Volume 1

Vanessa Aufenanger

Challenges of a common climate policy

An analysis of the development of the EU Emissions Trading Directive





Interdisciplinary Research on Climate Change Mitigation and Adaptation

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Vanessa Aufenanger

Challenges of a common climate policy

An analysis of the development of the EU Emissions Trading Scheme



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VORWORT

Der Emissionshandel ist ein wichtiges Instrument der europäischen Klimaschutzpolitik. Er geht bald in seine dritte Phase. In seiner kurzen Geschichte wurden unterschiedliche Konzeptionen verfolgt und verschiedene Ausgestaltungsmerkmale erprobt. Nachdem in den ersten beiden Phasen viel Lehrgeld bezahlt werden musste, darf davon ausgegangen werden, dass das Instrument ab 2013 ökologisch effektiver zu einem nachhaltigen Klimaschutz beiträgt. Viele Festlegungen zur Ausgestaltungen des Systems werden in Zukunft auf der Ebene der Europäischen Union und nicht mehr durch die vor allem an Schonung ihrer Industrie interessierten Mitgliedstaaten festgelegt. Das neue europäische Emissionshandelssystem entspricht somit auch dem neuen Politikstil, der zu einer Zentralisierung von Entscheidungen in der Europäischen Union führt.

In dieser Situation ist es sehr verdienstvoll, einen Blick zurück zu werfen und die Entstehung und Entwicklung des europäischen Emissionshandelssystems aus politikwissenschaftlicher Perspektive aufzuarbeiten. Die vorliegende Arbeit von Vanessa Aufenanger analysiert den Entwicklungsprozess von der Initiierung bis zur letzten Überarbeitung der Emissionshandels-Richtlinie und untersucht, welche Hemmnisse und Herausforderungen überwunden werden mussten. Der Schwerpunkt der Untersuchung liegt auf der Umsetzung der Richtlinie am Beispiel der Länder Deutschland, Spanien, Tschechien und Großbritannien. Die Forschungsarbeit analysiert beispielhaft die für Mehrebenensysteme typischen Wechselwirkungen zwischen Akteuren und Institutionen der europäischen und nationalen Ebenen. Die empirische Analyse, die auf Dokumente und Experteninterviews gestützt ist, zeichnet sich durch eine detaillierte, systematisch gut strukturierte und argumentativ nachvollziehbare Analyse des Prozesses aus. Durch eine überzeugende Verknüpfung von institutionellen und lerntheoretischen Ansätzen erklärt sie den Prozess, die Rolle der einzelnen Akteure und Institutionen. Dadurch wird verständlich, warum der auf den ersten Blick umständliche kollektive Lernprozess notwendig war, um die institutionellen Hindernisse und politischen Blockaden zu überwinden.

Da die Anforderung an Politik ist, Probleme nicht nur effektiv und effizient zu lösen, sondern hierbei auch möglichst viele Akteuren zu beteiligen und bei diesen Akzeptanz zu erlangen, betrachtet die Autorin den Prozess außerdem aus demokratietheoretischer Perspektive. Bezüglich der Legitimität gibt es noch Defizite, die teilweise systemimmanent sind – wie das generelle Demokratiedefizit der Europäischen Union, in anderen Teilen aber als behebbar betrachtet werden können. An der stärkeren Zentralisierung des Emissionshandelssystems in der dritten Phase von 2013 bis 2020 zeigt sich, dass es kritisch zu prüfen gilt, ob eine effektivere Umweltpolitik mit der Abgabe an Souveränität der Mitgliedstaaten einhergehen muss. Denn es stellt eine demokratische Herausforderung dar, wenn die nationale Legislative kaum noch Mitsprache hat. Als praxisrelevantes Ergebnis lässt sich festhalten, dass Deliberation und Capacity Building zu einer "besseren" Politik beitragen und insbesondere notwendig sind, wenn neue Instrumente eingeführt werden, die ein Lernen aller Akteure verlangen.

Mit diesem Band eröffnet das CliMA seine Buchreihe "Interdisciplinary Research on Climate Change Mitigation and Adaptation". Diese enthält Monographien und Sammelbände zum Umgang mit Klimaschutz und Klimaanpassung, die aus Forschungsarbeiten im Kompetenzzentrum für Klimaschutz und Klimaanpassung (CliMA) der Universität Kassel hervorgegangen sind. Das CliMA freut sich, diese mit Auszeichnung bewertete Doktorarbeit als ersten Band in seine neu gegründete Buchreihe aufzunehmen.

Für die Herausgeber Kassel, im Mai 2012

Alexander Roßnagel

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II ABBREVIATIONS

AAU	Assigned amount units
AGE	Arbeitsgruppe Emissionshandel/German Emissions Trading
	Group
BAT	Best available techniques
BDI	Bundesverband der Deutschen Industrie/The voice of German
	Industry
BERR	Department for Business, Enterprise and Regulatory Reform
BEST	Bureaucrats for Emissions Trading
BGB1	Bundesgesetzblatt/Federal Law Gazette
BImSchG	Bundes-Immissionsschutzgesetz/Federal Imissions Control Act
BImSchV	Bundes-Immissionsschutzverordnung/Federal Imissions
	Control Ordinance
BMU	Bundesministeriums für Umwelt, Naturschutz und
	Reaktorsicherheit/Ministry for the Environment, Nature
	Conservation and Nuclear Safety
BMWA	Bundesministerium für Wirtschaft und Arbeit/Ministry of
	Economy and Labour
BMWi	Bundesministerium für Wirtschaft/Ministry of Economy and
	Technology
CAN	Climate Action Network
CAP	Common Agricultural Policy
CBI	Confederation of Business Industries
CCA	Climate Change Agreement
CCAP	Center for Clean Air Policy
CCL	Climate Change Levy
CCS	Carbon Capture and Storage
CDE	Centrum pro Dopravu a Energeticu/Centre for Transport and
	Energy
CDM	Clean Development Mechanism
CEEC	Central and Eastern European Countries
CEOE	Confederación Española de Organizaciones Empresariales/
	Spanish Conferation of Business Organisations
CER	Certified Emission Reduction

