rulings can provide clarity for future regulation as they define the new approaches' boundaries and options.
- Depending on a government's administrative divisions, a mix of different entities (e.g., ministries) can be responsible for different parts of a policy – this is particularly true for climate policy, as it is so broad in scope. Such splits in competencies can lead to institutional conflicts that impede the pace and coherence of implementation of national policy goals or EU directives.
- The subnational level is essential for implementing regulations in some Member States.
- Procedural considerations are important - the way regulations are passed (e.g., majority vote instead of unanimity) can impede the political will to bear political or economic costs, e.g. of implementing an EU directives.

1 Introduction

1.1 Background

When political decision makers choose policy instruments for climate change mitigation, they can take recourse to a diverse portfolio of policy instruments and be guided by a complex array of criteria, interests, and constraints. Economic theory and other academic disciplines help frame available instruments and provide valuable insights on the abstract criteria which could determine both the selection of individual instruments and their arrangement in an optimal policy mix (Görlach, 2013). In a world devoid of historical coincidence, irrational preferences, and widely diverging interpretations of the objectives and priorities of climate change policy, these criteria would likely provide a reliable explanation or predictor of instrument choice processes. In the real world, however, experience has shown policy makers to also be guided by many other motivating factors, suggesting the utility of an empirical perspective on existing instrument portfolios to complement the analytical approach prevalent in most existing literature.

In this context, prior legal and institutional[1] frameworks are an important determinant of policy decisions. Existing rules, principles and doctrines setting out the behavioural parameters – notably the rights and duties – of public and private actors as well as the objectives of public policy create a densely occupied landscape within which instruments for climate change mitigation need to operate. Failure to ensure the compatibility of new instruments with their regulatory context will not only compromise their ability to function, but may also threaten their very admissibility as a matter of law.

A subtler role is exercised by institutional structures, which comprise informal manifestations of social order, such as culture, habits, and customs, as well as formal organisations, such as governmental or intergovernmental bodies, and their own internal mandates, procedures and dynamics. Although the influence of institutions on policy decisions is less obvious than the binary permissibility standard of most legal rules, they still have a profound impact on the feasibility and appeal of contending policy options and their implementation.

In the European Union (EU), multiple layers of legal and institutional factors converge to render climate policy choices even more complex than at the purely national level. International commitments, frequently entered simultaneously by the EU and its Member States, provide a first layer of normative constraint; constitutional frameworks at the supranational and national level define the parameters of legislative action and administrative enforcement, setting out a sophisticated division of responsibilities between

[1] The term “institution“ is used here to denote a structure or mechanism of social order and cooperation governing individual or collective behaviour in pursuit of social purposes. A common feature of institutions is their permanence, that is, their ability to transcend individual actors, decisions, and interests.

the EU and the Member States. Accordingly, while climate change mitigation policies are increasingly decided at the European level, often also determining the choice of policy instruments, these decisions are, in turn, formed by a collective expression of political will in the EU legislature and thus also reflect legal and institutional forces prevailing in the Member States. Finally, both the EU and the Member States already possess highly developed bodies of substantive law and formal institutions, all of which define the space within which climate policies take shape and operate.

Complementing previous deliverables under work package (WP) 1 of the CECILIA 2050 project devoted to the assessment of instrument portfolios, this report forms an output of WP2 and highlights the role of legal and institutional factors that can influence the shape of climate policy instruments in the EU and three Member States with different regulatory traditions and institutional preconditions: Germany, the United Kingdom, and Poland. Objectives, methods and thematic scope of this report are outlined in greater detail below.

1.2 Objectives

As its central objective, the CECILIA project aims to conduct qualitative and quantitative assessments necessary for designing an optimal mix of policy instruments to place the EU on the right pathway towards its planned emission reductions. In this context, the project seeks to enhance economic mainstream analysis inter alia with involvement of non-economic disciplines such as law and political science. Furthermore, the geographic scope of the participating research groups helps yield greater insights from the national country level, hence strengthening the comprehensiveness of the analysis.

In this context, WP2 aims at identifying the most important factors influencing the choice of policy instruments for climate change mitigation, and the performance of these instruments within the *existing* mix of policies and measures at the EU and Member State level, all with a view to providing a backdrop for discussions about the *future* instrument mix.

As mentioned earlier, this report reflects research under Task 2.9 of WP2 focuses on the cross-cutting issue of the legal and institutional framework. It will make explicit the relevant institutions and laws by looking at the history and present situation of the EU and three selected Member States. The task will consider different objectives of law and regulatory approaches, constitutional boundaries and fundamental rights, as well as different regulatory planes. It will highlight where legal and institutional tensions have arisen. This will help to identify hurdles and dynamics relevant when designing future climate policies.

1.3 Method and Selection of Member States

The research was based on desk-research as well as interviews. As for the structure of the report, a theoretical foundation is laid out before elaborating on the EU as well as three selected countries: Germany, Poland and the United Kingdom. These countries were chosen as they represent different legal systems (civil law and common law), different approaches to

governance (unitary state and federal state), and different attitudes towards certain regulatory approaches (e.g. market based instruments).

Furthermore, the covered countries do not necessarily share the same perspectives on climate policy in general (progressive vs. cautious), and they have chosen different policy approaches under key EU provisions (e.g., feed-in tariffs vs. quota to promote renewable energy sources). In all cases, there are often complex underlying dynamics that need to be considered in order to better understand the context. Last but not least, the chosen countries represent "old" Member States, which have been involved in the negotiation and adoption procedures underlying all relevant climate legislation, as well as new Member States, which have not taken part in all relevant legislative processes at the EU level. All covered states seem to be very vocal and influential with respect to the development of climate and energy policy at the EU level, however.

For the foregoing reasons, a better understanding of the selected jurisdictions can provide important information when thinking about a future policy mix. It could, however, be interesting to broaden the analysis in an ensuing research project to also include other Member States or go into even greater depth with respect to the included countries.

1.4 Focus and Limits of the Study

A number of key structures and developments relevant to climate policy in the EU and the three Member States will be identified within the scope of this report. The chapters on the EU and the individual Member States each outline the broader governance and more specific climate policy framework before shifting attention to key policies. In addition, the country profiles elaborate on the regulatory tradition as well as key conflicts and challenges, especially with respect to the above mentioned key policies.

However, the task does not provide a comprehensive overview and evaluation of all relevant climate legislation, policies and court cases in each jurisdiction, as that would have exceeded the limits of this report. Instead, the report focuses on particularly relevant instruments, i.e. carbon pricing / emissions trading and the promotion of renewable energies (i.e. feed-in tariffs and quota systems). As legal disputes of considerable relevance are often settled by the courts, and the highest and constitutional courts tend to have the greatest weight in shaping climate policy developments, the report focuses on prominent court cases before such high-level courts. Any decision by these courts can deliver interesting information about the boundaries and freedoms of the legislature when designing legal provisions.

In democratic systems, laws and regulations are the result of and shaped by a broader political process including the different parties, stakeholders and interest groups and also the broader public. Therefore, the report also highlights aspects of public opinion and distribution of political power amongst different parties. When considering this information, however, it should be born in mind that public opinion and political constellations may change over time.

2 Parameters of Instrument Choice: Conceptual Approaches and the Role of Law and Institutions

Building on the foregoing distinction between the canon of widely recognised conceptual criteria for instrument choice in climate change policy and the frequently neglected legal and institutional dimension, the following section discusses both categories in greater detail. Starting with a simplified classification of available policy instruments, the first subsection reiterates the standard criteria which guide the understanding of optimal climate policies in the CECILIA 2050 project. Rather, this paper focuses on the legal and institutional factors discussed in the second subsection, which proposes a set of questions to focus on in the country case studies.

2.1 Conceptual Criteria of Instrument Choice

Decision makers seeking to address the causes and effects of climate change can take recourse to a portfolio of policy instruments, which can be broadly categorised as economic or market-based instruments that address market externalities by incorporating – at least to a certain extent – the external costs of production or consumption in the price (de Serres et al. 2010),[2] and non-market based instruments that impose obligations or encourage and discourage certain behaviour through non-monetary incentives (Görlach 2013, Annex I). In practice, these instruments are applied alone or in varying combinations to different sectors, such as electricity generation, transport, buildings, and industry (Krupnick et al. 2010, p. 8-9).

Table 1: Instruments for Climate Change Mitigation[3]

Market-based Instruments	Non-Market Based Instruments
Pricing and Support Instruments *(e.g., taxes; subsidies; public procurement; feed-in tariffs)*	Command-and-Control Regulation *(e.g., performance and technology standards)*
Quantity Rationing with Trading (e.g., cap-and-trade and baseline-and-credit systems; green certificate markets)	Suasive Instruments (e.g., education; public information campaigns; reporting and labelling; voluntary agreements)

Source: **based on Görlach 2013**

Given the diversity of available instruments, economic theory and other academic disciplines have proposed various criteria to guide and justify selection processes between contending

[2] In colloquial usage, price-based instruments are often categorized separately from market-based instruments, although strictly speaking both instruments seek to address a market failure and hence are generally classified as market-based instruments in environmental economic literature.

[3] For simplification, the number of categories has been reduced, and some instruments reassigned. For a full list and explanation, see Görlach, 2013: Annex I.

approaches to climate change mitigation. A subset of widely acknowledged criteria have evolved into a standard canon used to evaluate individual policy instruments, summarised in the following simplified table (based on the compilation in Görlach 2013).

Table 2: Criteria of Policy Choice

Criterion	Definition
Effectiveness	How well does the policy instrument meet its intended objective?
Cost effectiveness	Are there other policies which can achieve the objective at a lower cost?
Feasibility	How easy is the policy to adopt and implement, what are potential side effects and real-life constraints?

Source: based on Görlach 2013

These criteria also form the basis for the optimality assessment of both existing and possible future climate policies in the CECILIA 2050 project, where the objectives underlying application of the first and second criteria are drawn from EU legislation setting out specific mid- and long-term greenhouse gas mitigation targets (Görlach 2013). Yet as the third criterion – practical feasibility – already implies, implementation of a policy instrument also will invariably depend on "real-life constraints", a broad category which, *inter alia*, includes aspects of political acceptability, administrative capacity, and other considerations. It is broadly framed to encompass a variety of aspects which determine feasibility beyond the criteria of effectiveness and cost-effectiveness, and one of these – political acceptability – is arguably the most decisive determinant of any policy outcome.

Unlike effectiveness and cost-effectiveness, however, such "real-life constraints" cannot be purely evaluated at an abstract conceptual level, instead requiring an assessment of the actual context of political decision making. Legal and institutional considerations form a central part of this context, and are the overall focus of this paper. An attempt to frame and categorise such legal and institutional factors affecting instrument choice for climate change mitigation is made in the following subsection.

2.2 Instrument Choice and the Role of Law and Institutions

Legal and institutional considerations play an important role in the selection of instruments for climate change mitigation policy. Not only will the specific legal and institutional context of any given jurisdiction directly affect how such policies operate, determining their viability and thereby also their relative appeal compared to other instruments, but it also defines the mandates, rights, and duties of actors engaged in the policy making process, as well as the applicable procedures. A policy instrument chosen without adequate consideration of such parameters is less likely to be adopted and, if adopted, likely to be less effective – both in terms of achieving climate change mitigation objectives as well as doing so at least cost – than instruments that are more consistent with their legal and institutional context. Weak administrative capacities, legal challenges, and unclear mandates can undermine or delay the

practical implementation of the most effective and efficient instrument in theory, as the example of quantity rationing through an emissions trading system has repeatedly shown.

As already mentioned, however, assessing the legal and institutional context of political decision making cannot occur at an abstract conceptual level, and instead requires an inquiry into the relevant legal and institutional structures within an actual jurisdiction. This need for a survey of existing regulatory arrangements and institutional configurations may also explain why these criteria are rarely applied in mainstream literature on instrument choice, especially at any level of detail.

Although determination of the influence of legal and institutional considerations in policy choice processes can only occur against the background of a specific legal and institutional context, it is possible to narrow down the extensive range of conceivable factors with a number of broader categories. Without claiming comprehensiveness, "real-life constraints" arising from the legal and institutional context can affect the selection of climate policies in a number of different ways, outlined in the following table.

Table 3: Legal and Institutional Context of Instrument Choice

Factor	Context	Definition and Examples
Objectives and Mandates	Legal	**Mitigation targets:** Mitigation targets and other relevant goals enshrined in existing legislation may have an effect on the selection of policy instruments for their achievement, and also on the stringency and level of ambition with which these instruments are implemented. *Example: Overarching target of reducing greenhouse gas emissions in the EU by 20% by 2020 compared to 1990 levels, framed as an absolute emissions cap.* **Legal mandate:** In multilevel governance systems, jurisdictions at a lower level in the normative or institutional hierarchy may be required to implement specific measures under a legal mandate that is binding by virtue of constitutional precept or voluntarily surrendered sovereignty, for instance in an international treaty or supranational organization. *Example: EU legislation in the area of climate change mitigation frequently defines not only objectives and principles, but also instruments that Member States are required to implement domestically.* **Competing objectives:** Objectives related to social, economic, energy and other policies vested in law, including constitutional law, can promote or impede the adoption of certain policy instruments, and may need to be reconciled or balanced with the objective of climate change mitigation. *Example: Expanding electricity from renewable energy sources while ensuring free competition among energy sources in a liberalised market.*
	Institutional	**Institutional mandate:** Purpose for which an institution was established and its mission; depending on its political weight and influence, the existence of an institution mandated with promoting climate change mitigation will generally facilitate the adoption of relevant policies, and favour more stringent instrument categories. *Example: Appointment of a designated Commissioner or creation of a separate Directorate General or department for climate change.*
Values, Principles and Culture	Legal	**Legal system:** Legal tradition – common law or civil law – to which a jurisdiction belongs, notably with a view to the role of the judiciary and judicial precedent. *Example: Continental Europe largely follows the civil law tradition, whereas the*

		United Kingdom applies a common law system.
		Regulatory tradition: Different jurisdictions have traditionally favoured different instrument categories to address environmental challenges and risks. Some jurisdictions have been early adopters of deregulated markets and economic instruments for different policy areas, potentially increasing their experience with and openness for market-based approaches to climate change mitigation. *Example: With few exceptions, environmental law in Germany has been traditionally based on command-and-control regulation; experience with market-based instruments was limited until the introduction of the EU emissions trading system (EU ETS), initially giving rise to much opposition regarding the instrument choice.*
	Institutional	**Political culture:** A polity may be more or less likely to support regulatory constraints based on scientific recommendations. Likewise, the debate around instruments may be more consensual or confrontational, and some instruments may be viewed unfavourably by a majority of the public. *Example: In the wake of the financial and economic crisis, instruments based on markets met with less support than previously.* **Institutional dynamics:** Institutions are subject to different internal dynamics. Some institutions are prone to procedural inertia and preoccupation with formal over substantive priorities; weak institutional standing, weak leadership or cumbersome operating procedures can impede the effective and efficient achievement of institutional mandates. *Example: With an enlarged membership and growing internal differences of opinion on the pace and stringency of climate change mitigation action, the EU has been considered by many a less effective actor in international and domestic climate policy than in the past.*
Substance and Process	Legal	**Climate change law:** Existence of a designated climate change law can be an indication of broad support for climate change mitigation measures, and will generally set out guiding objectives, principles, and mandates for substatutory regulations or decrees, which in turn set parameters for the selection of subsequent instruments. Conversely, a climate change law may also predetermine instrument choices or occupy the space for new policies. *Example: The UK Climate Change Act of 2008 sets out a broad framework for mitigation of greenhouse gas emissions, including several policy instruments.* **Complementary climate legislation:** Different laws or regulations in the area of climate change mitigation can interact both synergistically or in detrimental ways. As with a central climate change law, moreover, previously existing measures can pre-empt certain instrument options and occupy a given space, thereby affecting decision making processes. *Example: Measures to promote renewable energy or energy efficiency in sectors also covered by a greenhouse gas emissions cap can render the cap less effective, as reductions induced through such measures displace emissions under the cap and allow them to occur elsewhere.* **Fundamental rights and doctrines** as the basis of or constraint on climate legislation**:** Instruments meant to constrain emitting behaviour can violate the established balance between individual rights and public concerns, and impinge on fundamental freedoms afforded to natural or legal persons. Likewise, certain fundamental rights and doctrines may call for a minimum level of climate change mitigation efforts. *Example: Under the German constitution, individuals enjoy the right to use property or exercise the freedom of occupation. Policies designed to constrain greenhouse gas emitting behaviour may impinge on these fundamental rights and therefore be in violation of the law.* **Competing rules in other areas of law:** Policy instruments adopted for climate

		change mitigation can also come in conflict with rules and principles in other legal regimes. Because decision makers will seek to avoid such conflicts and stay within the parameters of legality, such potential conflict points can also influence instrument choice processes. *Example: State aid rules in force at the EU level can preclude the implementation of certain instruments in the Member States geared towards providing support to specific activities or sectors, such as subsidies for clean technology development and implementation*
	Institutional	**Level of authority:** Authority in multidimensional governance systems is frequently distributed among various institutional levels based on a carefully defined division of tasks and responsibilities. In some federal jurisdictions, for instance, authority will rest with a central power (such as the European Union or a central government) unless otherwise specified, whereas in others, it remains with decentralised entities (such as Member States, federate states, or municipalities). Often, legislative and enforcement responsibilities are assigned to different levels of authority. *Example: In the EU, the subsidiarity principle enshrined in the establishing treaties specifies that Member States have the default power to legislate and enforce legislation; increasingly, however, legislative powers in the area of climate change mitigation have been delegated to the EU, leaving only the domestic implementation to Member States.* **Relevant procedures:** Different legislative procedures – for instance regarding voting majorities or involved participants – may be required for different instruments, influencing the feasibility of different policy options. *Example: Under EU primary law, tax-related instruments for environmental policy purpose require unanimity in the Council, whereas other instruments – such as emissions trading – merely require a qualified majority.*

Any attempt to capture the many ways in which legal and institutional considerations can potentially affect political decision making processes related to climate change mitigation will by necessity remain incomplete. Accordingly, the foregoing enumeration of relevant factors is to serve for a heuristic orientation. Only an analysis based on actual case studies can yield a more accurate impression of the considerations actually influencing instrument choice in different jurisdictions, including any broader patterns and recurring observations. Therefore, this WP includes three national case studies and an analysis of climate mitigation policies at the level of the European Union.

3 European Union

3.1 General Structure of the European Union

Modern Europe has been profoundly shaped by the integration project that gave birth to the current European Union (EU). Originally started as an effort to promote peaceful cooperation following World War II, the EU is the latest stage in an evolution process launched by a small group of West European states[4] with the creation of the European Coal and Steel Community (ECSC) in 1951 and the European Economic Community (EEC) and European Atomic Energy Community (EURATOM) in 1957. The very premise of the EU is thus closely related to energy policy, although environmental considerations were not prevalent at the time. Each subsequent phase on the European integration process – from the Single European Act (1986) to the treaties of Maastricht (1992), Amsterdam (1996), Nice (1999) and Lisbon (2007) – has tended to strengthen the weight and influence of the EU.

As an international organization with far-reaching competences,[5] the EU has fostered the harmonization of policies and established a single market that promotes the free movement of people, services, capital, and goods – including, inter alia, energy. Although Member States retain all powers not explicitly conferred to the EU, the latter has been afforded exclusive or shared competence to enact policies in a growing number of areas. Additionally, it can support or supplement national efforts by the Member States in those areas where it has not been given express powers. As a result, the legal and institutional landscape across Europe has become increasingly determined by policies originating in Brussels.

When seeking to understand the EU and its policies, however, it is essential to bear in mind that this alliance of twenty-eight sovereign states is home to roughly 500 million people embracing highly diverse political and cultural backgrounds, with per capita gross domestic products ranging from €82,650 in Luxembourg to €5,160 in Bulgaria nominally (Eurostat 2012a). Even in areas where the EU has been endowed with shared or exclusive competences, the elaboration of policies is still largely driven by the Member States. Member State positions and priorities are channeled through the Council of the European Union, in which some Member States take a very active role in shaping European policy development.

Essentially, the Council brings together the national ministers responsible for a particular issue to decide on legislation and political strategy. Matters of overarching significance – for

[4] These states were Belgium, France, Germany, Italy, Luxembourg and the Netherlands.

[5] Given the genuine legislative powers conferred by the Member States through the establishing treaties and subsequent reforms, the EU is often described as a "supranational organization" or an organization with competences *sui generis*, see already Article 9 of the Treaty establishing the European Coal and Steel Community, Paris, 18 April 1951; see also ECJ, Case 26/62, *NV Algemene Transporten Expeditie Onderneming van Gend en Loos v Nederlandse Administratis der Belastingen*, Judgment of the Court of 5 February 1963, [1963] ECR 1, Sec. B: "[t]he Community constitutes a new legal order of international law for the benefit of which the states have limited their sovereign rights"; for discussion, see Weiler (1981).

instance on the objectives and principles of the EU – are often adopted at the level of the European Council, which is the meeting of the Heads of State and Government. An influential role in setting the agenda is exercised by the Presidency of the Council, moreover, which is a rotating function held by the government of a single Member State for a term of six months, entailing the responsibility to prepare and chair Council meetings and be the contact point toward the other EU institutions. Since entry into force of the Treaty of Lisbon, moreover, the European Council has an elected President, affording greater continuity to its work (Schoutheete 2012, p. 48).

While the Council is often described as the main legislative body of the EU, common policies are generally adopted in a joint procedure with the European Parliament. Its currently 766 Members (MEPs) are directly elected every five years on the basis of proportional representation and tend to vote according to political allegiance rather than domestic positions. Currently, the majority of seats are held by conservative parties, ahead of social democrats, greens, liberals and other political caucuses.

Plenary decisions are prepared in a number of – standing and special – committees, where appointed rapporteurs elaborate the substantive position of the Parliament and suggest amendments to legislation proposed by the Commission and endorsed by the Council. Committees with particular relevance for climate and energy policy encompass e.g. the committees on “Environment, Public Health and Food Safety”, “Industry, Research and Energy”, “Internal Market and Consumer Protection” and “Transport and Tourism”.

Neither the Council nor the Parliament has the right to initiate legislation, however: this is an important prerogative of the European Commission, which is the executive arm of the Union. Although it consists of appointees from the Member States at the Commissioner level, it is designed to be independent of national interests. Aside from proposing legislation, the Commission is responsible for implementing decisions, upholding the establishing treaties, and managing general operations in the EU. It operates as a cabinet government, with currently 29 Members supported by professional staff. The Directorate-General (DG) for Climate Action, headed by Commissioner Connie Hedegaard, is a fairly new DG founded in 2010 to underline the importance of climate policy at the European level. Previously, the issue had been included in the portfolio of DG Environment. There are, however, other and usually larger DGs whose activities influence climate relevant policies, including the following: Internal Market and Services; Energy; Competition, Industry and Entrepreneurship; and Transport.

A further institution with substantial importance is the Court of Justice of the European Union (CJEU), consisting of the European Court of Justice (ECJ) and the General Court (formerly the Court of First Instance), which have issued several important decisions relevant to the implementation and enforcement of European climate and energy legislation in the Member States. As the judicial authority of the EU, the CJEU reviews the legality of contested acts taken by the EU institutions, ensures that Member States comply with obligations under primary and secondary EU law, and interprets EU law at the request of the national judiciaries.

An expanding institutional mandate, greater responsibilities, and new areas of integration have created a unique political dynamic in the EU that goes beyond a mere common denominator of national positions. Although multiple setbacks – including the current fiscal and economic crisis – have slowed the pace of European integration and at times raised questions about the rationale and *raison d'être* of the EU, this broader trend and underlying dynamic has never been fundamentally reversed. As the following section shows, this progressive dynamic also applies to climate change, an issue the EU has actively embraced to further its influence and political agenda.

3.2 Climate Policy in the European Union (the past and present)

While cooperation on energy issues dates back to the earliest stages of European integration (European Commission 1996), climate change did not become a relevant policy issue until the 1980s, when mounting scientific evidence led to a demand for policy responses. Both the global nature of climate change as well as the desire to maintain uniform policy requirements across Europe provided a justification for Community action, with the shared competence on environmental protection[6] providing a basis for relevant EU policies and engagement at the international level. Despite the legal basis, early efforts were largely limited to programmatic statements and informal coordination measures (Pallemaerts et al. 2006). The Environment Council, for example, already agreed in 1996 to limit global warming to 2 degrees Celsius above pre-industrial levels – a target which has since been internationally endorsed.[7]

As the EU and its Member States entered more specific commitments at the international level, however, notably under the United Nations Framework Convention on Climate Change (UNFCCC) and its subsequent Kyoto Protocol,[8] recognition grew that a more comprehensive European strategy to limit greenhouse gas emissions was required.

Consequently, in early 2000, the Commission launched a European Climate Change Programme (ECCP) (European Commission 2000a) setting out a legislative roadmap with measures on energy labelling and efficiency requirements, energy services, renewable energy sources, energy taxation, research funding, and emissions trading. The 6th Environmental Action Programme (6th EAP) (Decision No. 1600/2002/EC) identified climate change as one of the four key environmental priorities, outlining priority actions *inter alia* for greenhouse gas (GHG) mitigation in different sectors.

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[6] Originally conferred with the Single European Act of 1987, this shared competence is currently set out in Articles 191-193 of the Treaty on the Functioning of the European Union (TFEU), which also explicitly mention "combating climate change" as one of the objectives of EU environmental policy.

[7] Under the UNFCCC, Parties even agreed to limit global warming to "below" 2 degrees Celsius.

[8] Under the Kyoto Protocol, the European Union bound itself to a reduction of greenhouse gases by eight per cent over 1990 levels by 2012. The EU signed the Treaty in 1998, it ratified it in 2002, and the Protocol entered into force in 2005.

But emission trends in the EU did not reverse following the enactment of these measures (Eurostat 2005). Energy policy remained focused on market liberalization and the creation of an internal market for gas and electricity, with limited consideration of the climate impacts of energy production and use. Tensions between measures for climate protection and other areas of law also prevailed in the area of state aid control and supervision, where the European Commission closely scrutinised measures to promote renewable energy and other climate-friendly technologies under the strict rules on permissible subsidies (Meyer 2003). In 2007, the Commission responded with a proposal that would close the legal and institutional divide between climate change and energy policy (European Commission 2007). Overall, this integrated climate and energy package shifted more responsibility to the European level and also set out the overarching EU policy targets for 2020.[9]

In terms of mitigation ambition, EU climate policy efforts have compared favourably with those of other industrialised nations, earning Europe the reputation of a "climate leader" (Oberthür et al. 2008; Mehling et al. 2013). Notably, the EU was among the first jurisdictions to adopt binding targets for the medium term, despite the absence of corresponding international commitments. After initial hesitation, it has also actively pursued innovative policy instruments such as emissions trading and internal burden sharing (Schreurs et al., 2007). As with other areas of environmental policy (Jordan et al. 2012), climate policy across Europe has become increasingly determined at the level of the EU, including its legal and institutional ramifications. Yet while discussions to strengthen the existing policy framework and extend it beyond 2020 are already underway,[10] it has also become apparent that mobilizing past levels of support will become more difficult given the changing political dynamics in Europe. Furthermore, while passage of the initial energy and climate package was inspired by the general dynamic building up before the Copenhagen climate summit in 2009, this driver was lost when the summit failed to meet the high expectations.

Of the various actors engaged in climate policy formation, the European Commission and the Parliament have generally been considered progressive, entrepreneurial forces, despite

[9] These targets include: a firm and independent commitment to reduce greenhouse gas emissions by 20 per cent relative to 1990 levels, and to reduce emissions by up to 30 per cent if an international climate protection regime sets comparably ambitious targets for other countries; a mandatory target of 20 per cent for the share of renewable energy in the overall energy mix; a legally binding – albeit conditional – target of ten per cent for the share of biofuels in transport fuel; and an objective to reduce primary energy consumption by 20 per cent compared to projections for 2020 through improved efficiency.

[10] With its "Roadmap for Moving to a Competitive Low-carbon Economy in 2050" of 2011, the European Commission set out a pathway to decarbonize the European economy by the middle of the century, suggesting that the EU cut its emissions relative to 1990 levels by 40 per cent until 2030, 60 per cent until 2040 and 80 per cent until 2050 (European Commission, 2011a). An "Energy Roadmap 2050" adopted by the Commission that same year described five pathways to achieving greenhouse gas emission reductions of 80-95 per cent below 1990 levels by 2050, acknowledging different preferences and priorities among the Member States (European Commission, 2011b). Neither has seen progress in terms of actual legislation, however, despite repeated attempts to promote the agenda under recent Council Presidencies.

occasional internal disagreements (Barnes 2011; Burns et al. 2011).[11] Not unlike domestic governments, the European Parliament and Commission have seen growing efforts by organised interest groups to influence decision making processes (Woll 2007). Quantifying their respective role and impact on EU climate policy is difficult, although their growing influence is arguably reflected in the number and sophistication of relevant actors.[12]

Climate change has also become an issue of growing importance for the Council, where it even has attracted attention as a "high politics" issue in the European Council. As recent negotiations in the Council have shown, however, divisions between individual Member States are increasingly necessitating concessions or are altogether impeding progress on EU climate policy. Likewise, differences in ambition between the Member States holding the rotating Presidency of the Council will affect the legislative agenda and political dynamics of EU climate policy (Oberthür et al. 2011). Such disparities can be traced back to variations in the distribution of available energy sources, the economic structure and level of development, administrative capacities, and the efforts needed for achievement of climate commitments. What is more, national interests acquire particular weight in areas of shared competence such as climate change, where the domestic sovereignty of Member States clashes with the limited powers conferred to the European legislature, and a "consensus reflex" still dominates despite the formal permissibility of qualified majority voting (Wurzel 2012, p. 82). Smaller and politically less powerful Member States tend to gain disproportionate weight as a result of this *de facto* veto power (Zito 1999), and even acquire a *de lege* veto on decisions related to energy choice and fiscal matters under primary EU law.[13]

Member State positions tend to vary from issue to issue, rendering it difficult to declare any specific country a persistent leader or laggard on EU climate policy.[14] Over time, however, certain coalitions have emerged, with Northern and Western European countries traditionally

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[11] For instance, there have been recurrent differences between the Commissioner for Climate Action and the Commissioner for Industry and Entrepreneurship, or between the Parliamentary Committee on Environment, Public Health, and Food Safety, and the Committee on Industry, Research, and Energy.

[12] Various interests are affected by climate policy and seek to influence its formation. On environmental issues, important actors are the European Environmental Bureau (EEB), an umbrella federation of more than 140 environmental citizen groups, and Climate Action Network Europe (CAN-E) with 129 members in 25 European countries. Representing trade and labor industries are likewise several federations, such as the Confederation of European Business (BusinessEurope), the association of the electricity industry EURELECTRIC, and the European Trade Union Confederation.

[13] See Article 192(2) of the Treaty on the Functioning of the European Union (TFEU), OJ 2008 C 115/47, stating that "the Council acting unanimously … shall adopt (a) provisions primarily of a fiscal nature … (c) measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply."

[14] In academic literature, Member States are commonly grouped in "leaders", "laggards", and "swing states"; "leaders" are further categorized as "forerunners" or "pushers", with "forerunners" leveraging their freedom to pursue domestic climate policy ambitions, and "pushers" seeking to export their domestic standards and regulatory philosophies to the EU (Wurzel 2012, p. 89). Different styles of leadership have been identified by Gupta et al. 2001 as "structural", "directional" and "instrumental."

known for strong environmental policies (Liefferink et al. 1998)[15] also becoming advocates of an ambitious EU climate policy (Wurzel 2008). Meanwhile, several Southern European countries and – as had been widely predicted prior to their accession (Skjærseth et al. 2006) – new Member States from Central and Eastern Europe – e.g., Poland – have tended to oppose or delay some of the more ambitious policy options before the Council, citing weak administrative capacities, economic concerns, and energy security interests. Such roles can vary over time, however, with, e.g., Germany recently losing some of its earlier climate credentials,[16] and the United Kingdom, once considered a laggard on environmental policy, becoming a very active participant in the EU climate policy process (Wurzel et al. 2011).

With the entry into force of the Treaty of Lisbon on 1 December 2009, a new legal basis for energy policy was introduced in the Treaty on the Functioning of the European Union (TFEU). Aside from the more traditional objectives of ensuring the functioning of the energy market and ensuring security of supply, Art. 194 TFEU also expressly mentions the need to preserve and improve the environment and lists as further objectives the promotion of energy efficiency and energy saving and the development of new and renewable forms of energy, as well as promoting the interconnection of energy networks. Like environmental policy, measures related to energy had originally been based on a variety of provisions related to the common market and the approximation of laws. Insertion of an explicit legal basis in the Treaty now allows for an autonomous energy policy and a broad range of measures in the energy sector (Ehricke et al. 2009), and it remains to be seen whether the new legal basis will further improve the integration of climate and energy policy.

Altogether, EU climate and energy policy forms a prime example of multi-level governance, involving a complex distribution of powers and responsibilities between the European level and the Member States (Pallemaerts et al. 2008; generally Wallace et al. 2010).

3.3 Prominent Policy Choices

As described in the preceding section, climate policy formation in the EU is a sophisticated process that involves multiple agents and levels of decision making. Institutional and legal factors arguably play an even greater role in shaping decisions on climate change mitigation than at the national level. As a supranational organization with legislative and executive powers conferred by the Member States, the EU is by its very nature constrained by its legally vested mandate and the division of responsibilities between Brussels and the national capitals. Rules on voting procedures also affect policy outcomes in the EU, as do institutional dynamics within its bodies. Compared to domestic jurisdictions with often deeply established

[15] Following the enlargement of the EU in 1995, these progressive states have tended to include the "sextet" of Austria, Denmark, Finland, Germany, the Netherlands and Sweden.

[16] Not only has Germany, for instance, been a reluctant actor in the definition of emission standards for automobiles, its reliance on industrial manufacturing has also prompted the German government to abstain from efforts to strengthen European carbon pricing (see Sec. 3.3.1).

regulatory traditions, the body of rules constituting the *acquis communautaire* may be less determined by legal doctrines dating back decades or even centuries, even if the ECJ has already developed a substantial body of case law.

Instead, domestic idiosyncrasies and preferences find their way into policy choices by way of the voting behaviour and other forms of political influence in the Council and, to a lesser degree, in the Parliament and the Commission. Which Member State holds the Presidency of the Council at the time legislation is prepared and brought to a vote can therefore be as decisive as the substantive merits of the legislation. Development of policies and the control of their implementation is furthermore strongly dependent on the political vision of the responsible Commissioner and his or her respective power. Furthermore, different climate policies may affect sectors or activities that are of disproportionate importance to a specific Member State, as the automobile sector is to Germany, or nuclear energy to France. Because this introduces a high degree of contingency (especially in the legislative, but also in the administrative process), understanding the reasons behind a given policy choice must draw on a careful assessment of the particular circumstances and context of its adoption; aside from very broad trends, generalizations are largely impossible. The following sections highlight two case studies in which the EU faced a choice among contending policy options, and outcomes were also demonstrably influenced by the legal and institutional framework: carbon pricing and the promotion of renewable energy sources.

3.3.1 Carbon Pricing

One of the measures envisioned by the ECCP of 2000 was the introduction of emissions trading as a policy instrument to mitigate greenhouse gas emissions at reduced economic cost. After intense discussions with stakeholders, the European Parliament and the Council adopted a directive in 2003 that establishes a regulatory framework for trade in GHG allowances and introduces a price on carbon (Directive 2003/87/EC). Since 1 January 2005, operators of covered installations representing almost half of overall CO_2 emissions in Europe have been required to comply with obligations under the EU emissions trading system (EU ETS).[17] Creating the largest market for an environmental commodity in history, the EU ETS has become a central pillar of European efforts to mitigate GHG emissions.

But emissions trading was by no means always favoured as a policy instrument in the EU, making its unexpected and rapid ascendance to a "crown jewel" of EU climate policy (Wettestad 2005, p. 17) an insightful case study for the relevance of legal and institutional factors in the selection of policy instruments. In fact, Europe had been vocally opposed to market-based instruments during the international negotiations preceding the Kyoto

[17] Currently covered activities include electricity generation and other energy activities, several manufacturing industries (producing or processing ferrous metals and aluminum, mineral products such as glass and ceramics, certain chemicals, and pulp and paper), as well as aviation, see Directive 2009/29/EC, Annex I. Installations in these sectors are required to obtain a permit for their CO_2 emissions and must surrender a sufficient number of allowances each year to cover their emissions during the preceding year.

Protocol, only relenting when the issue threatened to derail progress due to insistence by countries such as the United States (Oberthür and Ott 1999).[18] Unlike the United States, where such instruments had been successfully deployed to reduce air pollution, Europe had not yet seen widespread use of market-based instruments for environmental protection; as a result, most decision makers in Brussels and in the Member States were either unfamiliar with, or openly sceptical of, environmental markets. Only a minority of Member States – notably in Scandinavia and the Benelux countries – had prior experience with market-based instruments or showed interest in their promotion (EEA 2005).

Still, carbon pricing was already being actively explored at the time as a means to internalise the social and environmental cost of GHG emissions. Progress with the liberalization of gas and electricity markets threatened to lower energy prices and thereby the incentive to invest in alternative energy sources and greater energy efficiency, prompting interest in policies that generate a price signal. At the same time, market-based instruments were receiving attention from a number of Member States and European bodies such as the European Environment Agency (EEA) as a suitable means to implement the legally vested polluter-pays principle (Article 191(2) TFEU), protect threatened public goods – such as the global atmosphere – and simultaneously achieve economic and social policy objectives (EEA 2005).