CFSP	Common Foreign and Security Policy
CH4	Methane
CHMI	Czech hydro meteorological institute
CHP	Combined heat and power
CITL	Community Independent Transaction Log
CAN Europe	Climate Action Network Europe
CO2	Carbon dioxide
CO2eq	Carbon dioxide equivalent
CoP	Conference of the Parties
CZ	Czech Republic
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DEHSt	Deutsche Emissionshandelsstelle/Germany Emissions Trading
	Authority
DG	Directorate General
DMO	Department Management Office
DNA	Designated National Authority
DTI	Department for Trade and Industry
EAP	Environmental Action Programme
EC	European Communities
ECCP	European Climate Change Programme
ECJ	European Court of Justice
ECON	Committees on Economy
EEA	European Environmental Agency
EEC	European Economic Community
EECCEL	Estrategía Española Cambio Climático y Energía Limpia/Spanish
	Climate Change and Clean Energy Strategy
EEDS	Estrategía Española Desarollo Sostenable/Spanish Sustainable
	Development Strategy
EEG	Erneuerbare-Energien-Gesetz/Renewable Energy Sources Act
EFTA	European Free Trade Association
ENVI	Committee on the Environment, Public Health and Food
	Safety
EP	European Parliament

ERO	Energy Regulatory Office
ERU	Emission reduction unit
ETS	Emissions Trading Scheme
EU ETS	European Union Emissions Trading Scheme
EU	European Union
EUROPIA	European Petroleum Industry Association
FIELD	Foundation for International Law and Development
FoE	Friends of the Earth
FoE CZ	Hnutí Duha/Friends of the Earth Czech Republic
GDP	Gross domestic product
GHG	Greenhouse Gas Emissions
GICC	Grupo Interministerial de Cambio Climático/Interministerial
	Group on Climate Change
HFC	hydrofluorocarbons
HM	Her Majesty's
HNO3	Nitric acid
IMPEL	Network for Implementation and Enforcement of Environ-
	mental Law
IPCC	Intergovernmental Panel on Climate Change
IPPC	Integrated Pollution and Prevention Control
ITRE	Committee on Industry, Trade, Research and Energy
JI	Joint Implementation
JURI	Committee on Legal Affairs
LCP	Large Combustion Plants
LULUCF	Land-use, land-use change and forestry
М	Million
MARM	Ministerio de Medio Ambiente y Medio Rural y Marino/
	Ministry of the Environment
MEP	Member of the European Parliament
MITYC	Ministerio de Industria, Turismo y Comercio/Ministry of
	Industry, Tourism and Trade
MMA	Ministerio de Medio Ambiente y Medio Rural y Marino/
	Ministry of the Environment

MPO	Ministerstvo průmyslu a obchodu/Ministry of Industry and
	Trade
MW	Mega Watt
MZO	Ministerstvo životního prostředí/Ministry for the Environment
N2O	Nitrous oxide
NAP	National Allocation Plans
NCCAP	National Climate Change Adaptation Plan
NGO	Non-governmental organisation
NIR	National Inventory Reports
OECC	Oficina Española de Cambio Climático/Climate Change Office
OECD	Organisation for Economic Co-operation and Development
OFFER	Office of Electricity Regulation
OFGAS	Office of Gas Regulation
OFGEM	Office for Gas and Electricity Markets
OMC	Open Method of Coordination
PER	Plan de Energías Renovables/National Renewable Energy Plan
PFC	per-fluorocarbons
PJC	Police and Judicial Co-operation in Criminal Matters
PP	Partido Popular/People's Party
PSOE	Partido Socialista y Obrero de España/Social democrat and
	Labour Pary
ProMechG	Projekt-Mechanismen-Gesetz/Project Mechanisms Act
QMV	Qualitative majority voting
R&D	Research and Development
RMU	Removal units
RO	Renewables Obligation
SEA	Single European Act
SF6	sulphur hexafluoride
TEC	Treaty Establishing the European Community
TEHG	Treibhausgas-Emissionshandels-Gesetz/Emissions Trading Act
TEU	Treaty of the EU
TFEU	Treaty on the Functioning of the EU
UBA	Umweltbundesamt/German Environmental Agency
UK	United Kingdom

UNCED	United Nations Conference on Environment and Develop-
	ment
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNICE	Union of Industrial and Employers' Confederations of
	Europe
WMO	World Meteorological Organization
WWF	World Wide Fund for Nature
ZuG	Zuteilungsgesetz/Allocation Act
ZuV	Zuteilungsverordnung/Allocation Regulation

1 INTRODUCTION

1.1 Relevance of the topic

Climate change has been one of the most prominent environmental issues in recent years and tackling climate change is arguably one of the major challenges of the 21st century. Since its arrival on the political agenda, scientific evidence for its existence and its anthropogenic origin has been strengthened. Because climate change, like most environmental issues, is transboundary and of global importance, the political answer for combating climate change has to be found on the international level; the aim should be to get all parts of the world involved. One of the challenges is that the biggest polluters and the most affected countries do not coincide - the countries with the highest greenhouse gas emissions are found in the industrialised countries of the so-called North, and the countries most vulnerable to the consequences are the developing countries of the South. Because of its causes and effects, climate change cannot be seen as merely an environmental problem, but rather as a crisis of society (e.g. Brunnengräber et al. 2008). Thus, it also becomes a question of justice: justice between and among people and nations and justice between generations. Inaction today will define and jeopardise the lives of future generations. Although lifestyle alterations would be necessary to avoid the harmful effects of climate change, so far technical solutions that are easier to regulate in a policy have been preferred.