Because the use of fiscal instruments – such as fees and charges – to discourage polluting behaviour was already widely established across Europe, efforts to introduce a price on carbon were initially focused on a carbon tax. For years, the European Commission thus promoted the notion of a combined energy and carbon tax (starting with European Commission 1992), but failed to secure the unanimous support required in the Council for adoption of measures "primarily of a fiscal nature" (Article 192(2) TFEU). Contrary to expectations, the fiscal revenue offered by such a tax did not offer enough of an incentive for Member States to support its adoption. After further unsuccessful attempts to push relevant legislation through the Council,[19] the Commission finally proposed a less ambitious directive establishing very low minimum tax rates for energy products (Directive 2003/96/EC). In the version that was eventually adopted, obligations were so weak and the scope so narrow that it could impossibly serve as a centerpiece of EU climate policy.[20]

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[18] Its concern at the time was that "trading might provide a cheap way for the U.S., Canada, Australia, and New Zealand to 'buy' themselves out of their obligations". Europeans feared these states would avoid domestic efforts by acquiring excess emission rights – derisively coined "hot air" – that had been assigned to Russia and several eastern European states under the Kyoto Protocol.

[19] Even a weakened version of the tax, which was limited to energy products and excluded carbon emissions, met with such resistance from industry and different Member States that it was later abandoned.

[20] Under the directive, energy products are only subject to taxation if used as motor fuel or heating fuel; fuel used for industrial, commercial, and heating purposes is subject to preferential rates, and Member States may apply further exemptions, for instance to promote public transportation or renewable energy sources. For the time being, moreover, energy products used for international air and maritime transport are excluded from the directive.

Despite the failure to adopt a comprehensive carbon and energy tax, carbon pricing was not off the agenda. Several factors converged to generate unexpected support for emissions trading, resulting in what has been described as an "extreme about-face" that occurred virtually "overnight" (Hardy 2007, p. 299) and "an ultra-quick political 'pregnancy'" (Wettestad 2005, p. 2). At the institutional level, personnel changes at the European Commission and active involvement of foreign experts helped foster better conceptual understanding of emissions trading as a viable policy instrument.[21] Within the European Commission, improved internal capacities made it easier for the responsible Environment Directorate-General to convince its counterparts in charge of competition and enterprise about the merits of a comprehensive GHG emissions trading system. Altogether, the European Commission played an unusually strong role in the debate, as is evidenced by the close similarity of the final trading system and the earliest design recommendations published by the Commission (European Commission 2000).

After the disappointing experience with carbon and energy taxation, moreover, emissions trading offered a particular attraction: it was evident that an allowance market would afford Member States greater flexibility than a centrally determined tax regarding the allocation of reduction obligations to individual sectors and enterprises (Zapfel and Vainio 2002). Unsurprisingly, this flexibility and the prospect of a market also increased the attractiveness of emissions trading to the private sector.

For the newly liberalised power sector, the largest source of GHG emissions, trading of electricity contracts and derivatives had already become an established part of business and resulted in significant capacity within companies – for instance in the form of trading desks – as well as the emergence of a specialised services sector. Also, in 1998 and 2000, two major European petroleum companies – British Petroleum (BP) and Shell – decided to launch their own internal emissions trading systems, evidencing that market-based approaches are feasible in the industrial sector, traditionally an opponent of emissions constraints due to perpetual concern about competitiveness and politically influential due to the potential threat of leakage (Hardy 2007).

Although it occurred against European opposition, the inclusion of flexible mechanisms in the Kyoto Protocol also promoted the decision to embrace domestic emissions trading as a way for the EU to obtain experience with these new instruments and ensure compliance with international commitments. Politically, an important catalyst for action also resulted from the United States rejection of the Kyoto Protocol in 2001. With the largest potential buyer of international allowances pulling out of the regime and thus the option of using the carbon market for compliance with the emission reduction obligation, compliance costs for the remaining parties could be expected to remain significantly lower. At a symbolic level, moreover, emissions trading went from being perceived as an "illegitimate American attempt

[21] In particular, active policy learning from the United States experience with markets for conventional air pollutants helped generate internal support at the European Commission, see Christiansen and Wettestad, 2003: 7.

to shirk domestic responsibilities to a legitimate strategy to salvage the Kyoto Protocol without American participation" (Wettestad 2005, p. 17).

And finally, at the level of regulatory culture, the permitting approach already applied under EU legislation on integrated pollution prevention and control (Directive 96/61/EC) was considered a viable model for an emissions trading directive, notably the use of an enumerated list of activities and installations. In practical terms, existing structures and capacities related to monitoring, reporting, verification and enforcement of conventional pollution control obligations offered vital synergies for the implementation of a new regulatory framework on emissions trading (Fernandez Armenteros 2002). Nonetheless, more critical commentators in Member States with a regulatory (or "command-and-control") tradition of pollution control, such as Germany, often used legal doctrines to oppose the introduction of emissions trading, for instance by claiming the violation of fundamental rights and duties, as well as irreconcilable tensions with competing rules in other areas of law (see, for instance, Spieth 2002).

Ultimately, however, the positive influences converged with a desire to avoid a fragmented European landscape of domestic and regional carbon pricing initiatives and allowed a majority vote in the European Parliament and Council, setting in motion a "historical path of choices ... with a self-enforcing dynamic" (Woerdmann 2004, p. 272) that has resulted in the largest market for an environmental commodity in the world. Upon closer analysis, the process resulting in adoption of the EU ETS was determined by a number of considerations aside from environmental effectiveness or cost-efficiency, reinforcing the assumption that climate policy development is frequently guided more by legal and institutional constraints than by the conceptual criteria set out in mainstream literature.

And while the absence of a unanimity requirement was arguably vital to garner sufficient momentum for adoption of the EU ETS in 2003, recent developments affirm that, *de facto*, unanimity still remains a vital aspiration for the EU. This is *inter alia* reflected in the disproportionate weight afforded to reluctant Member States such as Poland, which negotiated important privileges for its power sector in the revised EU ETS legislation of 2009, and is currently also the main opponent of reform in the debate about structural improvements to the EU ETS.

3.3.2 Promotion of Renewable Energy Sources

Although the EU has been traditionally hesitant to influence the energy supply of its Member States given the implications for economic development and security, it recognised early on that expanding the share of renewable energy sources would be an important condition for the achievement of international climate commitments and greater independence from energy imports. In 1997, the European Commission therefore published a comprehensive White Paper for a Community Strategy and Action Plan, one consequence of which was the adoption of legislation on the promotion of electricity produced from renewable energy sources (Directive 2001/77/EC). In order to incentivise greater use of renewable energy, this

directive defines targets for both the gross consumption of renewable energy in general and the consumption of renewable electricity.[22] Importantly, however, it does not set out these targets as national obligations, instead merely requiring that Member States adopt indicative targets for renewable electricity consumption.

While the share of renewable energy sources increased by over 50% between 1997 and 2007, the indicative target of a 12% share of renewable energy in gross inland consumption was not achieved by 2010 (Eurostat 2012; European Commission 2011c). In part, this was explained by the purely aspirational nature of the targets, and the ample discretion afforded to Member States in their implementation. In response, the EU adopted a comprehensive reform of its legislation on renewable energy promotion in 2009, addressing these shortcomings, integrating the previously separate directives on promotion of renewable energy sources for electricity and transport fuels, and expanding the scope of promotion to renewable energy for heating and cooling purposes (Directive 2009/28/EC). Already in 2007, the European Council had agreed to a binding 20 percent share of renewable energy sources in energy consumption, and the revised directive operationalises these overall targets by specifying binding national targets for each individual Member State based on past progress and economic performance.

While Member States ultimately agreed on these binding targets, controversies emerged during the legislative debate when several Member States claimed that the objectives were unrealistically high or failed to consider past achievements in the area of renewables. A central aspect of the directive, the ability to comply with tradable guarantees of origin ("Green Certificates"),[23] was criticised by several countries – including a coalition of Germany, Slovenia, and Spain (International Feed-In Cooperation) – who favoured support schemes based on feed-in tariffs. Controversy about support mechanisms dates back more than a decade, when the European Parliament espoused the right of Member States to choose their own support mechanisms with the 1998 Linkohr report, and the European Commission issued a working paper that examined different support mechanisms, concluding that feed-in tariffs violated EU state aid rules – again a legal argument, not one of environmental effectiveness or cost-effectiveness – and that they suffered from additional shortcomings (Ydersbond 2012, p. 5).

In 2001, however, the DG Competition at the European Commission unsuccessfully sought to harmonise support mechanisms and impose a European system of green certificates when it intervened in a case before the ECJ in which the Court ruled feed-in tariffs to be legal (ECJ

[22] In terms of renewable energy, the directive covers power produced from wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases, see European Parliament and Council, 2009b, Article 2(a).

[23] This system of mutually recognized guarantees of origin had already been established by the 2001 directive, but it now acquired new relevance with the binding deployment targets. Such guarantees of origin facilitate the exchange of electricity generated from renewable sources and increase transparency for informed consumer choice; they indicate both the renewable energy source from which the electricity is produced and the date and place of production.

2001). By the time the 2008 legislative reform was being negotiated, two thirds of all Member States had implemented domestic feed-in tariffs, while only one third had opted for renewable energy quota and tradable certificates (European Commission 2008). Still, the directive opted for a harmonised system for transferable guarantees because of the perceived need to operationalise the binding deployment targets at the European level (Howes 2010, p. 124). While the quota model does not preclude implementation of feed-in tariffs in individual Member States, certainty of outcome prevailed in the debate about instrument choice.

4 Germany

4.1 Climate policy in Germany (past and present)

The German constitution (Article 20a Grundgesetz) stipulates environmental protection as a guiding constitutional principle. Since the 1990s, Germany has taken a wide range of actions to address climate change. There is a broad public consensus on the existence of climate change and the need to act thereon (Spieth/Ramb 2011; Beck et al. 2009). The country is internationally perceived as a frontrunner in climate policies.

As a party to the Kyoto Protocol and member of the European Union (EU), Germany has committed itself to greenhouse gas (GHG) emission reduction targets under international and European law. Moreover, in 1990, the government set itself a target of 25% GHG emission reductions by 2005, which was, however, not met. Later, a 40% reduction target by 2020 relative to 1990 emission levels was adopted, initially conditional on EU ambition, then unconditional since 2009. This target was enshrined in the coalition agreement among the parties forming the 2009-2013 coalition government (see legislative section below) and later in the 2010 Energy Concept (BMU/BMWi 2011).[24]

However, these national targets are not legally binding and – unlike in the United Kingdom – have not been accompanied by adoption of a single overarching climate change act enshrining them, although the notion of such legislation has been the subject of vivid political debate. Instead, a wide range of laws and administrative measures currently constitute the corpus of climate change law in Germany (Rodi/Sina 2010).

Climate change policies of the early 1990s placed strong emphasis on competitiveness of the German economy and resulted – in part due to lobbying – only in voluntary emission reduction obligations for industry. The government coalition of Social Democrats and the Green Party (1998-2005) introduced a new approach to climate policy, framing ecological and economic objectives as complementary and not contradictory. Most importantly, that government introduced an ecological tax reform, the start of the nuclear phase-out, the European emission trading scheme (implementing the respective EU directive) and the Renewable Energy Sources Act (as a successor to the 1991 Electricity Feed-in Act). The feed-in tariff system for renewable electricity – as introduced by the Renewable Energy Sources Act – led to a considerable boost of renewable energies (Beck et al. 2009). It also introduced the first National Climate Protection Programme in 2000, which was updated in 2005.

[24] Wachstum, Bildung, Zusammenhalt. Koalitionsvertrag zwischen CDU, CSU und FDP vom 26.10.2009, p. 26.

From the very beginning, German climate policy has been closely tied to energy issues, including in the transport sector. This close link is highlighted by e.g., the 2007 Integrated Energy and Climate Package, which stipulated 29 laws and administrative measures to facilitate the implementation of the 40% reduction target (BMU 2007). The implementing measures were adopted in 2007 and 2008, addressing issues like renewable energy expansion, energy efficiency improvements and taxes on motor vehicles. The argument that nuclear energy should be used as a means of climate protection has been particularly contested (Beck et al. 2009).

In 2010, the government published an Energy Concept, which provides a long-term strategy for German energy policy and sets a path for a reduction of GHG emissions by 80% until 2050 (BMU/BMWi 2010). Additionally, the strategy aims to increase the share of renewable energies in electricity generation to 35% in 2020, reduce demand for primary energy by 50% until 2050.[25] Nuclear energy was stipulated as a bridging technology in greening energy supply and – departing from the approach of the previous government, which had negotiated a nuclear phase-out with the respective companies in 2000 (and had accompanying legislation passed in 2002) – the lifespan of existing nuclear plants was extended substantially.

However, as a reaction to the 2011 Fukushima disaster, the long-standing strong public pressure eventually prompted the conservative government to reinstate the phase-out of nuclear energy by 2022 and to adjust the Energy Concept accordingly to reflect an accelerated transition to renewable energy ("Energiewende", BMU/BMWi 2011). Several legislative acts were adopted in 2011 to implement the Energy Concept. How exactly the Energiewende is to be implemented is currently subject to a controversial political debate. However, certain initiatives – some of which started even before 2011, and serve to implement European requirements – help guide this transition. For example, the Energy Industry Act requires the four operators of the transmission grid[26] to establish a "grid development plan" on a yearly basis with an outlook for the next decade.[27] This plan helps develop the grid while taking into account the new and changing generation patterns in the electricity sector.

[25] The Energy Concept also sets emission reduction targets for 2030 (55%), 2040 (70%), and 2050 (80% to 95%). Renewable energies shall provide share of total electricity use of 50% in 2030, 65% in 2040, and 80% in 2050, and a share of total energy use of 30% in 2030, 45% in 2040, and 60% in 2050.

[26] 50Hertz, Amprion, TenneT and TransnetBW.

[27] For more details visit the respective website: http://www.netzentwicklungsplan.de/, accessed on 14 August 2013.

4.2 Legal and institutional structure of Germany

4.2.1 Overview

The German political system is a federal, parliamentary democracy. It is generally characterised as a decentralised system, consisting of three vertical layers (federal, *Länder* similar to states or provinces, and municipalities) with a strong emphasis on the division of powers (executive, legislature and judiciary). Unlike e.g., the UK, Germany has a codified constitution. The German constitution (Grundgesetz, GG) has been strongly influenced by the historical experience of the Weimar Republic. It seeks to avoid both an overly fragmented democracy and the surge of an authoritarian regime. The Grundgesetz thus stipulates the role of different organs of government and a system of checks and balances between them.

4.2.2 Executive branch

The Head of State in Germany is the federal President but his rights are mainly of formal and representative nature.

The primary responsibility for climate policy lies with the federal government. Over the last two decades, successive German governments introduced a broad variety of climate-relevant measures.

The Chancellor is the head of government, similar to the position of Prime Minister in other countries. She determines federal policy guidelines and overall strategy (Art. 65 GG). The Chancellor is elected by majority vote in the Bundestag and appointed by the President – she then chooses her cabinet of ministers. The ministers act within the policy guidelines set by the chancellor but enjoy autonomy in directing their respective departments (Art. 65 GG). The ministry responsible for climate change policy is primarily the Federal Ministry for the Environment (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, BMU) which was established in 1986 as a response to the Chernobyl disaster (Lees 2007). Nevertheless, other ministries play important roles in this field, too. For example, responsibilities within the field of energy policy are divided between the BMU and the Federal Ministry of Economy and Technology (Bundesministerium für Wirtschaft und Technologie, BMWi). Other relevant ministries for climate policy include the ministry of transport, building and urban development and the ministry for agriculture. When preparing legislative proposals, the responsible ministry has to seek the consent of the other ministries – this has often led to conflicts between the BMWi and the BMU, e.g. when reforming the Energy Industry Act. In case of conflict between ministries, the Chancellor has the authority to press for a decision. An interministerial working group "CO_2 reduction" reports to the ministerial cabinet on the progress of the climate and energy package (Rodi/Sina 2010).

Ministries are in turn supported by federal agencies that execute or implement the respective statutes. The Federal Environment Agency (Umweltbundesamt, UBA) was established in 1974 to provide scientific support to the government and has since gained a wide range of important competences including the authority to implement the EU emissions

trading system in Germany. The German Emissions Trading Authority (Deutsche Emissionshandelsstelle, DEHSt) operates under the umbrella of the UBA.

In the context of the Energiewende, the Federal Network Agency (in charge of electricity grid regulation) also plays an important role and has even been described in the press as "the secret Energy Ministry" (TAZ 2012). The agency is responsible for regulating grid operators and for supervising and planning the grid expansion process.

Further influential institutions include academic advisory bodies, of which the most climate-relevant are the German Advisory Council on the Environment (Sachverständigenrat für Umweltfragen, SRU) established in 1971, and the German Advisory Council on Global Change (Wissenschaftlicher Beirat für Globale Umweltfragen, WBGU) established in 1992. Both provide independent scientific advice to the government on environmental issues. Additionally, in 2001 the German Council for Sustainable Development (Rat für Nachhaltige Entwicklung, RNE) was established as a political rather than scientific body providing expertise on sustainability policy. All these bodies provide reports and opinions on climate policy and climate relevant issues.

According to Germany's Grundgesetz, the responsibility for administration and execution of legislation lies generally with the Länder (Art. 83 GG). For example, the Länder authoritites are responsible for enforcing the energy savings ordinance (Waver et al. 2013). The Grundgesetz provides only for a limited number of cases where the Federal state is responsible for the administration, e.g., in the case of taxes, federal highways, and nuclear energy.

4.2.3 Legislative branch

Legislative power is split at federal level between two chambers, Bundestag and Bundesrat. All legislative proposals must be debated in both bodies, and can be introduced by parliamentarians in either one or by the federal government. In practice, the federal government introduces the majority of bills.

The Bundestag is the principal legislative body, and exercises control over the government's climate policy. For example, the government is obliged to report to the Bundestag on certain aspects of climate policy (Rodi/Sina 2010). The Bundestag can request information from the government and call ministers to appear before the Bundestag (Art. 43 GG).

Members of the Bundestag are elected by public vote. The voting system combines majority voting and proportional representation.

Traditionally, Christian Democrats (CDU/CSU) and Social Democrats (SPD) have had the most seats in the Bundestag and have thus been considered the two 'major' parties. The Liberals – or Free Democratic Party (FDP) – have been steadily represented in the Bundestag since the first election in 1949 until the 2013 federal elections, however never exceeding 15 per cent. The Green Party (Bündnis90/Die Grünen) first entered the Bundestag first in 1983 and has gradually gained seats, receiving 11 per cent of the vote in the 2009 elections. The Left party

(originally Party of Democratic Socialism, now "The Left") entered the Bundestag first after reunification, as the legal successor of the ruling party in the former German Democratic Republic.

Elections for the Bundestag take place every four years. The last elections in 2009 produced a government formed by a coalition of CDU/CSU and FDP – together, these parties had 53.4 per cent of the votes. Mainly influenced by the proportional representation system, all German governments since 1949 have consisted of a coalition of parties.

In contrast to the Bundestag, members of the Bundesrat are not elected in public elections. The 69 members are sent by the Länder governments, according to the population size of the Länder, with a minimum of three and maximum of six seats. Accordingly, there is no legislative period of the Bundesrat but it is considered the "eternal federal organ", and its composition changes as elections take place in the Länder. Currently (September 2013), the parties that form the opposition in the Bundestag hold the majority of seats in the Bundestag (36 seats), while the CDU/CSU/FDP ruled Länder hold only 15 seats. Eighteen Bundesrat seats are held by Länder in which a coalition of SPD and CDU is governing.[28]

The Bundesrat has no specific sphere of competence but has the right to participate in the tasks of other bodies. The Bundesrat allows Länder governments to be directly involved in the legislative process of the Federation. It provides a forum where the Länder can defend their interests and contribute their experience. It counterbalances and controls the work of the Bundestag and the Federal government. Its role in the legislative process depends on the type of bill – for consent bills, approval of the Bundesrat is required, but most bills (including the majority of laws on climate-related issues[29]) are objection bills. The latter can be overruled by a majority vote of the Bundestag. Only bills that amend the constitution, that affect the Länders's budgetary revenue, or that affect the administrative jurisdiction of the Länder require the express consent of the Bundesrat (Art. 84 I GG). In case of dissent between the two chambers, often the conciliation committee works to identify potential changes to trigger consent.

The division of competences between Länder and federal level is set out in the Grundgesetz, which does not refer to climate change explicitly but names several related policy fields including "air quality" (Art. 74 I 24 GG) or "economy" (including energy, see Art. 74 I 11 GG; Milkau 2008). Accordingly, climate laws like the Renewable Energy Sources Act and the emission trading law have been passed referring to these competencies.

[28] Bundesrat: Stimmenverteilung. http://www.bundesrat.de/nn_8328/DE/struktur/stimmenverteilung/stimmenverteilung-node.html?__nnn=true, accessed on 23 August 2013.

[29] For example, the Renewable Energy Sources Act, the Energy Savings Act, the Greenhouse Gas Emission Trading Act, the Allocation Ordninance, the Grid Expansion Acceleration Act or the Power Grid Expansion Act are all objection bills.

For such matters, the Länder are allowed to legislate only to the extent the federal level hasn't. North-Rhine-Westphalia, for instance, adopted its own Climate Change Act[30] in early 2013 given that no federal law on emission reduction targets had been passed so far.[31]

However, the division of competence between the federal level and the Länder is sometimes ambiguous in policy fields related to climate change. Economic legislation may only be set at the federal level where it is necessary for creating equal living conditions or safeguarding economic and legal unity of the country. Furthermore, certain subject areas touch federal and Länder competences alike. Electricity grid expansion, for instance, is to some extent a land use planning issue and the Länder may legislate diverging from federal law when it comes to land use planning (Art. 72 III 4 GG; Steinbach 2013, Erbguth 2012). To improve coordination in such situations, the federal government and Länder governments established a working group on climate change, energy, mobility and sustainability (Bund-Länder Arbeitsgemeinschaft Klima, Energie, Mobilität- Nachhaltigkeit) in 2008.

4.2.4 Judicial branch

In contrast to e.g., the United Kingdom, Germany is a civil law system that draws from the principles of Roman law. General rules and principles are enshrined in a civil code (Bürgerliches Gesetzbuch) and other laws which are applied and interpreted by the courts. The decisions of higher courts are generally not binding upon lower courts – with some exceptions, e.g., the rulings of the Constitutional Court – but certainly influence judges in their decision-making.

The independence of the judiciary is a fundamental principle of the German constitution, which states that "judges shall be independent and subject only to the law" (Art. 97 I GG). The judiciary is thus free from interference from the executive or the legislature.

The German judicial system comprises five strands of courts: ordinary courts (responsible for civil and criminal proceedings), administrative courts, fiscal courts, social courts and labour courts. In each of these areas, two to three levels of courts exist. While the Länder are responsible for the courts at lower levels, courts at the federal level act as the highest courts of appeal. Within the judicial system, administrative courts are generally most relevant for climate policies, while especially in energy law both administrative and ordinary courts play an important role. The federal administrative court has ruled in several occasions on the approval of wind energy plants and their consideration in local land use plans[32], on a possible

[30] Gesetz zur Förderung des Klimaschutzes in Nordrhein-Westfalen vom 29. Januar 2013. In: Gesetz- und Verordnungsblatt (GV. NRW.) Ausgabe 2013 Nr. 4 vom 6.2.2013, pp. 29-36.

[31] The federal goal of 40% emission reduction by 2020 is not legally binding yet, but "just" an expression of political will.

[32] See for example BVerwG, 4 C 15.01, Urteil vom 17. Dezember 2002; BVerwG, 4 CN 1.11, Urteil vom 13.12.2012 or most recently BVerwG, 4 CN 2.12, Urteil vom 11.04.2013.

conflict between property rights and the emissions trading system[33], and the allocation of emission permits[34] (see below for more details). Ordinary courts have decided for example on cases concerning grid access, compensation rates or the definition of "installation" under the Renewable Energy Sources Act.[35]

The highest judicial body is the Federal Constitutional Court, which focuses on judicial review and constitutional interpretation. Its judges are appointed by the Bundestag and the Bundesrat (Art. 94 I 2 GG). The court controls the constitutionality of state acts. Every person who sees his or her basic rights violated by state action (executive, legislative and judicial) can file a constitutional complaint. For example, several companies have filed complaints against the allocation of permits under the emissions trading system referring to their fundamental property rights and the freedom to exercise a trade or profession (see below for more details).[36] The constitutional court can also check the constitutionality of laws if called upon by the federal government, a Länder government or one quarter of members of the Bundestag. The government of Sachsen-Anhalt, for instance, requested the court to consider the constitutionality of privileges granted as part of the ETS to installations which had taken early action on emission reductions.[37] Furthermore, the constitutional court can also rule on the constitutionality if a court considers a law to be in breach of the constitution.

Although is it not part of the judiciary, the EEG Clearing House deserves closer attention as a novel and innovative institution supporting the implementation of climate legislation. The Clearing House was established in 2007 as a novel mechanism for fast track dispute settlement in the context of the Renewable Energy Sources Act (EEG). It thus aims at preventing court cases and offering a more efficient solution to disputes. Since its establishment, the Clearing House has dealt with an increasing number of proceedings, the vast majority of which concern compensation rates and grid access. The Clearing House is financed by the BMU but independent from it.

4.3 Regulatory tradition

Germany has traditionally followed a command and control approach to environmental regulation, e.g., granting permits to run an installation, the requirements for which are set in several environmental statutes (Spieth/Ramb 2011). At the same time, Germany has also made use of a range of suasive instruments. For example, it has strongly promoted the use of

[33] BVerwG, 7 C 26.04, - Urteil vom 30.06.2005.

[34] See for example BVerwG, 7 C 18.11, Urteil vom 21.02.2013.

[35] See for example OLG Düsseldorf, Urt.v. 02.12.2012 - VI-2 (Kart) 7/12; BGH, 28.02.2012 - VIII ZR 267/11; OLG Karlsruhe, Beschl. v. 03.02.2012 - 9 W 4/12

[36] 1 BvR 1847/05 ; 1 BvR 2036/05.

[37] BVerfG, 1 BvF 1/05, Urteil vom 13.3.2007, Absatz-Nr. (1 - 112).

eco-labelling, such as the "Blue Angel" and the "Green Dot" (Lees 2007). Voluntary agreements with industry have also been a common feature – examples include the voluntary commitment of the German automobile industry to reduce passenger vehicle emissions by 25 per cent by 2005, or the so-called associations' agreements ("Verbändevereinbarungen") between energy suppliers and industry (BDI 2004). According to Lees, "the widespread use of voluntary agreements in tandem with a strongly judicialised regulatory culture makes up a distinctly 'German' policy mix" (Lees 2007, p. 23).

In contrast, Germany has only reluctantly embraced market instruments, such as environmental taxes or the EU emissions trading scheme (ETS). Lees (2007) names a number of reasons for this reluctance. For eco-taxes[38], these include the tendency to use existing instrument types, lack of major drivers for change, and the German population's focus on welfare issues. The eco-tax was perceived as socially regressive, putting a special burden on the poorest households (Lees 2007). This also explains why Germany, which was originally perceived as a frontrunner in environmental policy, introduced an eco-tax several years after Scandinavian countries had done so. With respect to the ETS, Germany only introduced the ETS when it was required to do so by EU legislation and the German government, as well as German industry stakeholders, were initially reluctant or even opposed towards the instrument. However, Germany has been a pioneer in establishing a feed-in tariff system for renewable energies, which is now its most important instrument for the promotion of renewable electricity and has gained worldwide interest for its success.

4.4 Conflicts and challenges

In the overall policy context described above, climate change mitigation instruments have encountered and continue to encounter challenges involving conflicting policy objectives, regulatory approaches and planes, and constitutional doctrines.

4.4.1 Different regulatory approaches

As the Federal Administrative Court noted in its 2005 judgment, the ETS constituted a significant deviation from the command-and-control approach traditionally followed in Germany. This – and the economic interests involved – might explain the considerable number of legal disputes concerning the implementation of the EU ETS and the respective allocations of emission rights. Of the 1,849 companies that participated in the program's first trading period (2005-2007), 799 challenged their respective allocations (Bongard 2010). However, the number of proceedings dropped in the subsequent trading periods, indicating

[38] In this report, taxes are categorized as a market instruments. For further details see categorization in the conceptual introduction above.

that the policy approach has gained wider acceptance – and that the German legislature as well as executive learned from early mistakes and improved the system (Waver et al. 2013).

4.4.2 Different regulatory planes

As explained above, Germany is a federal state and the system grants a considerable share of the legislative powers to the Länder. While the division of competences is set out in the Grundgesetz, there are still many grey areas.

The competence for climate legislation rests generally at federal level; the Länder are allowed to act where the Federal Government has not made use of its competence (Art. 74 I 24 GG). Whereas the federal level has adopted a comprehensive set of climate-related measures, it has not yet made use of its overall control function with respect to climate change. This induced the Bundesland North-Rhine Westphalia (NRW) to adopt its own Climate Act[39] in early 2013 setting an overall emission reduction target of 80% by 2050 and creating a framework of instruments and institutions to promote climate action (Wickel 2013). However, there are doubts whether NRW has enough governance competencies to ensure the fulfilment of its target. While NRW can make use of its spatial planning responsibilities or require municipalities, public sector bodies and companies to prepare climate action plans, many essential climate policy decisions can only be taken at EU or federal level (Maaß 2012).

This example shows that – similar to the situation between the EU and its member states – the division of competences between federal and Länder level allows single Länder to go ahead with climate policy and use this freedom to also push the debate at federal level, e.g. about the need for a climate act. Such freedom can be used also as a testing ground for certain policies. At the same time, the Länder might lack essential competences to really take the lead. Maaß notes, that the Länder have still considerable leeway which they have not made use of, e.g., with respect to the regulation of heat supply (Maaß 2012).

In other cases, the division of competences can pose important challenges for coordination between federal and Länder level as well as among the Länder, especially when it comes to decisions on infrastructure.

Parallel to the federal renewable targets, all Länder have established their own political targets for the promotion of renewable energy. The federal Energy Concept aims to meet 35% of electricity demand with renewables by 2020, while the sum of the Länder targets lies well above that. For example, Lower-Saxony aims at 90% renewable electricity consumption by 2020, and Schlewig-Holstein even at 300-400%, meaning that the Land plans to export a surplus of up to three times the amount of its electricity consumption.[40]

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[39] Gesetz zur Förderung des Klimaschutzes in Nordrhein-Westfalen vom 29. Januar 2013. Gesetz- und Verordnungsblatt (GV. NRW.) 2013/4 vom 6.2.2013, pp. 29-36.

[40] Energiekonzept des Landes Niedersachsen (02/2012) (www.erneuerbareenergien-niedersachsen.de); Energie- und Klimakonzept Schleswig-Holstein (10/2011) (www.schleswig-holstein.de)

The northern Länder plan to expand their offshore wind capacity and to export electricity to other Länder. This would require a significant upgrading of the North-South transmission network. However, the Southern Länder want to avoid energy dependence and have become aware of the economic potential of renewable energy (Spiegel 2013). These diverging targets and priorities make it difficult to dovetail the strategies at federal and Länder level, especially with respect to the necessary grid expansion and resulting costs for consumers.

The diverging (political) views and (economic) interests have also been an important obstacle for the reform of the EEG. The EEG reform also exemplifies the at times unclear division of competences between federal and Länder level. There is a public debate over whether amending the EEG would require consent of the Bundesrat, where the Länder are represented, or whether the Bundesrat is merely allowed to object (FAZ 2013).

The division of competences between federal, Länder and municipal level also complicate the achievement of the federal climate targets in the transport sector and with respect to energy efficiency of buildings. While overarching targets were set at federal level, municipalities are mainly responsible for the promotion of low-emission transport systems, as part of local land use planning.

4.4.3 Conflict of policy instruments and basic rights

As mentioned above, Germany did only reluctantly introduce emissions trading when it was required to do so by European law. The introduction of the ETS in Germany has given rise to a series of legal challenges based on the alleged violation of basic rights. The catalogue of basic rights is enshrined in the constitution.

The most prominent case concerned a challenge brought forward in 2005 by a cement company in 2005 that argued the introduction of the EU ETS violated its property rights as well as its right of freedom to exercise a trade or profession. The company reasoned that the ETS constituted an expropriation in depriving it of the right to emit CO_2 freely as was earlier guaranteed through its general operation licence. The Federal Administrative Court did not uphold this complaint. It ruled that the right to emit CO_2 freely does not constitute property because it is not possible to allocate air exclusively to a person. The ETS did not prohibit emissions but merely assigned a price to the emissions, similar to an environmental tax. Second, the Court reasoned that although the ETS constituted a novel instrument differing from the traditional command and control approach, it is still in line with the principle of proportionality: emissions are regulated in the public interest, and the only alternative – a command-and-control approach – would be even more incisive. The Court also did not acknowledge a violation of the freedom to exercise a trade.[41]

In another case, the state of Sachsen-Anhalt filed a proceeding with the Federal Constitutional Court alleging that the 2007 Allocation Act for the ETS violated not only the basic right to property and the freedom to exercise a profession, but also the principle of

[41] BVerwG, 7 C 26.04,- Urteil vom 30.06.2005.

equality and the constitutional obligation to protect natural resources. Sachsen-Anhalt claimed that in differentiating between old and new installations and granting special consideration for so-called early action, the Act discriminated against Eastern German companies which undertook modernisations in the early 1990s. However, the Court ruled that the principle of equality was not violated since there were objective justifications for the differentiation. The earlier measures had caused less GHG emission reductions.[42] Also with respect to the other rights and obligations mentioned above, the Constitutional Court did not see a breach of the constitution.

The outlined cases serve as examples that policy approaches deviating from the regulatory tradition can give rise to new conflicts. On the other hand, the courts have not acknowledged any violation of basic rights in this context. Rather, they explicitly recognised the right of the regulator to pursue a different regulatory approach, if the effects on the addressee are comparable – or even less incisive – than under the traditional approach.

4.4.4 Conflict of policy instruments with EU law

In some cases, domestic climate policy instruments conflict with European Union Law. For example, there were concerns whether the German Electricity Feed-in Act, the predecessor of the Renewable Energy Sources Act, was reconcilable with the free movement of goods or competition in a liberalised electricity market. The European Commission, which preferred quota systems, challenged the German approach arguing that the compensation rates paid to renewable installations constituted state aid (Wilsher 2009). In a landmark decision, the European Court ruled against the challenge in 2001. The Court reasoned that the feed-in system did not violate EU competition law, as the guaranteed prices stemmed from private and not from public sources. The Court also found that although the act had the potential to limit intra-community trade, the environmental purpose of the measure provided sufficient justification.[43]

Although the Court did not consider the German renewable support system incompatible with European law, the case shows that especially EU competition law and the four freedoms related to the internal market need to be taken into account when designing climate policy instruments.

4.4.5 Conflicting objectives

The promotion of renewable energy forms an essential part of the German government's Energy Concept and of its overall climate policy. However, this objective conflicts with other environmental policy objectives.

[42] BVerfG, 1 BvF 1/05, Urteil vom 13.3.2007, Absatz-Nr. (1 - 112).

[43] Case C-379/98 PreussenElektra AG v Schleswag AG [2001] ECR I-2099.

For example, the construction of wind energy installations and correlated grid expansion can impact species conservation. In a number of lawsuits, German courts have thus aimed to identify the relation between the promotion of wind energy and nature protection or landscape conservation respectively. In a judgment of June 2013, the Federal Administrative Court ruled that a licence could not be granted to wind energy plants if those projects infringed upon the ban on killing of species, enshrined in the Federal Law on Nature Conservation (Bundesnaturschutzgesetz).[44] Several Länder have also issued guidelines or recommendations for reconciling the licencing of wind energy and nature conservation (Brandt 2011).

Similar conflicts have arisen with respect to national heritage law and the promotion of renewable energies[45], or between the renewable energy strategies of different Länder (see above).

[44] BVerwG, 4 C 1.12, Urteil vom 27.06.2013.

[45] See for example Niedersächsische Oberverwaltungsgericht (12. Senat) , Urteil vom 23. August 2012 (12 LB 170/11)

5 Poland

5.1 Climate policy in Poland (past and present)

Poland is one of a few countries that refer to sustainable development in their constitution.[46] However, compared to other European countries, Poland's climate and energy policy is not perceived as 'ambitious' with respect to greenhouse gas emission reduction. In fact, Poland has emerged as a leader in *opposition* to ambitious climate and energy measures at the EU level in the following ways:

- Poland opposed efforts to decrease the available allowance supply in the EU ETS by temporarily removing 900 million allowances from the programme's third trading phase ("backloading"), a measure designed to buoy the severely slumping carbon price and thus providing an incentive for firms to invest in clean technologies.
- The country also exercised its veto power to block more ambitious climate targets for the EU: in June 2011 it blocked adoption of the Low Carbon Roadmap when it objected to a 25 per cent reduction target for 2020. In March 2012 it blocked the roadmap again on grounds that the milestones beyond the 2020 targets (a proposed 40 per cent reduction in greenhouse-gas emissions by 2030 and a 60 per cent reduction by 2040 from 1990) were unacceptable (Harrison 2011 and Euractiv 2012).
- It lobbied strongly for special allocation rules for its coal power plants within the framework of the EU emissions trading scheme (third phase).[47] On the other hand, it was very generous with respect to allocation of emission rights in the early phase of the trading scheme (see below).

Furthermore, Poland is late implementing EU Directives related to climate and energy:[48]

- It has not fully transposed the 2009 Directive on carbon capture and storage.[49]

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[46] Article 5 of Poland's constitution: "The Republic of Poland [...] shall ensure the protection of the natural environment pursuant to the principles of sustainable development."

[47] Poland, along with several other new Member States, received an exemption from the auctioning requirement such that its electricity generators may receive allowances for free

[48] This appears, however, not to be specific to climate and energy policy. As of mid-March, 2013, there were 27 Directives that were overdue and had not been transposed into Polish law.

[49] The deadline for transposition of the CCS directive into Polish law passed on 25 June 2011. Draft amendments to the Polish Geological and Mining Law and other relevant laws were adopted by the Council of Ministers in March 2011, and after public consultation were approved by the Council on 30 April 2013. At the time of writing, these were not deemed transposed (Global CCS Institute 2013).