There are a number of factors that determine the agenda setting of a problem in environmental politics. The foundation of most environmental problems is scientific knowledge. Reasons behind rising awareness may be, e.g., an active civil society that pushes for an issue, environmental accidents, or international agreements. Once an environmental problem is perceived as such, it is raised to the political level where first, the willingness to act has to be present and second, polluters have to be unwilling to act without being forced to or are unable to find a solution themselves. The problem definition is followed by the policy formulation, implementation, and finally revision or termination of the policy. These steps together are

described as policy cycle (see among others Jänicke/Kunig/Stitzel 2003, Jann/Wegrich 2003).

In the meantime, climate change and its anthropogenic origin have been scientifically proven, although with some questions still open; civil society is well aware of the problem and its consequences, and even most politicians in Europe consider climate change as a severe problem and one of the greatest challenges of the 21st century. In spite of the promises from industry, it is obvious that all sectors will not contribute enough to a cut in emissions unless certain political measures are adopted and implemented. Although climate policy was initiated under uncertainty, the question was which method to choose rather than whether to act.

The world community began the governance process in 1992 with the adoption of the United Nations Framework Convention on Climate Change (UNFCCC). The Kyoto Protocol of 1997 – the outcome of the meetings of the convention – was the first international agreement to set binding targets for industrialised and transitional countries; hence, most of the 27 Member States of the European Union (EU).¹

The EU is leading the charge in enforcing climate change policy on the international level and was the driving force behind the Kyoto Protocol negotiations, ratification, and implementation (Luhmann/Sterk 2007: 16). Now, the EU must fulfil its ambitions at home among its Member States in order to be a credible negotiator for the post-2012 era, after the Kyoto Protocol expires. Because environmental measures are often seen as hindering economic growth, it is (and was) not always easy to get all EU Member States on board. As a member of the Kyoto Protocol itself, the EU shared the burden of reducing greenhouse gas emissions by 8 % compared to 1990 levels among its Member States according to willingness, potential, and feasibility. For example, Spain is allowed to increase emissions by 15 %, whereas Germany and the United Kingdom (UK) have to reduce their emissions by 21 % and 12.5 %, respectively. At the time the Protocol was signed, the Middle and Eastern European countries were not yet members

¹ Only Cyprus and Malta have no binding targets under the Kyoto Protocol.

of the EU and consequently, they are not part of the burden-sharing agreement. Nevertheless, countries like the Czech Republic must follow the acquis communitaire of the EU; under the Kyoto Protocol, they are responsible for achieving their own targets. As most new Member States have already (over-)achieved their Kyoto target due to economic restructuring after 1990, these countries are sometimes difficult to convince regarding ambitious climate measures.

Policies, programmes, measures, and instruments have been developed on European and national levels since the adoption of the UNFCCC and the Kyoto Protocol. As environmental policy is a shared competence of the EU, the EU is eager to harmonise the climate policy of its Member States. The EU has established what could be called an encompassing mix of climate policy measures focusing mainly on clean technologies, energy efficiency, and the promotion of renewable energy. Not all of these initiatives were initially and purposefully developed to halt climate change, but they contribute to this aim and are therefore counted as climate policies here. Moreover, some of these measures are now part of the EU Energy and Climate Change Package adopted at the summit in December 2008.

The Directive to establish an EU Emissions Trading Scheme (EU ETS)² adopted by the EU-15³ in 2003 is arguably one of the key measures of European's climate policy mix. With the EU ETS, started in 2005, the EU launched the first regional and largest all-encompassing greenhouse gas emissions trading scheme worldwide. The expectations for this market-based instrument are high and the question is whether or not it will fulfil them.

Although this instrument has been discussed in environmental economic theory⁴ for decades, it was rarely used in practice. The instrument is generally seen as an ecologically effective and cost-efficient way to reduce

² Directive 2003/87/EC of the EP and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, hereafter referred to as EU ETS Directive.

³ EU-15 refers to the EU Member States before the enlargement of the EU in 2004.

⁴ The concept was first developed by J.H. Dales in 1968: Pollution, Property and Prices and aims at the internalising of external effects. For more, see Chapter 5.3

emissions in a field in which it does not matter where the reduction takes place and where no negative local impacts are expected. While it can therefore be considered as suitable to addressing greenhouse gas emissions reductions, it is still debatable whether it is the most adequate instrument and whether the established system succeeds in reducing greenhouse gas emissions in the long term. Although these are important and interesting issues, they will not be discussed in depth in this thesis, as the focus is on the policy process.

One of the problems in designing the EU ETS was that at the time of the policy formulation, neither the EU nor the majority of Member States had experience in using this instrument, and the worldwide experience was limited as well. Some Member States had established national trading systems before, but the challenge to establish an EU-wide system was huge. Some Member States were not in favour of this instrument at all or of the way it was designed. Germany, for example, was one of the most vocal opponents and only agreed after concessions had been made. Although most actors were relatively comfortable with the Directive at the time of its adoption, criticism rose when it came to implementation. Indeed, the first phase, prepared as a learning period, was dominated by bad practice rather than good practice across Europe. Consequently, criticism came from all sides. The industry complained that the system was too costly, environmental groups objected that it was not far-reaching enough, and economists criticised the failure to comply with the key mechanisms of this instrument - namely, to price CO2 emissions.⁵ Whereas most criticism is aimed at the policy's design and implementation but does not question the instrument as such, some scholars of political science consider the instrument as a neoliberalisation of environmental politics (e.g. Altvater/Brunnengräber 2008) and find it inadequate to tackle climate change. They see the first implementation phase as proving their doubts.

⁵ CO₂ is often the focus of discussion, although all greenhouse gases are addressed. When talking about greenhouse gas emissions, all emissions are expressed in CO₂ equivalents (eq) in order to be comparable, because the gases have different warming potentials. Throughout the text, I will mostly talk about CO₂, as the EU ETS only aimed at CO₂ emissions.

The implementation of the second phase, started in 2008, already showed some improvement, but only the reviewed Directive adopted in 2009 as a part of the EU Climate and Energy Package brought real change to the scheme. In the EU ETS Directive 2009⁶ that sets the framework for the eight-year period starting in 2013, many changes were made that would not have been imaginable in 2003. However, only the experience from the next period can confirm the presumed improvements to the system. The question remains of how it was possible that the Member States agreed on a directive that they would not have supported in 2003, only six years beforehand. The answers are found in the implementation of the Directive and the lessons learned by the EU and its Member States.

1.2 Literature review⁷

As mentioned above, the EU ETS is considered to be the key instrument in EU's climate policy and also the most important measure to address climate change in most Member States. Consequently, the scientific interest in this topic is enormous. Taking into account the scope of this instrument, the disciplines most concerned with emissions trading are Economics, Social Sciences, and Law. Legal scholars deal with consequences and show the challenges of interactions of new instruments with existing law (e.g for Germany: Burgi/Müller 2005, Siems 2005).⁸ Economists focus on the macroeconomic (e.g. Anger et al. 2005) or microeconomic impact of the EU ETS, such as on businesses or industries (e.g. Graichen et al. 2008, Reinaud 2007, Stade et al. 2005) or on price signals and thus the economic efficiency and ecological effectiveness of the system (e.g. Benz/Sturm 2008). A number of research institutes have contributed to the discussion of economic, technical, and social issues of emissions trading. Most of them

⁶ Directive 2009/29/EC of the EP and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, hereafter referred to as EU ETS Directive 2009.

⁷ The literature review on the theories of EU integration and implementation research is integrated in the chapter setting out the theoretical framework (see Chapter 1.1).

⁸ These articles are not of relevance for this thesis, though, as they only explain why decisions regarding permits were made because of existing law. Political decisions are not of interest in these studies.

were commissioned by decision-makers in order to prepare the EU ETS Directive or National Allocation Plans (NAPs). Others were commissioned by stakeholders for the evaluation of certain rules and to back up the argumentation for lobbying. These studies have contributed to a knowledge-generating process and are partly used for the analysis of the implementation in Chapter 9.

A practical but less theoretical work is the book edited by Ellerman, Buchner, and Carraro (2007) on the implementation of the EU ETS Directive. The editors asked a number of national and EU decision-makers and advisors to write down their experiences with the transposition of the first phase or, to be more precise, with the design of the first NAPs. These texts are first-hand articles and their strength is that the authors were involved in the implementation process; they explain why a particular approach was chosen and what problems occurred. Case studies on the four countries relevant for this thesis – the Czech Republic, Germany, Spain, and the UK – were also included. The results show that inexperience and missing data, as well as the attempt to not threaten industrial competitiveness while simultaneously trying to create a market were some of the biggest challenges. These articles help provide insight into the national decision-making processes, including some details from informal processes.

At the time this research project began, there were only few analyses of the EU ETS from a social science perspective available. In the meantime, a number of publications by political scientists have appeared that deal with emissions trading as an instrument in general or the EU ETS Directive in particular.

In their book, Skjærseth and Wettestad (2008b) analyse the initiation, decision-making, and implementation of the EU ETS. They explain the events with the help of three theories, thus viewing it from three "different lenses" – namely, intergovernmentalism, multi-level governance, and regime theory. With the first theory, the authors seek to show the role and power of the Member States. The second lens is meant to analyse the role of the EU institutions and non-state actors. The third is used to focus on the

interaction between the Kyoto Protocol and the EU ETS; more precisely, to see to what extent the EU ETS can be traced back to the Kyoto Protocol and how the international negotiations have put pressure on the EU. This analysis found that Member States and EU institutions had drastically changed their positions towards emissions trading as an instrument, because at the time of the adoption of the Kyoto Protocol, the EU and its Member States were quite sceptical about the instrument. According to Skjærseth and Wettestad, favourable developments were a change in staff in the Commission, the failure to adopt a carbon or energy tax at EU level, the adoption of an internal ETS in two big oil companies (Shell and BP), and the pressure from the Kyoto Protocol, although at the time the EU ETS was designed, it was not yet in force. Steuwer (2007) also identified the Commission as a driving force for the initiation of an EU ETS. She regards the Commission as an entrepreneur with a decisive role and influence on the other actors. She also shows in detail the development of the Directive, starting with the Communication of the Commission to the European Council and Parliament in 1999. Her aim was to analyse how the actors changed their preferences as part of a learning process and to answer the question of whether a policy change took place. She concludes that the actors did change their attitudes, but in the end she attests that only a paradigm shift, not policy change took place. In their article, Skjærseth and Wettestad (2010) analyse the role of the Commission in detail, identifying the Commission as entrepreneurial epistemic leader. They trace back the initiation and policy-making of the EU ETS, finding that this leadership is based on better expertise of the Commission and expanded knowledge of emissions trading. They assume that in an enlarged EU, this entrepreneurial role is necessary for the further development of the EU's environmental policy. Buchner, Catenacci, and Sgobbi (2007) also regard the EU ETS policy-making from a learning perspective, showing the influences of copying, inspiration, and experience of internal and foreign trading schemes. They also point out the strong role of the Commission throughout the process.