- It has not fully transposed the 2009 update to the EU Emissions Trading Directive.[50]
- Poland was referred to the European Court of Justice (ECJ) for failing to transpose the 2009 Renewable Energy Directive into national law by December 2010.[51]
- Despite the government's declared focus on energy efficiency as a means for emission reduction, the 2010 Directive on energy efficiency of buildings has not yet been transposed into Polish law.

In addition, a more ambitious law on renewable energy sources that would e.g., introduce changes to support schemes for renewable energy projects has been discussed for years and delayed repeatedly. Poland's National Action Plan on renewables, sent to the Commission in December 2010, cited this (then imminent) legislative act as the vehicle through which the Renewable Energy Directive was to be transposed into Polish law. More than two years later, the act has still not been adopted by the parliament even though several drafts have been produced and have undergone stakeholder comment. Policymakers have indicated that the measure is now unlikely to be adopted as a broad legislative act, but rather as a set of minor modifications to existing energy law. However, even that has been delayed as laws on oil and gas taxation – such as the hydrocarbon law setting fees on fossil fuel extraction making its way through the parliament in summer 2013 – have taken precedence. Meanwhile, Polish environmental groups lament that they stand ready to help the government prepare national legislation that would speed implementation of Directives and other climate-friendly measures but that "the government doesn't want our help" (Kassenberg 2013).

Reasons for this opposition to set and comply with more stringent CO_2 reduction targets are discussed in detail below.

5.1.1 Mitigation record and future plans

Despite this lack of implementation of energy and climate measures, Poland's fulfilment of existing climate targets is so far on track. Under the Kyoto Protocol, the greenhouse gas

[50] Directive 2009/29/EC updates the trading scheme for greenhouse gas emissions to account for greater auctioning of allowances in Phase 3 of the EU ETS (2013-2020). Implementation of the Directive into the Polish legal framework would require amendments to Poland's Financial Instruments Trading Law and its Commodity Exchanges Law. Draft guidelines for doing so were adopted by the Council of Ministers in August 2012 but transferred to a committee for processing. As of April 2013 the issue is on the list of legislative work agenda.

[51] In March 2013, the European Commission referred Poland and Cyprus to the ECJ for failing to transpose the Renewable Energy Directive into national law by December 2010. The Commission proposed a daily penalty of over €133.000 based on the gravity of the infringement. Poland's legislative acts related to renewable energy – many of which were already in place before the entry into force of the Directive – were not deemed substantial enough to implement the Directive.

emission reduction target for Poland for the period 2008-2012 is six per cent below 1988 levels. In 2011, Poland's emissions were 28.7 per cent below 1988 levels (EEA 2013).[52]

As for European requirements, Poland may increase emissions not covered by the EU ETS by 14 per cent compared to 2005 through 2020, according to the Effort Sharing Decision (COM 2013). Recent projections by the European Energy Agency show Poland rather *reducing* its non-ETS emissions – approximately to their 2005 levels, both in scenarios with only existing reduction measures and with additional measures (EEA 2012d).

Furthermore, Poland has successfully decoupled CO_2 emissions from GDP growth over the past 20 years. In relative terms, it has done so to a greater extent than have the older member states currently leading the push for more ambitious climate policy – however those countries had already achieved a greater degree of decoupling at the start of this timeframe. To illustrate Poland's progress in this regard, Zylicz (2013) compares the energy intensity of e.g., steel production in various Member States and points out that it is lower in Poland than in Britain, France, Sweden and Finland.[53]

Analysts point out that precisely this "progress" on the part of Poland – particularly with respect to Kyoto Protocol targets, which were intentionally set at easily achievable levels for eastern European countries – accounts for the country's lack of ambition when it comes to emission reduction policies. Policy makers could argue that Poland had already achieved a high degree of climate mitigation success, rendering further climate policy implementation unnecessary or even unfair: Skjærseth and Wettestad (2008) contend that the Polish "laggard" position as far as implementation of the EU ETS hails from a "lacking need" to do so and its correlating lack of political willingness on the part of policy makers.

> "Good progress led the Polish Ministry of Environment representatives to state in February 2005 that Poland had already met its Kyoto commitments and that was why 'it doesn't really have to take part in EU ETS.'" (Skjærseth and Wettestad, 2008)

Along with the record of emissions improvement given its starting point decades ago, Poland has (vague) plans to address climate change in the future. It has adopted forward-looking documents outlining a low-carbon development path over the long term.

- A *National Programme for the Development of a Low Emission Economy by 2050* was adopted in August 2011 (Rutkowska 2011). It foresees pathways to the development of low-emission energy sources, improvement of energy efficiency and management of raw materials and resources.

[52] It should be noted that the base year for F Gases is 1995 for Poland, rather than the more usual year 1990, while 1988 is the base year for CO_2 and remaining greenhouse gases: http://unfccc.int/ghg_data/kp_data_unfccc/ base_year_data/items/4354.php

[53] According to Zylicz (2013), Poland's GDP per capita more than doubled between 1990 and 2010 while carbon dioxide emission declined by 20%. Polish steel production uses 0.2 tonnes of oil equivalent per 1 tonne of product, whereas French and British steel mills use more than 0.3 and Swedish or Finnish ones more than 0.4. Zylicz cites 2010 production figures from the Polish Steel Association HIPH.

- Poland's *Medium-Term National Development Strategy 2020*, which replaced the *National Development Strategy 2007–2015* in force until 2012,[54] devotes an entire priority area to "Eco-efficiency" including putting the country's socioeconomic system on a so-called "greener path" by reducing energy and materials intensity. This plan is to be one of Poland's key strategic documents, closely linked to the plans of other member states through 2020.

5.1.2 Climate of conflict: social, economic, and political context

Poland's lack of political ambition as far as climate policy is concerned reflects its particular domestic circumstances: the energy sector is coal-dependent and its economic policies influenced by labour interests linked to heavy industry – especially coal mining. From a cultural standpoint, the history of the Solidarity Movement that eventually brought about Poland's break from Soviet rule featured strikes and occupations at large industrial plants and at several Silesian coal mines. These positive associations with these emission-intensive sectors are still a factor in Polish attitudes. Recent surveys on environmental awareness, environmental protection, and climate-energy issues reveal that only 16 per cent of Poles think environmental pollution is a serious social problem (Szewrański 2012).

Furthermore, "energy independence" with respect to Russia garners strong support among the Polish electorate (Kenarov 2012). Coal is a domestic energy source, whereas less emissions-intense natural gas – which plays an important part in most visions of expansion of fluctuating renewable energies – is imported from Russia.

From an economic standpoint, Poland's economy is more than twice as energy intensive as the EU average. The predominance of coal in power generation is also above average in Poland, with lignite and hard coal accounting for 90 per cent of Polish electricity generation (Jorgensen et al. 2011). The heavily coal-based electricity generation and the high share of heavy industries mean that about 60 per cent of Poland's 2005 CO_2 emissions were generated in sectors covered by the EU ETS, compared to about 40 per cent in the EU as a whole. Thus Poland bears a relatively higher economic burden than the average EU country in fulfilling the requirements of the EU's climate package.

In this cultural and economic context, politicians are influenced strongly by industry lobbies and labour unions, which oppose ambitious climate and energy regulation. Against these well-organised and well-funded groups, environmental organisations are "too weak to bring a clear, reasonable environmental message to the public and decision makers" (Pandera 2013). The non-governmental groups with the most political influence include those with campaigns targeted at business such as those of WWF and Greenpeace, as well as the Institute for Renewable Energy – an applied research organisation. The influence they do hold pertains to specific issues, such as individual renewable energy projects or business corporate sustainability initiatives, rather than Poland's national climate policy (Michalak 2013).

[54] The new National Development Strategy 2020 was adopted by the Council of Ministers on 25 September 2012.

Overall, climate policy or moving towards renewable energy production is currently not perceived by politicians as a decisive political topic to win voters.

5.2 Institutions and political structure

Poland is a constitutional republic employing representative democracy, in which the Prime Minister (currently Donald Tusk of the Civic Platform Party or PO) is the head of government within a multi-party system and the president (currently Bronisław Komorowski, in the past also of the PO) is the less powerful head of state. The country adopted this model of government, along with its current constitution, in 1997 following the breakdown of the "eastern bloc" and during a rapid transformation to a market-based economy. Since May 2004, Poland has been a member of the European Union.

Like other parliamentary democracies, Poland's government is based on the separation of and balance between the legislative, executive and judicial powers. It employs a unitary (rather than federal) system of governance, meaning decision-making is relatively centralised at the national level. However, as per constitutional amendments effective as of 1999, a three-level territorial division of the state features elected officials down to the municipal level. The most local level of elected government is the municipality or commune ("gmina"). Over 2400 gminas are within districts or "powiaty", which are in turn part of Poland's 16 provinces or voivodeships ("województwa").

Figure 1: Political map of Poland

Source: http://blog.eun.org/greecetocatalonia/2007/04/post_1.html

Climate and energy legislation is made at the national level in Poland, although regional interests influence decisions. For example, the southern industrial region of Silesia is home to most of the country's coal mines and therefore constitutes a bastion of miners' trade unions strongly associated with the politically connected 'solidarity' movement – thus this region exerts a significant influence (Michalak 2013) on actions of the national government in terms of presenting a strong unified lobby but also in terms of direct regional representation (see Senat composition below).

5.2.1 Executive branch

Donald Tusk became Poland's prime minister in November 2007 and has held the position longer than any other person since the country's transition to a market economy. Prime Minister Tusk's agenda publicly acknowledges an emphasis on economic growth and attracting investment over environmental concerns.

In addition to the Council of Ministers, of which he as Prime Minister has the authority to change the composition anytime, Tusk created a new informal advisory body to his office called the "Economic Council" in March 2010. Led by former Prime Minister Jan Krzysztof Bielecki, this council is comprised of economists and business people appointed by Tusk and

is officially independent of government. Stakeholders point out, that all legislation (including climate and energy proposals) is analysed by this body, which has become – through its close advisory role to the prime minister – a "real decision making centre" (Pandera 2013).

The institution most relevant to climate policy within the executive branch is the environment ministry, currently headed by Marcin Korolec, who is not affiliated with any political party.

The ministry of economy is formally responsible for energy, making it influential to climate change mitigation because of its purview over e.g., promotion of renewables or lack thereof.

The ministry of finance is also involved in climate and energy policy in Poland: the key concern of Finance Minister Jan Vincent-Rostowski, who has held this position since Tusk's government took power and is also Poland's deputy prime minister, is Poland's susceptibility to the Eurocrisis. Rostowski has positioned himself against investment in energy efficiency and renewable energy, characterising these as too expensive when the country is in a state of financial crisis. His ministry is involved in the drafting of a new hydrocarbon law, which defines royalty payments and extraction fees (or lack thereof) for oil and gas companies operating in Poland.

Another institution that plays an influential role in climate and energy policy is the National Fund for Environmental Protection and Water Management (NFOŚiGW), which has an annual budget of around 2 billion PLN (about 470 million EUR) and supports environmental protection programmes and efforts within the country.

Further, the "Inspectorates General for Environmental Protection" carry out environmental monitoring – including control of point source emissions – as an enforcement and implementing body. This institution is comprised of regional offices in each voivodeship.

Another implementing agency relevant to climate change and emissions trading is the National Centre for Emission Management (KASHUE-KOBiZE). This body acts as Poland's emissions trading authority and administrator of the EU ETS.[55] It also prepares Poland's national greenhouse gas inventory report to the UNFCCC, the most recent version of which was submitted in March 2013. A related organisation subordinate to the environment ministry (also involved in preparing the national inventory report) is Poland's National

[55] Poland contains over 800 installations covered by the EU ETS. Companies that own covered installations need either an integrated permit to participate in the EU ETS or a specific permit to emit gases or dusts into the air, defined in the Polish Environmental Protection Act of 27 April 2001. Permits are valid for 10 years and define the substances to be emitted as well as monitoring and annual reporting requirements. Audits and enforcement of emissions reporting are done by the "Inspectorates for Environmental Protection" mentioned above. Trading of emission allowances (European Union Allowances – EUAs) is subject to the Polish civil code. Pursuant to the Environmental Protection Law, allowance sales can be concluded with natural or legal persons from the European Union as well as other entitled countries that have ratified the Kyoto Protocol – either directly to the acquirer, via a broker, or on an exchange that offers allowance contracts such as the Polish Power Exchange in Warsaw.

Institute of Environmental Protection, an academic body providing research and advisory services to the government on environmental issues.

5.2.2 Legislative branch

The legislative branch of government consists of the lower chamber (Sejm) and the upper chamber (Senat), whose deputies are directly elected for four-year terms. The former body is made up of 460 deputies and the latter of 100 Senators. The Senat constitutes regional representation as elections are by voivodship.

The constitution provides the Sejm with a dominant role in the legislative process: only the Sejm is vested with the right to control Poland's cabinet or Council of Ministers, the body which exercises executive power and is headed by the Prime Minister (see Executive Branch above). The Senat has the right to initiate legislation, but bills usually originate in the Sejm. The Senat examines bills passed by the Sejm and may accept, amend or reject them – its resolution to reject or amend a bill is deemed accepted when it is not overruled by an absolute majority of votes in the Sejm.

The Sejm has over 20 standing committees in which proposed legislation is reviewed and often originates. The one most relevant to climate policy legislation is the committee on environmental protection, natural resources and forestry.

Poland's president is elected for five-year terms, also in universal direct elections, and is the supreme representative of the country – his role is similar to its counterpart in Member States such as Germany or Ireland in that the president is somewhat of a figurehead compared to the chancellor or prime minister, respectively. However, the President can veto any legal act (except the annual budget), and overruling his / her veto requires the 60% majority in the Sejm (with at least 50% present)

The Sejm also appoints Poland's prime minister, who traditionally hails from the party with the most seats in the legislature. Current Prime Minister Donald Tusk is from the Civic Platform party (PO), which is considered 'centre-right' and is currently in a ruling coalition with the smaller Polish People's Party (PSL) that characterises itself as rural, conservative and agrarian. The PO's climate and energy goals are similar to those of the other main political party Law and Justice (PiS, currently the main opposition party), to which Poland's previous two prime ministers belonged. Both the PO and PiS are strongly in favour of using the country's coal reserves and promote policies incentivising fossil fuel extraction, though the PO portrays itself as pursuing these goals more out of an economic rationale and to ensure energy security (Michalak 2013). The PiS is more vehement in its opposition to climate change policy[56].

[56] The PiS is more closely associated with the smaller Eurosceptic party Solidarity Poland (SP), which split from the PiS in 2011, represents a group of coal mining labour unions, and submitted the first citizens' initiative that would neutralise EU legislation. The petition calls for the EU to suspend the entire 2009 climate and energy package including the EU ETS and emissions reduction targets – see footnote 62.

No political party has made climate goals part of its agenda. Of the left-leaning parties, the Social Democrats (SLD) are "post-communist" and close to the coal-favouring trade and labour unions while the anti-clerical Palikot's movement is socially progressive in terms of e.g., gay rights but does not take a stance on climate and energy issues. The right-wing SP split off from the PiS in 2012 to represent a more conservative, euro-sceptic stance and opposes climate change policy.

5.2.3 Judicial branch

The Polish court system includes three main types of courts. The **general courts** are district, voivodeship, and appeal courts that adjudicate in the areas of civil, criminal, family and labour law. **Military courts** adjudicate crimes committed by soldiers in active service, civilian employees in military units, and prisoners of war. **Administrative courts** settle cases between legal persons (corporations) or private citizens and administrative bodies. Poland's **Supreme Court** supervises all of these and is the court of last resort when it comes to appeals against their judgements. Supreme Court judges are appointed by the President.

Outside and independent of this set of courts, but still part of Poland's judicial branch, is its **Constitutional Tribunal**. This body resolves disputes on the constitutionality of state institutions' activities and supervises the compliance of statutory law with the constitution.

The judicial branch also includes the **State Tribunal**, which is concerned with liability of government officials and can remove individuals from public office.

5.3 Regulatory tradition

Poland has relatively little history of regulation specific to climate because its policy, like that of other members of the former so-called "eastern bloc", featured some economic instruments for pollution control but not targeted climate change mitigation measures.

Pollution charges were established in centrally planned economies in the 1970s and continued for decades, with some still in force today.[57] Such charges – applied to toxic substances produced mainly by the same actors now associated with greenhouse gases, such as power plants and heavy industry - constitute the main regulatory tradition as far as climate and energy is concerned. Analysts argue that their incentive effect was minimal because of the lack of competition among enterprises (everyone paid the charges) and because of so-called soft budget constraints: charges were included in production costs to be covered by state subsidies (Zylicz 2013 and Panayotou 1994).

Economic instruments to mitigate pollution stayed largely within this regulatory tradition of *charges* (per amount of effluent, emission, etc.) during the transition to a market economy,

[57] Zylicz, T (2013) "Poland country report". Contribution to Deliverable 1.2: Review of the existing instrument mix at EU level and in selected Member States

but became more varied as Polish and other Eastern European governments aimed to create both incentives for environmental conservation and a source of revenue to be spent on environmental management (Blackman and Harrington 1999). During the 1990s, these countries added tax incentives and rebates as well as fines to the environmental instrument repertoire: archived publications of the Regional Environmental Center for Central and Eastern Europe (REC) cite specific tax allowances in the form of deductions from environmental investments, tariff exemptions on the import of environmental protection equipment, as well as lower excise taxes on liquid fuels with low sulfur content among the instruments used to encourage air pollution reduction in the 1990s. The use of fines for non-compliance with emission standards was also common in countries transitioning from centralised economies – REC documents cite Poland as having had particularly high fines compared to e.g. Bulgaria, Hungary and Romania (SILAQ 1998).

In Poland specifically, the period after 1989 saw an intense interest in environmental policy reform where discussion of economic instruments was at the forefront (at least partially due to desire for approaches diverging from the previous "command-and-control" ideology) and the rapidly evolving government was open for new approaches, including pricing and market-based policies. For example, the idea of tradable pollution permits was included in an environmental protection act drafted in 1991 (Zylicz 2000). That act was, however, not passed because other political priorities overshadowed environmental concerns during that time. In fact the initial enthusiasm for application of new economic instruments in environmental protection – among academics and within government institutions – was fairly short-lived, blossoming in the period immediately following the fall of communism but slowing a few years later after a new government, focused on other economic concerns such as debt relief, took over in 1991.[58]

The short period of interest in new economic instruments did spawn pilot market-based policies in Poland. The early 1990s saw the creation of a local emissions trading system involving a steel mill and a power plant in Chorzow aimed at reducing emissions of criteria pollutants from coal combustion including sulfur dioxide, nitrous oxide, and particulate matter (Dudek et al, 1992) – a similar project in Opole involved a credit trading computer simulation rather than actual implementation. Both came to similar results in that they "proved" a system of tradable credits does indeed achieve emission reduction at low net cost - but they also revealed that the Polish legal structure and lack of political backing to accommodate the concept of tradable permits hindered implementation of such policies beyond the pilot project level (Zylicz 2000 and 2013). Blackman and Harrington, whose 1999

[58] Debt relief, however, also took on an environmental angle in Poland with successful "debt for nature" swaps. Jan Krzysztof Bielecki, who became Prime Minister in 1991, arranged for Western European creditor nations to forgive 50 percent of Poland's national debt. In 1992 his government reached an agreement with a group of 17 creditor nations known as the Paris Club, which allowed those nations to swap Polish debt for environmental concessions for up to $3 billion. The amount swapped by 1997 ($460 million) represented the largest debt-for-nature swap undertaken in a single country at that time (Deacon and Murphy, 1997).

analysis categorised 1990s Poland as a "developing country," also argued that permit trading on large scale was problematic due to the lack of monitoring and enforcement capacity common to poorer nations - as well as the lack of money from companies and regulatory bodies for proper administration and enforcement.[59]

Joining the European Union in 2004 established new policy dynamics. The Emissions Trading Scheme and the Green Certificate System described below are examples of how market based instruments have found their way into Polish environmental regulation.