Critical voices regarding the process of establishing an EU ETS come from Braun and Santarius (2007), who analyse the EU ETS from a multi-level

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governance perspective. Their most important view is that the EU ETS was introduced from top-down, which leads to a loss in sovereignty for the Member States. In addition, they point out the power relations in the implementation process between business and political interests, but also among more powerful and less powerful (industrial) interest groups. Interest groups and especially the influence of the power sector on policy formulation and implementation in Germany is the focus of the detailed analysis of Corbach (2007). He traces lobbying strategy and activity in this sector, showing how and where they succeeded. He states that lobbyism on the one hand and a limited influence of the parliament on the other hand posed a risk to democracy.

Skjærseth and Wettestad (2008a, 2008b) also analysed the implementation of the EU ETS. Regarding the goal attainment of the EU ETS, Skjærseth and Wettestad (2008a) operationalise the ecological ambitiousness of the what led to different scheme, investigating ambitions in the implementation. They state that the reasons behind the successes and failures of effective implementation are based on domestic factors, such as the fit/misfit approach by Knill and Lenschow (2000), the need of this instrument to achieve the Kyoto target, and the deed or drive (i.e., the willingness of governments). Taking the EU level into account as well, they view the centralisation of the scheme as playing a role regarding its ambitiousness. Skjærseth and Wettestad argue that a decentralised system, such as that adopted in 2003, opens up a more generous allocation of allowances to Member States. This argumentation can be confirmed by the low number of countries that did not over-allocate their industries. Regarding implementation, the authors identified UK as a frontrunner, Germany as reluctant/intermediate, Spain as a laggard that became intermediate, and Poland as a clear example of a laggard.

The PhD thesis by Lafeld (2007) analyses the role of emissions trading in German politics in the 1990s up to the adoption of the EU ETS Directive; it partly supports the estimation by Skjærseth and Wettestad (2008a, 2008b) that Germany's performance should be ranked as intermediate. However, Lafeld judges more critically, stating that Germany's role in the policy formulation and implementation process was rather that of a laggard, even

though Germany often considers itself to be a leader in climate policy. Grobbel (2009) found that in the case of the EU ETS, Member States that had more information in the pre-implementation phase and were more involved in the process were better able to deal with the limited time-frame of implementation.

Schreurs (2008) gives an overview of already existing emissions trading systems, explaining their designs and intentions. Comparing the EU ETS with these schemes, she states that the reason why the EU ETS failed to bring about serious emissions reductions was that most countries allocated too many allowances in the EU, which led to a decrease in prices and thus inefficiency. That the instrument failed is also stated by others who criticise the ecological ineffectiveness of the instrument (e.g. Brouns/Witt 2008, Brunnengräber 2008, Ptak 2008). While some critics reject the instrument in general (e.g. Altvater 2008, Biesecker/von Winterfeld 2008, Brunnengräber 2008) others consider the deficits inherent in the design (e.g. Brouns/Witt 2008, Schäfer/Creutzig 2008, Witt/Moritz 2008). Witt and Moritz (2008) focus their criticism on the linking with the project-based mechanisms, especially the Clean Development Mechanism (CDM). They argue that CDM projects were often lacking additionality, that investments would go to transitional countries and not to developing countries, and that incentives for environmentally harmful production planning were a consequence of the CDM, which leads to sham credits that are cheap for industries but does not lead to sustainability or contribute to climate protection. However, Skjærseth and Wettestad argue that "[s]omewhat paradoxically, the CDM factor may increase the willingness for governments to take on ambitious ETS targets" because the low abatement costs make it easier for Member States to burden their industries. Nevertheless, they agree that "increased cost effectiveness may go hand in hand with less reduction within the EU" (Skjærseth/Wettestad 2008a: 286). Regarding the revised EU ETS Directive adopted in 2009 (see Chapter 10), economists welcome the prospect that from 2013 on, auctioning will be the

main method of allocation, as this is in line with the aim to have costefficient greenhouse gas reductions; however, they also point out that the rules for auctioning have to be carefully determined (cf. Benz/Sturm 2008,

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Löschel/Moslener 2008). Wettestad (2009) has analysed the review process with a focus on the question of how it was possible to centralise the system. Using liberal intergovernmentalism, multi-level governance, and regime theory as heuristic lenses, he takes a closer look at the role of the Member States, EU institutions, and the link to the Kyoto Protocol. According to liberal intergovernmentalism, Member States demanded centralisation possibly because they became aware of the costs of a decentralised system. Despite this fact, the Commission also had its own reasons for centralising the scheme, which would confirm the assumptions of multi-level governance. Wettestad concludes that "[a]lthough the case [of the EU ETS, VA] supports the importance of acknowledging the multilevel character of the EU, not least the independent role of the supra-national Commission, it still emphasizes the key role of changing member states' interests and positions for understanding outcomes" (Wettestad 2009: 325). Skjærseth and Wettestad (2010) also state that the changes made in the EU ETS Directive 2009, such as the introduction of an EU-wide cap, reflect the experience gained during the first phase of the EU ETS. The Commission finally achieved what they intended in the Green Paper of 2000 - namely, a centralised system. Both Skjærseth and Wettestad (2010) and Wettestad (2009), point out the importance of learning for the change. Already in 2008, the British Carbon Trust called the changes planned for the post-2012 period profound (Carbon Trust 2008: 15).

General criticism of the emissions-trading instrument comes from Altvater and Brunnengräber (2008) and also Enders (2007), who regard the use of trading as a neo-liberalisation of environmental policy. One approach, shared by Altvater (2008), Mez and Brunnengräber (2008), and Brunnengräber et al. (2008) among others, is the call for the inclusion of an international renewable energy policy in the climate talks in order to get away from a fossil-based economy.