5.4 Conflicts and challenges

With its entry into the EU in 2004 Poland adopted the very market-based instruments previously deemed problematic by the above-cited analyses – in the case of the EU Emissions Trading Scheme, it began participating in a market mechanism not only at a national, but a European scale. Funding from the EU, requirements laid out in the relevant Directives, and "living examples" in terms of regulatory infrastructure in old Member States, contributed to Poland's ability to implement market-based policies rather quickly despite lacking a regulatory history of them as explained above. Two such market-based instruments have arguably become Poland's main national climate and energy policies: the country's participation in the EU Emissions Trading Scheme (EU ETS) and its support scheme for renewable energy (RE) involving a mandatory RE purchase obligation with a quota system of tradable "green certificates".

The **emission trading system** was established in order to fulfil the requirements of European Union law and is enshrined in national law by the act of 22 December, 2004, on trade of allowances to emit greenhouse gases and other substances to the air. Management of emissions at the installation level is handled by the aforementioned National Administrator of the Emission Allowance Trading System KASHUE-KOBiZE, which maintains databases of installations as well as the country's national registry, into which all Polish allowance units are entered. The registry is linked to all other member state registries and to the European Union Registry.

Poland's instrument for **promotion of renewable energy** is enshrined in its national law governing electricity and energy, the Act of 10 April 1997 on the Energy Law, which was amended in 2005 to include renewable energy purchase obligations to be satisfied via a trading system of certificates of origin ("green certificates") originally designed to meet the

[59] "enforcement of allowances, which is largely taken for granted, depends on effective regulatory institutions; and program administration is carried out by firms and by specially-created regulatory organizations costing millions of dollars per year. In the near term, such investments and institutions are probably beyond the reach of most developing countries. Importantly, a lack of monitoring, enforcement, and administrative capabilities is a far more critical constraint on permit trading than on emissions fees. Permit markets will simply not work absent these capabilities, while emissions fees can, as the China and Poland case studies illustrate" (Blackman and Harrington 1999).

requirements of the EU's first renewable energy directive (Office of the Sejm 2005). This Directive 2001/77/EC introduced indicative targets for renewables' share in *electricity generation*. That directive was amended by Directive 2009/28/EC, which introduces binding targets for renewables' share in *total energy production*.[60]

Challenges associated with these two instruments are described below, by conflict category.

5.4.1 Constitutional conflict

After the RE instrument described above officially entered into force in 2005, it was challenged on constitutional grounds and the case came before the aforementioned Constitutional Tribunal.[61] At issue was a potential conflict of the Energy Law, which obliged energy companies to purchase electricity and heat from renewable sources, with Article 22 of the Polish Constitution ensuring freedom of economic activity. An obligation to purchase a certain type of electricity could constitute a constraint or limit on the economic activity of electricity transactions.

The Tribunal ruled that the government is justified in limiting the freedom of economic activity in the energy sector, as this area is already highly regulated. In the Tribunal's opinion, economic freedom is strongly connected with interests of other parties, including public interests – those may supersede personal freedoms and warrant the introduction of more extensive restrictions. The Constitution stipulates in its Article 31 (3) that such restrictions have to conform with the principle of proportionality. The Tribunal found the restriction embedded in the renewable purchase obligation to be proportional, taking into consideration public and private interests, and therefore it did not infringe on the freedom of economic activity principle (Polish Constitutional Tribunal 2006, English translation of judgement).

5.4.2 Conflicting regulatory planes

Aside from the constitutional question resolved above, the main area of challenge in Polish climate policy instruments is conflict between different regulatory planes – specifically between Polish national law and EU law.

Such conflicts abound in the case of the EU ETS, where Poland's implementation choices in the areas explicitly left to the discretion of member states have ended up being overruled or significantly altered by the EU Commission for being too 'weak'.

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[60] Pursuant to the amended Energy Law, power companies are obliged to obtain certificates of origin for each kilowatt hour of renewably produced electricity and submit them to the President of the Energy Regulatory Office for redemption. There is a quota for such certificates, and an entity that does not turn in enough certificates to meet the quota must pay a substitute fee of the certificate price plus the previous year's average certificate price, which is around 240 PLN / MWh . Substitute fees are incorporated into the resources managed by the National Fund for Environmental Protection and Water Management and are used to subsidise investment in RE projects.

Proprietary rights associated with certificates of origin are tradable and constitute a stock exchange commodity.

[61] Case P. 24/05 OTK-A 2006 9 of 25 July 2006

For instance, in the establishment of the EU ETS there was no formal ban on banking allowances between the trial period (phase 1) from 2005-2007 and the second trading period (phase 2) from 2008-2012. The decision on whether to permit installations' potential surplus emission allowances to be carried forward into phase 2 was left to the member states. All except France and Poland decided not to allow banking. When it became necessary to ensure that no banking would take place in any member state because of the clearly over-allocated state of the market (in which banking would perpetuate the negative impacts of over-allocation), the Commission's statement of its assessment methodology for the review of member states' National Allocation Plans (NAPs) for phase 2 effectively negated the Polish and French banking provisions by requiring that any banked EUAs be deducted from the second period cap (EU Commission 2006 and Ellerman and Joskow 2008, p. 49).

Poland's NAPs provide another example of such EU 'intervention': The Polish submission of the first one was seriously delayed, and the cap it proposed was very lenient compared to those proposed by other member states. The second NAP was submitted on time but was again very un-ambitious in the eyes of the European Commission, which decided to cut Poland's proposed allocation by over 25 per cent, from 284.5 million tonnes (Mt) CO_{2eq} to 208.5. In May 2007, Poland announced that it would take the EU Commission to the ECJ over that decision – a case it eventually won. The Commission appealed, however, and in December 2009 formally rejected Poland's second NAP. In 2010 Poland submitted a new NAP in line with the Commission's initial proposal of 208.5 Mt (European Commission 2010).

Aside from these conflicts concerning the EU ETS, the infringement proceedings against Poland for failing to implement EU Directives are obvious cases of conflicts.

As mentioned above, the EU's first renewable energy directive in 2001 was transposed via amendments to Poland's Energy Law. The new version of the directive is part of Europe's 2009 climate and energy package, to which there is much opposition in Poland.[62] It is perhaps thus no coincidence that neither the Renewable Energy Directive nor the Building Energy Efficiency Directive associated with this package have been fully transposed into Polish law.

The RE Directive 2009/28/EC should have been fully transposed by 5 December 2010. Pursuant to Article 27 (1) of the Directive, measures adopted by member states have to refer to this legal act – but current Polish legislation does not contain a legal act that would refer to

[62] Since November 2012, Ludwik Dorn of the political party SP has led a campaign to scrap the EU's existing climate and energy package via a European Citizens' Initiative. Citizens' initiatives can trigger EU action (i.e. EU Commission formal response and public hearing in the European Parliament) if signed by at least 1 million EU citizens in at least seven Member States within one year (in this case by November 2013). As of June 2013, SP's initiative has gathered 300,000 signatures in Poland and Lithuania. The initiative is supported by Poland's three major trade unions, which are collecting signatures from their members. Signatories to the initiative demand that the greenhouse gas emission reduction and renewable energy components of the EU climate and energy package of 2009 to be suspended until the signing of an international agreement on CO_2 emissions by major emitters like China, USA and India.

the Directive (though the legislative process is underway).[63] Specifically, the current legal framework for renewables lacks:

- authorisation, certification and licensing procedures that would fully comply with Article 13 of the Directive;
- provisions ensuring availability of information on equipment or systems that use RES, certification schemes, guidelines for planners and architects, in conformity with Article 14 (2, 4 and 5) of the Directive and provisions ensuring that the public is informed about RES used in transport, in conformity with Article 21 of the Directive; and
- provisions ensuring access of energy from renewable sources to grid infrastructure, in conformity with Article 16 of the Directive.

An important contextual attribute of both conflicts – the EU ETS and failure to transpose the renewable energy directive – is that unlike Germany and UK, Poland was not part of the decision-making process that led up to the directives it had to transpose into national law.64 Thus these two conflicts could be characterised as the result of efforts to impose a law entirely created by external entities into the Polish regulatory framework. Under this characterisation, similar conflicts in older member states would be less dramatic, as they consist of adjusting existing national climate and energy instruments mix to fit an EU construct those states had a hand in creating. Certainly all new Member States have a choice as to whether they wish to join the EU and are therefore not forced to adopt instruments other Member States use, but joining comes as a package – Poland could not choose to adopt some EU policies without also adopting the obligation to transpose its climate and energy directives. The extent to which Poles perceive the latter as applying instruments ill-suited to their domestic regulatory infrastructure or political goals may determine their eagerness to

[63] The Energy Law Act, i.e. the basic act in this sector, refers only to the Directive 2001/77/EC, which has been repealed by the Directive 2009/28/EC. Legal measures for promotion of energy from renewable sources conform with the previously binding directive 2001/77/EC but comply only partially with the Directive 2009/28/EC. However, at the time of writing an amendment to Polish Energy Law was making its way through the parliamentary process, having passed out of the Senat on 12 July 2013 headed for the Sejm as of July 2013 as one of the rare instances in which legislation originated in the senat.

Rather than being a comprehensive RE act, this amendment is merely intended to implement essential requirements of Directive 2009/28/EC to avoid infringement fines. According to interest group Client Earth, however, the new amendment does not constitute full transposition of the Directive, as it still does not completely confer renewably generated electricity preferential access to distribution grids (see 3rd point in the list above). The (state-owned) distribution companies may still refuse renewable network access on grounds that they lack economic or technical capacity, arguing that investment costs would be too high or additional transmission would need to be built. The Directive, however, does not mention exceptions to mandatory renewable acceptance for such conditions (interview Stoczkiewicz 2013).

[64] Arguably Poland could have had a say in the most recent version of the latter, as that was passed in 2009 when Poland had already been an EU member state for 5 years – however the green certificate system in force now was created in 2005 specifically to comply with the RE Directive in force at the time, Directive 2001/77/EC).

influence subsequent EU-wide negotiations over climate policy. Indeed, Poland is asserting itself actively in discussions over the EU's emission reduction targets and the future of the EU ETS, negotiations in which it now has a say.

5.4.3 Regulatory approach, "soft" conflicts

A further conflict is present more at the political and cultural than legal level and can thus be characterised as a "soft" conflict. Climate and energy policies are in principle policies of *transition* – from the current fossil fuel-based economy that is resource-intensive to a sustainable economy that does not involve finite resources needing to be extracted. Policy instruments employed in this arena are thus often by their very nature incentive structures designed to promote the transition to a low-emission economy, rather than static enforcement of regulations. As mentioned above, however, Poland's environmental policy history is dominated by the latter type of instrument in the form of pollution charges, fees and fines.

Poland and other centrally-planned economies then went through the major transition of becoming a market economy, a process associated with social and cultural turmoil. A further set of policies based on yet another *transition* – this time from a fossil fuel and resource-intensive economy to a low-carbon future – presents a "soft conflict" in that it is at odds with public sentiment. Empirical analysis reveals it may also be at odds with Polish business approaches. A transition to a low-carbon economy requires massive innovation and rapid proliferation of new technologies, particularly in the energy sector. As Szewrański (2012) points out, recent survey results reveal that Polish enterprises are quite inactive regarding innovation:

> "Innovation (taken to mean the number of enterprises concerned with innovative products, processes, organisation or marketing) is half that of the EU27 average. This is a disturbing sign of diminishing interest in product or process innovation in industry and services"
>
> Szewrański 2012, p. 16

Further, the transition to a low-carbon economy implies that many investments in fossil-fuel infrastructure made in the past would no longer be needed, leaving them as "stranded assets". A rapid transition away from fossil fuels implies a disproportionately large amount of such stranded assets for Poland compared to countries with e.g. significant hydroelectric resources, given that nearly its entire electricity infrastructure is powered by coal as explained in Section 5.1.2.

6 United Kingdom

6.1 Climate policy in the UK (past and present)

The United Kingdom is considered one of Europe's frontrunners in climate protection and has taken an early lead on domestic climate and energy policy. The UK was the first country in the world to establish a long-term, legally-binding framework to cope with the threats of climate change. The 2008 Climate Change Act covers both mitigation and adaptation and requires emission reductions by at least 80% by 2050 as compared to 1990 levels. In addition, it introduced statutory economy-wide carbon budgets and established a Committee on Climate Change that provides advice to the government on climate policy measures.

The UK has set these carbon budgets, each for a period of five years, until 2027. Embedded in the overall UK target, similar targets have been established by the devolved administrations[65]: Scotland's Climate Act of 2009 aims to reduce GHG emissions by 42% by 2020 and by 80% by 2050 relative to 1990 levels, while Northern Ireland has committed to reduce GHG emissions by 25% by 2025 compared to 1990 and Wales aims to reduce GHGs by 40% by 2020 against the 1990 baseline.

The UK's first significant energy policies involving support for renewable sources date back to the 1980s when the Non-Fossil Fuel Obligation (NFFO) was introduced under Prime Minister Margaret Thatcher. The NFFO required licensed electricity generators to source a share of the supply from non-fossil sources. Although the promotion of renewable energies was rather a side effect of the primary aim of pushing nuclear energy, the instrument laid the foundation for future renewable energy policies (Bowen and Rydge 2011; Woodman and Mitchell 2011; Agnolucci 2005).

The government published its first climate change programme in 1994, shortly after the adoption of the United Nations Framework Convention on Climate Change (UNFCCC). Serving as a general framework for climate policy instruments, the programme has been regularly superseded ever since (Department of Environment 1994).

Climate protection measures gained political momentum in 2001 and 2002 when the UK introduced a range of innovative policy instruments, both fiscal and market-based, to achieve its international emission reduction commitments:

- 2001 Climate Change Levy (CCL – introduced by Finance Act 2000): the CCL worked essentially as a downstream energy tax for business, commerce and the public sector and was levied on coal, gas and electricity while exempting energy used in the

[65] For details on devolution see below.

domestic sector and public transport (UK Finance Act 2000). The CCL has recently been reformed with the introduction of a carbon price floor.

- 2001 Climate Change Agreements (CCAs): The CCAs exempted energy-intensive industries from around 80% of the CCL provided they took on binding emission reduction or energy efficiency targets (UK Finance Act 2000; Pollution Prevention Control Regulations 2000). Together with the CCL, the CCA system was reformed in 2013, with new industry-specific energy efficiency targets allowing for up to 90 per cent off CCL payments.
- 2002 UK emissions trading scheme: the UK introduced the first large-scale emissions trading system for CO_2 emissions worldwide (Denmark ran a pilot at the same time but only involving very few companies). The system was voluntary and designed as a pilot scheme, was effectively replaced by the EU ETS in 2007, although it officially continued until recently (EDFA/IETA 2013).
- 2002 Renewables Obligation (RO) replaced the NFFO: The RO introduces a quota-system by requiring UK electricity suppliers to source a specified proportion of the electricity they provide to customers from eligible renewable sources and establishes a trading scheme for RO certificates.[66]
- 2002 Energy Efficiency Commitments (EEC): The Energy Efficiency Commitments 2002-2005 required electricity and gas suppliers to achieve an energy savings target of 62 TWh in domestic households in Great Britain between 2002 and 2005.

All these instruments have undergone reforms since their introduction. For example, with respect to the CCL and the CCA, a carbon price floor was introduced, the scope of CCAs was expanded and the respective levy discount adjusted. The UK ETS was replaced by the mandatory EU ETS in 2007, with a short overlap period; the quota system of the RO was complemented in 2008 by a feed-in tariff for small-scale electricity generation that took effect from 2008 (Energy Act 2008). Other important instruments include the Renewable Heat Incentive, the Renewable Transport Obligations or the Green Deal, among others.

In 2011, the government published a Carbon Plan, assessing progress towards the UK emission reduction target and set out a precise schedule for actions to be taken by relevant departments until 2016. The 2011 Carbon Plan also covers the role of Northern Ireland, Scotland, and Wales.

While it is difficult to draw the lines between "genuinely" domestic policies and policies that were implemented in response to EU legislation, overall, in the years 2000-2010 the UK demonstrated its willingness to show political leadership in climate policy using a "complex, elaborate and interdependent set of climate policies" (Sorrell 2003, p. 5; Ghaleigh 2013). The 2006 Stern Review was very influential for this policy development and created a "run to the

[66] Three different obligations: Renewables Obligation Order 2002, for England and Wales; Renewables Obligation (Scotland), and Renewables Obligation Order (Northern Ireland) 2005.

top" with politicians from all political parties striving for an ambitious climate change act. However, since 2010, a significant shift is occurring and climate policies are losing momentum, partly as a consequence of the economic contraction – although 66% of the public still states that they are concerned about climate change (DECC 2013). While the Conservatives had promised in the pre-election campaigns to be the greenest government ever, it seems that rising energy bills made them abandon this dictum since 2011 (Carrington/Stratton 2011). As one commentator notes, this development is explained as a "function of the financial collapse, shale gas, as gap between energy prices around the world, and the job perspective" (Ghaleigh 2013). Analysts bemoan a lack of clear commitment by the government to the promotion of renewable energy, and constantly changing support schemes, while more focus is set on the promotion of nuclear energy and shale gas (Najdawi et al. 2013). Currently, Parliament is debating a new Energy Bill which is expected to shape the UK energy supply sector for the next forty years and significantly alter the support system for renewables. The envisaged support scheme would be based on so-called "contracts for difference" which establish long-term contracts between electricity generators, retailers and grid operators, for renewable energy as well as nuclear energy and carbon capture and storage (CCS) at negotiated prices. While the details for the scheme are still being negotiated, some fear that the system would favour large nuclear companies over renewable energy companies (Harvey 2012).

6.2 Legal and institutional structure of the United Kingdom

6.2.1 Overview

The United Kingdom is a constitutional monarchy in which the Queen acts as Head of State. She has mostly ceremonial powers but also gives royal assent to make new bills into law. The main political power, however, lies with the Prime Minister as the head of government.

Unlike many other European countries, the UK has not experienced any fundamental game-changing internal conflicts – in the sense of e.g., the French Revolution or the Solidarity movement in Poland and the peaceful upheaval in Eastern Germany contributing to the fall of the Iron Curtain – that would have made it necessary "to reconstruct the whole system of government" (Bradley/Ewing 2003, p. 6). This partially explains the continuity of the political system, with most institutions being in place for many centuries. The first UK parliament was summoned in the late 13th century, and its two chambers were established half a century later. This continuity also explains the lack of a written constitution in the UK – which sets it apart from most EU member states, e.g., Germany and Poland. Political changes have been reflected through legislation, which avoided a fundamental restructuring of the entire system (Bradley/Ewing 2003, p. 6). This evolutionary approach makes the UK political system flexible while not unstable. Kurth observes a "remarkably uniform and historically stable structure of the political process" (Kurth 2001, p. 47).