The conclusions drawn from previous studies are that the instrument was introduced despite the criticism of a number of Member States due to the Commission's persuasion and the support of Member States like the UK, the Netherlands, and Denmark that already had or were about to establish trading systems and thus favoured this flexible instrument. Germany was an especially problematic case for several reasons. First, it did not participate constructively in the policy-making process, and second, it stands out as a negative example in implementation regarding ecological effectiveness, even though the country usually considers itself to be a leader in combating climate change. To accommodate the sceptics among the Member States, concessions were made, resulting in a high degree of flexibility for the Member States. This flexibility turned out to be a problem during implementation because special rules were included, industries were protected, and over-allocation took place. Given that the first period was a learning period, the Commission took a stronger role in the second period. In the third phase, the Commission will set the caps, thus centralising the whole system.

The critical voices regarding emissions trading show that important aspects including social and sustainability issues were not discussed, neither at EU level nor at the national level.

More research on this new instrument is necessary because its popularity has inspired plans to translate it to address other environmental problems. Moreover, other regional, national, and international trading systems have been established or are planned, taking into account the lessons learned by the EU ETS. Since there have been few studies to date that capture the development of the EU ETS including the review, this project aims to present an overview of the entire policy cycle of the EU ETS. As this is an ambitious task, the focus of the intense analysis is placed on the implementation phase. This is justifiable because implementation was the key phase for the further development of the scheme.

1.3 Objectives and research question

The aim of this thesis is to show the development of the EU ETS Directive with a focus on implementation. As indicated above, the implementation of the EU ETS Directive was characterised by implementation deficits and little convergence. However, compared to other directives, it was possible to overcome the deficits relatively quickly. The research interest is to show how the different phases are interlinked and influence each other. Implementation can be seen as the centre of the policy cycle because it is here that a directive proves its effectiveness, and the result has implications for the termination or review of the directive.

Implementation research is a special field of policy analysis; its research interest is based on the assumption that an effective policy depends not only on design but also on practical implementation. Implementation research is based on the fact that policies are often either not implemented at all or are implemented incorrectly.

The implementation deficit is an important issue for all governing institutions and is especially relevant in federal or multi-level governance systems. As a system, the EU suffers from implementation deficits; although environmental politics is one of the most innovative and successful fields of the EU (Bomberg 1998: 34-5), it has problems when it comes to implementation (Knill 2001: 38-9). The reasons are manifold and can be linked to actors or institutions, but also to programme design. Moreover, sometimes policies are indeed transposed into national law and implementation measures are taken; however, they are not effective because the addressees are not compliant. Already aware of this problem, EU institutions as well as EU research paid close attention to this phase.

The cognitive interest of implementation research is to learn the reasons why implementation fails or is incomplete. The aim is to discover the problem and to identify the factors influencing implementation effectiveness, including actors, institutions, and processes in the analysis. Quantitative studies of implementation research focus primarily on the official numbers; however, these numbers underestimate the actual size (and probably also the shape) of the transposition deficit (cf. Treib 2008: 16) because not all violations are detected. In-depth analyses as undertaken in quailtative research provide better pictures of why implementation succeeds or fails because they look behind the numbers. However, results are difficult to generalise because of the lack of large-scale analyses. Implementation research can have practical implications when results suggest a change in policy-making. However, it is not as easy to pinpoint one reason why implementation is ineffective; rather, it is a set of factors and constellations that determine implementation success. The question of whether it is possible to have the "perfect" setting for all Member States to comply is thus a legitimate one. Nevertheless, the aim can still be to improve implementation conditions in a way that makes it easier for all to comply.

Whereas regulations do not require domestic transposition but apply directly once adopted, the implementation of directives is more complex and allows flexibility for adjustments to national circumstances. Hence, the implementation deficit or ineffective implementation mostly refers to the implementation of directives; consequently, they are the focus of implementation research, as will be shown. However, practical implementation can also be problematic, and this is relevant for directives as well as for regulations. However, as the EU ETS was introduced as a directive, the research and theory presented is restricted to studies on the implementation of directives. Directives must be seen as a compromise of national interests. With an increased use of majority voting, Member States no longer have the chance to veto a policy. Although consensus is the goal for policy-making, it is possible that Member States will have to implement a directive that they do not fully support. Therefore, national actors might be tempted to include their preferences in the implementation phase. Naturally, politics on the national level also faces difficult negotiations and the attempt to appease and include everybody's interests. Although the framework of a policy is clearly described in its directive, the devil is in the details. Sometimes problems only become apparent when it comes to interpretation of the law. Problems in implementation may result from weaknesses in the policy formulation, but can also influence the revision or termination of a directive. Hence, it is difficult to look at a single phase of the policy cycle without taking into account the interconnection between the phases.

The idea of studying the policy cycle with a focus on the implementation process of the EU ETS Directive is based on three assumptions:

1. Emissions trading is a new instrument for the EU and its Member States and is now the key instrument of the EU to tackle climate change; it was adopted despite initial scepticism and opposition;

- 2. The first implementation phase was dominated by bad practice throughout the EU Member States; the EU and its Member States have learned lessons from the first trading period;
- 3. The review of the EU ETS Directive was influenced by the experience gained during implementation.

The research questions resulting from these assumptions are:

What were the main barriers and motivations during the development and especially the implementation of the EU ETS? Can the establishment of the EU ETS be considered to be good practice?

1.4 Scope of research

The starting point for this research project is the climate policy of the EU and its most prominent instrument: the EU ETS. Although it is difficult to define exactly when the policy cycle of the EU ETS started, the scope to be analysed is restricted to the period between 2000 (the publication of the Green Paper⁹) and 2009 (the adoption of the reviewed EU ETS Directive 2009). This thesis analyses and compares the implementation of the EU ETS Directive in four Member States (the Czech Republic, Germany, Spain, and the UK), focusing on the transposition and the design of the NAPs.¹⁰ The aim of this research is to find factors that influenced the implementation, to identify Directive-specific issues, and to search for general problems of implementation in a multi-level governance system. Subjects of analysis are therefore actors and institutions on the national and European level and their interactions.

Before looking at the implementation, the policy formulation is presented, pointing out the most debated issues and the positions of the relevant actors, as it is assumed that this phase may explain the transposition and offer a comprehensive view of formal transposition and its problems

⁹ Green Paper on greenhouse gas emissions trading within the EU, COM (2000) 87 final.

¹⁰ In order to implement the EU ETS Directive, it was necessary for the Member States to design a NAP that defines the total amount of emissions and determines the allocation method for the certificates. The NAP had to be submitted to the Commission and approved. Moreover, the Member States needed to incorporate the requirements of the Directive into national law.

(Bursens 2001: 3). Often, implementation deficits can be traced back to inconsistent and ambiguous European policies that result from the "need to accommodate the diverse interests of the member states" (Knill/Liefferink 2007: 178).

Moreover, the review process is included in the analysis, as it has turned out that a number of lessons learned during implementation have been addressed in the revised EU ETS Directive. It is expected that with this analysis, the research questions can be adequately answered.

1.5 Outline of the thesis

The doctoral thesis consists of three major parts.

Part I presents in Chapter 1 the theoretical and analytical framework, and in Chapter 3 the methodological framework of the research. Chapter 1 puts forward an argument in favour of the multi-level governance approach as the setting for analysis, as this approach allows inclusion of non-state actors and recognises the multiple layers of policy-making that are especially relevant for implementation research. Combined with the policy cycle, it is intended to reflect the complexity of European policy-making. To compensate for the lack of normative implications of both concepts, democracy theory is used as a theoretical background. After presenting a general introduction on EU research, the relevant approaches for policy studies – neo-institutionalism and policy learning – are reviewed. Chapter 3 justifies the choice of a qualitative research design that includes a focused comparison and process tracing as an analytical tool. In this chapter, the sampling is carried out and the data collection and evaluation method explained.

Part II consists of Chapters 4 through 10, which give background information and an overview of the politics of climate change, show the emergence of a climate policy on the international and EU level, and present the policy cycle of the EU ETS Directive. In Chapter 4, the politicisation of the topic is shown, laying the basis for explaining political negotiations and actions. Chapter 5 focuses on the political answers to this problem, presenting the most important international agreements, such as the UNFCCC and the socalled Kyoto Protocol. The implementation of the Kyoto Protocol and the climate policy of the EU are dealt with in Chapter 6. This section also includes a general introduction to environmental policy and instruments before presenting emissions trading, first in economic theory and then in the design of the EU ETS. The aim of this part is to understand the politics of environmental policy in general and climate policy in particular. Guiding questions for this chapter are: Why is climate change a global problem and how is it governed? What is the role of the EU in climate protection? Why did the EU decided to establish the EU ETS?

Chapter 7 introduces the reader to implementation research. Here, the criteria for implementation effectiveness and the EU's approach to coping with implementation deficits are presented. This part is thus the basis for the analysis of the implementation, which is conducted by using different approaches from implementation research. The analytical framework is developed in Chapter 8, in which the theories chosen from implementation research are operationalised. In Chapter 9, an overview of the requirements for the implementation of the EU ETS Directive is given. The four case studies are presented in the following chapters. First, a country profile introduces the setting for the implementation. Then, the implementation process is traced back and evaluated with the help of document analysis and interviews. Finally, the variables indentified in Chapter 8 are applied. After an overview of the implementation, the case studies are compared and contrasted to the general implementation performance of the EU ETS Directive. In addition, a synopsis of implementation theory is provided in order to explain the implementation output. The aim is to understand the nation-specific setting and to track the decisions that led to the output. Guiding questions are: How did the Member States deal with the flexibility of the EU ETS Directive? Which factors influencing the implementation were shared by all Member States, and which factors were country-specific? Which changes took place from the first to the second period? Do existing approaches of implementation research explain the output of the EU ETS Directive?

The revised EU ETS Directive 2009 is presented and discussed in Chapter 10. The EU ETS Directive 2009 is examined in light of the latest developments of the EU's climate change policy and the experience gained during the first and second implementation phases.

In Part III, the development of the EU ETS Directive is discussed from three different perspectives. Chapter 11.3 reconstructs the learning process during the nearly decade-long discussions on EU ETS. The question is whether policy change actually took place. In Chapter 11.1 the view from within is presented, evaluating interviews with different actors that took part on different levels in different phases in different Member States, and contrasting the various opinions. Chapter 11.2 answers the questions of whether the EU ETS can be seen as good practice or not and which failures were a general problem of EU politics and which were specific to this instrument.

The project concludes with Chapter 12, in which the findings are presented in a summary and the research questions are answered. Furthermore, an outlook is given and the theories and methods used are considered.

1.6 Explanation of relevant terms

To avoid confusion, the most relevant and frequently used terms are briefly explained here. Definitions of technical terms are found in the Glossary at the end of the thesis.

Since the enactment of the so-called Lisbon Treaty, the EU has had one single legal personality, which replaced the previous three pillars: the European Communities (EC), the Common Foreign and Security Policy (CFSP), and the Police and Judicial Co-operation in Criminal Matters (PJC). Thus, the term EU is always used when referring to the EU as a collective actor, e.g., in international politics, or when referring to institutions on the EU level. The European Commission is generally referred to as the Commission and the Council of Ministers as the Council.