While there is no formal foundation for securing the separation and restraint of powers in the UK, "[t]he resulting vacuum is occupied by the doctrines of the legislative supremacy of Parliament and the rule of law, their interrelation being one of the central questions of public law in Britain" (Bradley/Ewing 2003, p. 7). In the absence of a written constitution, legislation and judicial precedent are the main sources of constitutional law. It is this reliance on judicial precedent that characterises the UK – different from Germany, for example – as a common law system. Court decisions bind inferior courts and, in certain cases, superior courts, creating so-called "judge-made law" (Bradley/Ewing 2003, p. 16). Additionally, there is a whole range of rules of "constitutional behaviour" which guide legislative, executive and judiciary (Bradley/Ewing 2003, p. 19.).

Again in contrast to e.g., Germany, the UK has no federal structure but is a unitary state. However, it is made up of four countries – England, Wales, Northern Ireland, and Scotland – to which some powers have been devolved. The current structure is mainly shaped by the 1998 devolution process, in which certain areas of governance were devolved to Wales, Northern Ireland and Scotland through separate acts.[67] The range of devolved competences differs significantly among the countries, also with respect to energy and climate change, making the system of devolution asymmetric and complex.

Although climate change is not explicitly mentioned as devolved or reserved in the respective devolution Acts, several relevant policy fields are: energy, transport, and environment are devolved to differing degrees. Generally, competence for energy policy is a reserved matter, i.e. the power lies with the Westminster parliament, the supreme legislative body. However, some powers have been conferred on the devolved administrations. Among the three countries, Wales has the smallest level of competence: only planning policy, small power stations, environmental regulation and economic development spending have been devolved (Cowell at al. 2013). In Scotland, key areas are devolved for execution. For example, Scotland has control over planning and economic development spending, as well as decision-making authority over major power stations, grid lines, and the Renewables Obligation (Cowell at al. 2013). Northern Ireland has full control over energy regulation and support, grid lines, power stations and planning – the only exemption is nuclear power (Cowell at al. 2013, p. 17). Where matters are devolved, it is the devolved administrations that are responsible for implementing respective EU legislation.

All devolved administrations have set their own targets to increase renewable energy deployment. Scotland introduced a political target to deliver 100% renewable electricity by 2020. Northern Ireland aims for 40% renewable electricity and 10% renewable heat by 2020. Wales has indicated that it has the potential to produce twice the amount of electricity it currently uses from renewable sources by 2025 and aims at generating 4 GW of electricity from marine energy (DECC 2011b).

[67] 1998 Scotland Act, 1998 Government of Wales Act, and 1998 Northern Ireland Act respectively.

While this system seems highly complex, it has been reported that the devolved administrations have cooperated very closely with the UK government in designing their respective climate policies[68] (Ghaleigh 2013). This cooperation was also apparent in the drafting of the UK Climate Change Act, which binds the whole UK (House of Commons 2008). For example, the Scottish Climate Change Act was drafted in the same year, following a very similar design.

6.2.2 Executive branch

Executive power is formally exercised by the monarch but through the government and the devolved administrations of Scotland, Wales and Northern Ireland. Since 2010, David Cameron is the UK's Prime Minister. As the head of government he leads a cabinet of 21 Ministers. All ministers must be Members of Parliament, either from the House of Commons or the House of Lords.

Historically, most governments were formed by one political party which had gained the absolute majority of seats in the House of Commons (see below for voting system). It is said that this system has generally allowed for strong concentration of power in the hands of one governing party, either the Conservative party or the Labour party (Bradley/Ewing 2003). In contrast, the current government is a coalition government with members from the Conservatives and Liberal Democrats.

Within the UK Government, the main responsibility for climate change lies with the Department for Energy and Climate Change (DECC). Created in 2008, the DECC pulled together the energy and climate related responsibilities that were formerly located with the Department for Environment, Food and Rural Affairs (DEFRA) and the Department for Business, Innovation & Skills. DEFRA is still in charge of domestic climate change adaptation and some energy-related policy, such as the Ecodesign Directive and Energy Labelling Directive. Other relevant actors in the climate change realm include the Department for Business, Innovation and Skills, the Department for Communities and Local Government, the Department for Transport, Her Majesty's Revenue and Customs, and the Treasury.

Edward Davey from the Liberal Democrats has led the DECC since February 2012. The DECC is assisted by the Office of Gas and Electricity Markets (Ofgem) and a number of non-departmental public bodies, among them the Committee on Climate Change (CCC). The CCC is an independent body that was established under the 2008 Climate Change Act – it is mandated to advise the Government and devolved administrations with respect to the 2050 emission target and the carbon budget and the progress towards achieving them. The Secretary of State is obliged to respond to these progress reports. The CCC also undertakes detailed analysis of sectors and makes recommendations (2008 Climate Change Act).

[68] Scotland's Climate Change Programme, the One Wales Agreement and the Northern Ireland Sustainable Development Strategy.

Another influential institution is the Environment Agency which is responsible to the DEFRA. In the ambit of climate change, the Agency helps to run trading schemes for emission reductions, regulates low-carbon technologies and plays a major role in climate change adaptation. Scotland, Wales and Northern Ireland have their own environment agencies.[69]

There is also a vertical distribution of competence for climate change policy. The UK government is responsible for overall programming of climate policies, for meeting international emission targets and for international climate negotiations.[70] Climate change policies are designed by the EU, and the UK government, but also by the administrations of Scotland, Wales and Northern Ireland, according to their respective devolved responsibilities (see above). Additionally, there are up to three layers of local authorities that exercise executive functions in form of councils. The number of tiers as well as their respective responsibilities for climate policy implementation differ between different regions.

6.2.3 Legislative branch

The supreme legislative body in the UK is the Westminster Parliament, consisting of the House of Commons and the House of Lords (bicameral Parliament). There is no House in which the devolved administrations are represented. Instead, since 1999 Scotland has its own Parliament, and devolved Assemblies were established in Wales and Northern Ireland. These bodies have differing legislative powers, depending on the grade of devolution.

The members of the House of Commons are elected in general elections. Each of the 650 constituencies in the UK elects one MP for the House of Commons. The use of the first-past-the-post system, i.e. the candidate with most votes is elected, has largely ensured the dominance of two parties: the Conservatives and the Labour Party (Bradley/Ewing 2003). General elections are held every five years. In the last elections in May 2010, no single party won an overall majority of the 650 House of Commons seats. Conservatives won 305 (47% of seats) seats, Labour 258 (39.8%) and Liberal Democrats 57 (8.8%). The coalition government that was formed between Conservatives and Liberal Democrats is the first Coalition since the 1940s (House of Commons 2010).

There is agreement among all political parties that climate change is a pressing issue. For example, there was strong cross-party support in 2008 for the introduction of the UK Climate Change Act, and only small disagreement on its level of stringency. According to Fankhauser et al., “[t]his will make it very difficult for future governments, of whatever persuasion, to water down its provisions” (Fankhauser et al. 2009, p. 109).

In contrast to the House of Commons, the number of members of the House of Lords is not fixed – it is currently around 760. Before a major reform in 1999, membership was inherited.

[69] Natural Resources Wales, Scottish Environment Protection Agency, Northern Ireland Environment Agency.

[70] Climate Change Act section 1: “It is the duty of the Secretary of State to ensure that the net UK carbon account for the year 2050 is at least 80% lower than the 1990 baseline.”

Nowadays, the majority of the Lords are appointed for lifetime by an Appointment Commission (UK Parliament 2013). The House of Lords reviews legislation enacted by the House of Commons, may propose amendments and veto legislation to a limited extent (it can mainly delay, rather than prevent, bills from passing into law). The House of Lords' Appellate Committee traditionally acted as the highest court in the UK but was replaced in the course of major reforms by the UK Supreme Court in 2009, which is now the final court of appeal (Bradley/Ewing 2003).

For devolved policy areas, the Scottish parliament and the assemblies of Wales and Northern Ireland exercise legislative functions. By means of Acts of Parliament in 1998, these elected bodies acquired responsibility for devolved functions, but the extent of functions differs between the constituent states (see above). England itself has no parliament or assembly, meaning that decisions concerning only England are taken by representatives from all constituent nations in the Westminister Parliament.

Parliamentary sovereignty is the keystone of the unwritten British constitution. The principle implies that Parliament can repeal or amend any earlier legislation, and that no Parliament can bind its successor. Traditionally, the principle also entails that Parliamentary legislation cannot be overturned, not even by the Supreme Court. However, it is to be noted that British courts have in several occasions decided that Community law takes precedent over legislation enacted by the Parliament. With the accession of the UK to the EU, other recent developments such as the devolution or the 1998 Human Rights Acts have limited the principle of parliamentary sovereignty (Bradley/Ewan 2003).

6.2.4 Judicial branch

The UK has no single legal system but the different legal systems – English law (which applies to England and Wales), Northern Ireland law and Scots law – are highly aligned. The latter is a combination of common law and civil law and shows important differences relating to e.g., property, criminal and family law.

As the UK is split into different legal systems, so is the judicial system. England and Wales, Northern Ireland and Scotland each have a different court system. This extremely complex judicial system is currently undergoing major reforms. For example, through the Constitutional Reform Act 2005, a Supreme Court was established in 2009. This replaces the Appellate Committee of the House of Lords, which formerly acted as the highest court, and makes the judiciary fully independent from the government. The Supreme Court serves as a final court of appeal in all matters except for Scottish criminal and family law.[71] However, the Supreme Court cannot overturn Acts of Parliament. It can only advise the Parliament to change an act if it considers it to be against constitutional rules.

[71] Criminal law and family law issues from the Scots system are excluded.

With respect to climate change policy, there have been no major court cases. The only relevant cases concerned fraud in the EU ETS[72] which goes into the detail of property rights of EUAs, and a 2011 case of Friends of the Earth and two solar companies against a 50% reduction of solar feed-in tariffs.[73] Friends of the Earth won the latter case, and an appeal from the Secretary of State failed in 2012.[74]

6.3 Regulatory tradition

The literature on the UK's regulatory tradition with respect to environmental policy is extensive. Compared to continental regulation – e.g., in Germany – the traditional British regulatory style has been described as "flexible, informal, consensual, incremental and devoid of long-term objectives" (Wurzel 2002, p. 17). However, the 2008 Climate Change Act certainly puts this assessment in a different light given that long-term targets until 2050 were established.

An interesting aspect of UK regulatory tradition is the "tradition of accommodation and widespread consultation between political actors, experts, and interest groups" (Schaffrin 2013, p. 24). This might be influenced by the relative majority voting system, which makes the formal representation of minority interests practically impossible. As Rootes and Richardson observe, "the relative permeability of Britain's system of bureaucratic accommodations of environmentalist concern, with its elaborate system of public consultation in planning matters, has thus absorbed a lot of environmentalist energy which in other, less open systems might have found an outlet in radical politics" (Rootes and Richardson 1995, p. 183). With respect to the role of civil society, some experts point out that both the UK and Scotland Climate Change Acts were strongly influenced by proposals of the environmental NGO Friends of the Earth, which led a major political campaign for a climate law (Client Earth 2009). However, recent literature also suggest that despite a long tradition of public participation in planning processes, influence of the public is in practice rather limited (Lee et al. 2013).

Interestingly, in the ambit of clean air policy, regulating authorities have traditionally worked closely together with the regulated company when drafting release levels, guidance notes etc. Research found that "problems of implementation and enforcement are already solved before the application of rules and the recourse to formal procedures have begun" (Kurth 2001, p. 54.). Kurth calls this approach "discursive regulation", given that the lines between

[72] Armstrong DLW GmbH v Winnington Networks Ltd [2012] EWHC 10.

[73] R (on the application of Friends of the Earth Ltd) v Secretary of State for Energy and Climate Change; R (on the application of Homesun Holdings Ltd) v Secretary of State for Energy and Climate Change; R (on the application of Solar Century Holdings Ltd) [2011] All ER (D) 190 (Dec).

[74] The Secretary of State for Energy and Climate Change v.Friends of the Earth and Others. Respondent [2012] EWCA Civ 28.

planning and implementation are hybrid, and inspectors perform as consultants rather than as watchmen.

According to Kurth, inflexible regulation has not been considered a viable option in UK policy making and administration. Rather, regulatory instruments tend to leave room for negotiations (Kurth 2001). For example, energy efficiency and carbon reduction targets under the Climate Change Agreements are negotiated between trade associations and the Government. Rather than using universal levels of emissions, the UK has looked for tailored solutions that take into account the specific situation and the view points of the regulated company. "[T]he idea of regulation oriented toward effects and goals excludes inflexible regulations that are not pragmatically tailored to specific situations [...] the regulating decision represents a choice of different options, a compromise found by different problems, issues, view-points, and value decisions, which – as it cannot solely arise from scientific truth or economic interests – has to be simply 'practical' in order to work" (Kurth 2001, p. 53). Hence, case-specific regulation choosing the best practicable means has been the dominant regulatory approach in the UK.

A distinct feature of British regulatory style also seems to be a strong focus on cost-effectiveness. According to the HM Treasury Green Book, economic efficiency is at the top of the rationale for government intervention (HM Treasury 2003). Thus, Government departments proposing legislation are required to prepare impact assessments which assess the costs and benefits of the proposed regulation (Cabinet Office 2013, HM Treasury 2003). In the British civil service, economists play a decisive role, outnumbering any other profession and taking many of the most influential positions (Allan 2008). According to Allan, this reflects "the continued level of government intervention and monitoring in the economy" as well as the increasing influence of the Treasury over government departments (Allan 2008, p. 28.). On this background, it is not surprising that it was precisely the Stern Review on the Economics of Climate Change that created momentum for climate policies in 2006, which ultimately led to the UK Climate Change Act.

It is, however, not possible to discern a specific type of policy instruments that would be typical for UK climate regulation style. Rather, the UK has used a mix of policy instruments from the very start. The CCL and the UK ETS were introduced almost simultaneously, reflecting the recognition that different instruments work for different areas or objectives, e.g., differing transaction costs, wealth effects, uncertainty, compliance costs (Ghaleigh 2013). Renewable energies, for example, are promoted through a mix of market-based mechanisms including quotas as well as feed-in tariffs. Also under the new system, that is currently debated under the Energy Bill in Parliament, foresees a mix of different feed-in tariff systems. In general, UK climate and energy policy seems to be a dynamic field, in which many new instruments are introduced – and some of the discarded again. Often the new policies involve innovative regulatory approaches, or at least new variations of existing tools. A certain extent of overlap is not unusual (see also Sorrell 2003).

6.4 Conflicts and challenges

In the overall policy context described above, climate change mitigation instruments have encountered and continue to encounter challenges involving conflicting policy objectives, regulatory approaches, constitutional doctrines, and regulatory planes.

6.4.1 Different regulatory approaches

It is often perceived that the UK has a strong tendency for market instruments, with a strong focus on quota instruments. For example, the UK was a front-runner in testing an emissions trading scheme. However, in the last decades, the UK has used a mix of regulatory approaches for climate policy, as the example of promoting renewable energy shows.[75]

The main scheme for the promotion of renewable electricity in the UK is the quota system as introduced by the above mentioned Renewables Obligation (RO). The RO was originally introduced in 2002 and has been amended several times since. While the RO was also introduced to transpose the EC Directive 2001/77/EC into UK law, the scheme has a much longer history. The RO replaces the Non-Fossil Fuel Obligation from 1989 (Bowen and Rydge 2011, Woodman and Mitchell 2011).

The RO requires electricity suppliers to source a share of the supply from renewable sources. For each megawatt hour (MWh) generated from renewable sources, the generators receive a tradable certificate. The suppliers can meet their quota-obligation by surrendering RO certificates from their own generation capacity or those they have purchased from other generators. If they do not meet their obligation, they have to pay a "buy-out penalty". Considering the trading-element within the RO, it can be classified as a market-based instrument.

The choice of this quota instrument for the transposition of European Renewable Electricity Directive of 2001[76] has led to the general perception that this would be the UK's preferential approach. It can also be argued that when designing the RO to replace the instrument of the NFFO, it was politically viable to stay in the market-based tradition instead of switching to a completely new mechanism or approach. Furthermore, according to Woodman, the RO reflects the dictum of the then UK government to restrict government intervention to the minimum extent possible (Woodman and Mitchell 2011). In this line, the government reflected on the introduction of the RO: "We also feel that it is no longer the Government's job to pick winners or to introduce artificial distortions into the market place" (DTI 2000, p. 3). For example, under the 2002 RO scheme, there was no banding factor favouring specific renewable energy sources. "We are also aware that many individuals and organisations within the industry would like to see a banded obligation with the buy out price set at

[75] The different categories of policy instruments are discussed above.

[76] *Directive* 2001/77/EC on the promotion of *electricity* from renewable energy sources in the internal *electricity* market – being amended and subsequently repealed by Directive 2009/28/EC.

different levels for different renewable sources of energy. The Government has considered this option in some detail and has decided that it would not provide sufficient impetus for the industry to become more competitive in its own right […]. We believe that a banded obligation would segment the market unnecessarily, and would lead to Government dictating the relative importance of each technology" (DTI 2000, p. 3).

It is, however, notable, that the UK government has adjusted the support systems for renewables and increased the intervention it formerly tried to avoid. For instance, in 2009, a banding factor was introduced. Also, even if there was an initial preference for quota instruments and minimum government intervention, the UK has since introduced other policy instruments for promoting renewable energy, most importantly with the 2008 Energy Act. This Act introduced a feed-in tariff (FiT) system for small-scale electricity generators up to 5MW, with effect from 2010, and shows the government's recognition that small-scale investment was hardly promoted by the RO itself. According to the DECC, the introduction of feed-in tariffs was justified on three grounds: (1) give people a direct stake in transition to a low-carbon economy; (2) help develop a supply chain offering a wide range of cost-effective low-carbon options; and (3) promote public take-up of emission reduction measures. However, the government did not consider the FiT necessary for reaching its 2020 renewables targets because the necessary subsidy was already provided through the RO (DECC 2011). The 2008 Energy Act also introduced Renewable Heat Incentives, following a similar system as the FiT. Both the FiT and the Renewable Heat Incentives system apply differentiated tariff levels to different technology types. This reflects a deviation from the former reluctance of the government to "pick the winners".

The policies for renewable energy show that the UK combines different market instruments for different segments of the market and seems to be moving gradually toward more government intervention. Also in the wider climate policy context, the UK shows a clear preference for market-based instruments such as taxes and trading schemes (Drummond 2013). Where there are command and control instruments, e.g., on energy performance of buildings or landfills, these are mainly derived from EU legislation. It is however not possible to discern if they had been chosen even without EU influence.

6.4.2 Different regulatory planes

As mentioned above, Scotland, Northern Ireland and Wales all have partial control over climate and energy policy within their territories, but to differing degrees. In the following, the highly complex system of devolution which creates the need for significant cooperation between authorities across different levels is exemplified by the case of Scotland. Scotland was chosen as it pursues a particularly ambitious climate agenda.

In line with the 1998 Scotland Act, competence for waste, transport and housing was devolved to the Scottish Government. Furthermore, Scotland has control over planning and economic development spending, and decision power over major power stations and major grid lines, as well as the Renewables Obligation (Cowell at al. 2013). However, electricity, oil and gas, coal, nuclear energy and energy conservation are reserved matters. This implies that

most decisions concerning the structure of the energy sector are taken at the Westminster Parliament. Given its small population size, Scotland "lacks a strongly institutionalised right to participate in central government decision-making" (Swenden et al 2009, p. 4). Furthermore, the list of reserved matters does not recognise the high degree of interdependence of policy areas, especially with respect to climate and energy policy. There is also no guarantee that Scottish interests are taken into account in EU decision-making forums. Hence, there is the risk that EU legislation poses limits to Scottish climate ambition, e.g., through the EU ETS (McEwan 2008).

Overall, cooperation between the Scottish and the UK authorities has proven successful in the realm of climate policies. Both governments worked together closely in designing their respective Climate Change Acts, and the UK Act recognised the role of devolved governments in climate change policy. When Scotland decided to increase its ambition, the UK reflected this decision in sharpening its overall target (Ghaleigh 2013). More generally, day-to-day communication between civil servants from both governments has been described as positive and cooperative, despite the absence of institutionalised coordination (Swenden et al. 2009). It is important to note that the Scotland Act is a UK Parliament Act. In accordance with the principle of parliamentary sovereignty, this Act could be withdrawn or amended at any time. This might facilitate the cooperative spirit. However, the Scottish independence referendum expected in September 2014 might substantially alter the situation.

Nevertheless, conflicts do appear. The reserved matters pose significant constraints upon the Scottish government to pursue its ambitious renewable energy targets, as for example energy regulation remains a reserved matter. For instance, Scottish attempts to negotiate the construction of a new electricity connector between Norway and Scotland were stopped by the UK government on the basis that electricity generation, transmission and distribution was a reserved matter (Swenden et al. 2009). Hence, the Scottish government argued in a 2007 White Paper that powers for energy regulation and policy should be devolved to the Scottish government to permit a coherent "green" Scottish policy (Scottish Government 2007, p. 14).

Another example of conflict is the case of nuclear power. Promotion of nuclear energy is an inherent part of the UK government's climate strategy, while the ruling party in the Scottish Parliament is strongly opposed to nuclear energy as outlined in the vision for a Greener Scotland by the Scottish National Party (SNP 2013). This has led the Scottish government to use its competence for planning law to block the construction of new nuclear power stations on Scottish territory (Swenden et al. 2009).

Interestingly, a recent study published by the University of Cardiff states that devolution has had a positive impact on the deployment of renewable energy. Accordingly, devolution has allowed Scotland, Wales and Northern Ireland to take a faster pace on renewable energy buildout. For example, the Scottish government has decided to give greater support to wave and tidal power in the RO scheme, thus introducing a banding factor and deviating from the Westminster policy on that issue, and has devoted greater resources to research for offshore wind, wave and tidal power (Cowell et al 2013).

All devolved administrations have taken different approaches to planning with respect to renewable energy, departing from UK planning norms. Across the devolved administrations, analysts observed "regional centralism" emerging in planning, and note that regional central decision-making generally has higher and quicker consent rates than decision-making at the local level, as in the UK approach (Cowell et al. 2013, p. 32). The relative success might indicate that devolution allowed for the deviation from UK policy approaches, and for more streamlined consent procedures. Cowell et al. also note that devolution gave the countries the powers to develop their own renewables strategy, aspiring at higher targets than the UK and more suitable to the specific local context (Cowell et al 2013).

However, although devolution has generally had a positive impact on climate and energy policies, the current system of devolution still presents some obstacles for more ambitious climate policy, as the Scottish example showed. As Swenden et al. conclude, "Scottish government's [climate] policy reflects its ambition to play leading role, but it also clearly reflects the constraints of Scotland's embeddedness within the UK's and EU's policy and constitutional framework" (Swenden et al 2009, p. 4).

Conflicts between different regulatory planes become apparent also between the EU and the UK level. For example, the European Commission recently announced to refer the UK to the European Court of Justice over reduced VAT rates for energy saving materials in the framework of the new refurbishment programme, the "Green Deal" (European Commission 2013). In this respect, it is also noteworthy that the UK government is currently conducting a public survey on the balance of competences between the UK and EU, also with respect to environment and climate policy. The survey aims to identify whether EU membership has benefited or disadvantaged UK interests (DEFRA/DECC 2013). This review has to be seen in the wider context of the debate around a possible withdrawal of the UK from the EU, but might also indicate in which areas the current division of competences hinders or spurs ambitious climate policies.

7 Overview

The following table gives a brief overview of some of the main general characteristics in the three Member States as well as particularities related to climate and energy policy.

Table 6: Overview of key characteristics of the three Member States

	Germany	Poland	United Kingdom
Main legal system	Civil law	Civil law	Common law
Written Constitution	Yes	Yes	No
Governance system	Federal	Unitary	Unitary
Parties in Parliament	6	6	3
EU member since...	1957	2004	1973
Cross-party support for climate policies	Yes	No	Yes
Public support for climate policies	Yes	No	Yes
Perceived climate policy frontrunner	Yes	No	Yes
Tradition of environmental regulation	Command and control, while using also suasive instruments and voluntary agreements	Command and control, involving pricing elements	Flexible, informal, consensual, devoid of long-term objectives Mix of policy instruments with preference for market-based instruments Discursive regulation
Main instruments for climate protection (selection)	Feed-in system EU ETS Eco-tax	Quota system (Green Certificate System) EU ETS	Quota system Feed-in system ETS & EU ETS Climate Change levy Legally binding targets up to 2050
Challenges before Constitutional Court	Yes	Yes	No
Conflicts at EU level	Yes	Yes	Yes

Further notable details	Green Party has been/is part of government (national/state level) Climate Change Act at subnational level Great number of court cases over energy / climate related issues, also in front of Constitutional Court FiT Clearing House since 2007	Opposed to many proposed EU climate measures and late implementing many related EU directives As a former Eastern Block country only recently transformed into market economy Labour unions and coal industry particularly influential	2002 already ETS pilot Since 2008: Climate Ministry (DECC) Climate specific advisory body (CCC) Climate Change Act with legally binding long-term emission reduction objectives

8 Conclusions

The four studies on the EU, Germany, Poland and the UK show that legal and institutional structures influence not only the choice of policy instruments but also their implementation. The EU and the three Member States considered here have established legislation related to climate change. All three Member States profiled here have seen changes in regulatory approaches, though to different extents. Furthermore, court rulings at national and European level have been instrumental in clarifying the validity of specific regulatory choices. Thus all powers – the legislature, the executive and the judicial branch – have contributed to the current shape of climate change regulation. The examples examined above offer some lessons and structural considerations of a general nature:

8.1 Regulatory approaches change

The countries analyzed have different histories regarding environmental regulation, with "command and control" historically featuring more prominently in Germany and Poland, while the UK has traditionally been open for more market-based approaches. However, these approaches have changed over time, as exemplified by climate legislation: Germany opened up to market-based solutions that Poland also adopted in line with its entry into the EU, while the UK went in the direction of more government intervention when introducing a feed-in tariff for parts of the renewable market. At the EU level, a change from price mechanisms to (other) market-based mechanisms – especially the ETS – took place.

Triggers for such change include:

- New topics might call for new solutions – in this way the introduction of climate policy itself as such has led to new approaches,
- Changes in political circumstances (e.g. new government),
- New international treaties or legal frameworks (e.g. the Kyoto Protocol) that prompt change by way of new obligations (e.g. an emission reduction obligation) or new instruments (e.g. the flexible mechanisms),
- Experiences – also in other countries (e.g. US experience with acid rain programme) – that increase the appetite for new approaches,
- EU legislation that – after being negotiated between the Member States – requires deviation from former practice or adoption of new approaches (e.g. the emissions trading directive triggered change in Germany and new approaches in Poland),
- Barriers to use certain solutions might trigger innovative choices (e.g. the legal requirement of unanimity in the EU Council with respect to tax laws).

With the growing legislative body of the EU in the field of environmental regulation, there is also a decreasing relevance of the different national regulatory traditions as regulatory systems converge through assimilation of harmonised EU law.

There are no indications that regulatory traditions in different Member States are insurmountable barriers to new regulatory approaches. Therefore, these traditions need not determine the design of future policies. However, certain aspects related to regulatory approaches or the change thereof should be taken into consideration as the examples in this study have shown:

8.1.1 New approaches can trigger legal conflicts

New regulatory approaches related to climate change have triggered a number of complaints before the courts within Member States, e.g. in Germany with respect to the emissions trading scheme, and between Member States and the EU (e.g. with respect to state aid rules).

Any conflict – especially when settled by courts, which is typically very time-consuming and lengthy – inflicts costs on the parties involved. Depending on their number and prominence, such cases also come at a political cost. They can lead to considerable delays in the implementation of the policies, as has been shown, e.g., by the conflicts between the Polish government and the EU over the Polish National Allocation Plan, and to a lack of policy certainty. This can undermine the confidence of investors and other market actors.

However, the court rulings have provided useful legal clarifications at the national and European level, e.g. about the boundaries of emission regulation options due to fundamental rights or options to use feed-in tariffs while respecting the internal market and state aid rules. Such rulings might be a valuable source of information, for example when extending regulations to new gases. They might also limit the number of future cases, as certain issues have now already been settled.

8.1.2 Innovative conflict resolution mechanism emerged

New approaches can also trigger new solutions. For example, the German feed-in system for renewable energies was accompanied by the establishment of a clearing house for conflicts, to allow private parties to settle their disputes in short time and at low cost. This instrument has been well accepted by affected parties and successfully showcases how to strengthen a regulatory instrument.

8.1.3 Path dependencies can be a risk and an opportunity

Certain regulations create path dependencies that cement a given approach or at least impede easy changes to the system. Such path dependencies can be created e.g. by establishing complex structures or by strengthening certain groups of stakeholders who will defend their interests.

For example, the German system regulating the power market until end of the 1990s allowed the establishment of four big, vertically integrated power companies. During the stepwise liberalization of the market, these incumbents defended their market share fiercely using their considerable political influence as well as their economic and structural power. Thus the

system change was a lengthy process and accompanied by a great number of legal conflicts (Bausch 2004).

At the same time, the feed-in tariff system in Germany created a whole new group of stakeholders, who now defend this policy approach also at the political level.

Another aspect of path dependency is when regulations become so dominant that it becomes difficult to move away from them for political, structural or even economic reasons. The more complex and overarching a regulation is, the more likely such dynamics might arise. Such a path dependency has developed with respect to the EU ETS: the EU cannot easily abandon this policy instrument and currently attempts to foster incremental improvements instead.

Such path dependencies can be overcome – as has been shown by the German example – but this requires time and political capital.

8.1.4 The freedom to test various approaches can be fruitful

While an EU directive by its very nature requires Member States to achieve a particular result, it also grants a certain amount of freedom with regard to the choice of means to achieve that result. Different Member States may thus choose different regulatory approaches. This in turn allows such approaches to be evaluated against each other - quota systems and feed-in tariffs, for instance, existed in different Member States and were evaluated at the EU level. This can be a learning experience, as shown by the UK's recent attempts to combine both approaches in the promotion of renewable energy.

Allowing such diversity of approaches can lead to unexpected results, as has been shown by EU legislation: While the European Commission originally favored a quota system for renewable energy promotion due to e.g. legal arguments about competition in energy markets, feed-in tariffs have become the more prominent support mechanisms in Europe. Such examples show that a competition among regulatory approaches can be useful. Nevertheless, the debate over efficiency gains and other advantages of a uniform choice of instruments prevails. Also experiences with the emissions trading scheme have shown that certain instruments work better with or even require a uniform design throughout the union.

Especially in the early stages of new regulatory approaches, it appears of value to allow for the testing of different approaches so experience on the ground can show the best pathway for the further development of a regulatory design.

8.2 The real regulation tends not to be the perfect one

Abstract considerations of instruments' efficiency and effectiveness play an important role in the early stages of instrument choice discussions, but during the legislative process, institutional, political, and legal realities become decisive. Existing rules for instance, might limit the design options (e.g. state aid rules). At the institutional level, the majority voting thresholds for different policies can be a decisive factor for the final instrument choice and its success (e.g. emissions trading instead of taxation rules at the EU level). The need to secure a

majority vote or even unanimity in a legislature to pass a climate instrument may require compromising a theoretically more optimal design, as could be seen especially in the early stages of the European emissions trading scheme. The political setting at the time of decision-making is also a determining factor: strong political momentum or lack thereof influences instrument choice (e.g. before and after the UN climate summit in Copenhagen 2009) as does the actual composition of a legislature during the period in question. Furthermore, political will, priorities, and even the above-mentioned make-up of the respective country's governing bodies may change during the time it takes to pass climate policy legislation. In Poland, for instance, the priority afforded to a comprehensive new renewable energy law decreased during the time draft laws were working their way through the legislative bodies.

Thus, while theory-based considerations over the advantages and disadvantages of different solutions might be important to guide the debate on policy instrument choices, especially in early stages, institutional, legal and political aspects are very powerful in influencing the final regulatory design. The examples in this study have shown this in several ways, as detailed below.

8.2.1 Scope of regulation can lead to conflicts among institutions

Climate policy affects more sectors of society than other types of environmental regulation as it pertains to economic activity at a broad scale.

The three Member States analyzed display differing institutional constellations when it comes to climate change related competencies. In Germany and Poland, for example, climate policy – including aspects also of energy policy – is considered an environmental issue while energy market regulation in general is within the competencies of the Ministry for Economics. [77] In Poland, however, the current environment minister hails from the economics ministry. According to interviews, his staff consists largely of people with strong economic background or former employees of the economics ministry. The UK integrated climate and energy in one department (DECC).

A split of competencies between ministries in a powerful policy area is a fertile soil for conflict. This can be aggravated when the respective ministries

- have different objectives and priorities, e.g. the goal of promoting low-carbon technologies or free competition in liberalised energy markets
- are headed by ministers belonging to different parties.

Thus, the institutional set-up of the executive branch with respect to climate policy has been the cause of a dynamic debate, e.g. in Germany. It is beyond the scope of this study to assess whether conflicts between goals and interests can be diminished or even dissolved by merging the ministries or changing personnel. Furthermore, it cannot be ascertained here

[77] An institutional reform to merge the topic in one ministry has been discussed, but as of September 2013 not been implemented.

whether mergers would be favorable for ambitious climate policies. In the end, the institutions will only be as co-operative and ambitious as the people leading them and working for them. The institutional dynamic and debate is, however, a clear indication of the struggle between the institutions dealing with issues as far-reaching, fundamental and complex as climate and energy policy.

8.2.2 Conflicting goals limit options for regulation

The broader political debate and the court cases exemplify the need to balance different goals when designing climate regulation. Any regulation needs to be compatible and coherent with existing legal frameworks at European and national level. Considerations in this regard include existing precepts concerning fundamental rights (e.g. freedom of property), the principle of proportionality (e.g. through hardship provisions), competition law including state aid rules, or the freedoms granted by EU law (e.g. free movement of goods). In many cases, different goals have to be weighed against each other to find an adequate balance within the legal boundaries.

Court rulings can be a valuable source for policy makers and administrations when designing and implementing new regulations. As certain legal doctrines and rights are applicable in many if not all Member States, even national rulings can be of general interest across borders. The case of the German Federal Administrative Court ruling that a licence could not be granted to wind energy plants if those projects infringed upon the ban on killing of species (enshrined in Germany's Federal Law on Nature Conservation) illustrates the limitations different policy goals can impose. The Polish court challenge to a renewable energy quota on the basis of infringement upon freedom of economic activity provides another example.

However, the ruling in favour of the Polish renewable energy instrument on the basis of proportionality, and the fact that guidelines have been issued to reconcile wind plant licensing with nature conservation in Germany, both show also ways to avoid, minimise or settle such conflicts.

8.2.3 (New) Member States need incentives for implementation

As shown by the case of Poland, new Member States might face the challenge that they were not part of negotiations pertaining to the rules they have to implement. In such a case, they did not have a chance to influence regulations according to their national political or economic context. Such lack of involvement may be reflected in a lack of political buy-in - especially if the policies require new technical or administrative skills and resources and are politically contested at national level. Problems are likely to arise in cases where its implementation comes at political cost, e.g. if climate protection is not seen as a political priority or necessity, and is even seen as an obstacle to other goals by the executive, the legislature or the voting public.

However, regulations might also be in the interest of the specific Member State, and even if that is not the case, a Member State will probably prefer implementation over conflicts with

the European Union over breach of European law, especially when policy implementation does not come at high political cost at the national level.

But not only new Member States need incentives for implementation. Therefore, it is - despite the possibility of a majority vote in the EU on relevant regulatory issues – advisable to strive for as much consensus as feasible under the given circumstances. This appears to be a common practice: research indicates a "consensus reflex" despite formal permissibility of qualified majority voting (Wurzel, 2012, 82). When certain levels of ambition are involved, however, consensus has its limits lest the goal of the regulation be compromised through "de facto veto power" observed in research (Zito, 1999:168).

8.2.4 The sub-national level should be taken into account

Depending on the country's respective governance model, the sub-national level may have the power to delay or even prevent certain national legislation (e.g. the Bundesrat in Germany). This can be particularly relevant for climate legislation, where there are often diverging interests that lead to implementation difficulties. The studies above have shown this to be the case in both unitary and federal systems.

Division of powers can help push the climate agenda. For example, research indicates that devolution in the UK has furthered the expansion of renewable energies (Cowell et al 2013). Devolved decision-making processes allow for tailored strategic energy decisions specific to the local context, and for maximisation of regional potential while streamlining planning procedures. In certain cases, the sub-national level can even be even instrumental in terms of policy ambition – in the UK the renewable targets of the devolved administrations are far more ambitious than the overall UK targets, and also in Germany some of the Länder are ahead of the federal level with respect to binding climate targets and ambition level. Such initiatives can contribute to a more ambitious dynamic at their respective national level.

However, there are limits to and risks associated with subnational ambition. The governance structure of a country reserves competence for certain areas (in this case, climate policy) for the national level – thus subnational authorities can be constrained in the extent to which they can implement their policies. For example, reserved matters pose constraints upon the Scottish government to pursue its renewable energy targets, as energy regulation remains a reserved matter (see also Swenden et al. 2009). In Germany, there are doubts whether the sub-national governments have enough governance competencies to ensure the fulfillment of their climate targets (Maaß 2012).

Furthermore, there is no guarantee that interests of the subnational level are taken into account in EU decision-making forums. Some European approaches – like the emission trading scheme – might also impede the potential mitigation impact of measures taken at subnational (and national) level. Also, subnational entities defining their own level of ambition and political direction can impede national coordination of climate change policy, with potentially leading to suboptimal results e.g. with respect to the distribution of renewable electricity capacities or grid-design.

Since the subnational level can influence both legislation and implementation, it is an important partner in the endeavor for ambitious climate protection.

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