The numbering of articles generally refers to the Lisbon Treaty if not otherwise indicated. The Lisbon Treaty consists of the "Treaty on European Union (TEU)" and the "Treaty on the Functioning of the European Union (TFEU)". Whereas the TEU has not changed its name since coming into existence in 1992, the TFEU was previously the Treaty Establishing the European Community (TEC).
Actors are divided into state actors and non-state actors. State actors are all actors that are official institutions in the political process: thus, governments, ministries, administrations, and legislative bodies. Speaking of Member States or a Member State refers to the entire national government and administration, or to the relevant representative in the Council, depending on the context. Non-state actors include business interests, research institutes, and environmental groups. Non-governmental organisation (NGO) only refers to not-for-profit organisations that do not have particular or material interests but that share a common belief. Environmental groups usually belong to this category. Stakeholders are all lobbyists that have participated in the consultation process.

The terms interests mediation, interest representation, and lobbying are used synonymously as the intention is always the same – namely, to influence the decision maker.

2 CONCEPTUAL AND THEORETICAL FRAMEWORK

In the 1980s and 1990s, a shift from a historical approach of integration theory to policy studies took place (Rosamond 2000: 112), focusing on what the EU actually does and recognising that the EC was already a reality. With the treaty revisions of 1986, 1992, 1997, 2001, and 2007, EU institutions gained increasingly more power, a shift of competences to the EU took place, and the Member States in the Council made more decisions on a majority voting basis. The interest in the development and politics of policy fields was driven by questions of the capacity to act and the problem-solving capacity of the EU. Although mostly focusing on the policy formulation and decision-making at the EU level, policy analyses actually includes all steps of the policy cycle. The basic question of policy analyses is: How do politics and polity determine policy?

This research project can be categorised as a policy analysis, with the climate policy of the EU in general and the EU ETS Directive in particular as the research field. The interest of policy studies is to show how policy makers deal with problems in a certain policy field. The problem to be tackled is climate change. Policy analyses often use the concept of the policy Jänicke/Weidner/Biermann cycle¹¹ (see generally 2001. Jänicke/Kunig/Stitzel 2003, Jann/Wegrich 2003, Schneider/Janning 2006, Windhoff-Héritier 1987) to analyse the various phases, settings, and actors. The policy cycle consists of different stages that vary depending on the author: a) problem definition, b) agenda-setting, c) policy formulation, d) decision-making, e) implementation, f) evaluation, and g) termination or review. Sometimes problem definition and agenda-setting are seen as one phase, as are policy formulation and decision-making, and evaluation and termination/review. In this thesis, these phases are also combined into four phases overall: a) agenda-setting, b) policy formulation, c) implementation, and d) evaluation and review. Although they build upon each other, the stages are not in chronological order but rather overlap. As they have been developed for the policy analysis of national policies (cf. Blum/Schubert

¹¹ The concept of the policy cycle has its origin in the work of Lasswell, who was first to talk about stages. For more information see the cited literature.

2009: 172, Schneider/Janning 2006: 220), the phases must be adjusted when translated to the EU. The implementation phase, e.g., consists of two steps the legal and the practical implementation (see Chapter 7) - and it must be acknowledged that different levels and actors are of relevance in the analysis. Despite its weaknesses, this terminology is used throughout this text.¹² Policy analyses make use of different theoretical approaches to understand or explain processes and outcomes. The most prominent approaches in EU research are the different schools of neo-institutionalism. Whereas neo-institutionalists point out the resistance of institutions to change, learning theoretical approaches try to explain changes that have occurred. Learning theories complete neo-institutionalist approaches as learning processes are a special form of institutional change (cf. Csigó 2006: 153). Thus, here both approaches are combined because they are seen as complementary. The assumption this combination of theoretical approaches is based on is that on the one hand, in stable political systems learning takes place in respected institutional settings; on the other hand, institutions are changed by actors over time through learning. Hence, the inhibiting factors can be identified and the development explained. Both approaches are presented below. Whereas most policy analyses focus on only one phase, the intention of this research project is to overcome the separation of the phases and analyse the whole policy cycle, as phases are interconnected and overlapping. Policy-making in the EU is complex because of its multi-level character. Hence, not only the different stages but also the different levels are examined using the multi-level governance concept. The combination of these two concepts will help to capture the complexity of EU policy-making. The policy cycle concept aids in tracing the process, while the multi-level governance approach allows inclusion of different actors and levels.

Studies on EU policies cannot be viewed independently from the study of the EU as political system or from historical trends and paradigm shifts in theories. Therefore, it has to be clarified what is meant when speaking of the EU, and how the policy-making structure is conceptualised.

¹² For criticism, see Sabatier and Jenkins-Smith 1999

Theoretical approaches to European Integration attempt to explain or understand either the process of integration and its outcomes or particular aspects of European integration and governance (see Wiener/Diez 2004b: 242-7). Since the EU has no "meaningful historical precedent or contemporary parallel" (Rosamond 2000: 16), political scientists have had difficulties in theorising this new system ever since its emergence. In general, they have used already existing theories from international or comparative politics to analyse the structure and processes of the EC. We can now look back at decades of theory building in European Integration studies. Different theories describe different incidents and set different foci, as shown in this chapter. Wiener and Diez (2004b: 242) see integration theory as a mosaic in which various perspectives come together in their own right, although many of the more recent schools build on the assumptions of traditional theories of international or comparative politics. Some of the approaches are complementary rather than competitive.

There are several monographs and anthologies available on European Integration Theory. Ben Rosamond (2000), Antje Wiener and Thomas Diez (2004a), Knud Erik Jorgensen, Mark A. Pollack and Ben Rosamond (2007), and Katharina Holzinger et al. (2005), to name a few, all give good overviews on old and new theories and approaches to analysing European Integration. These researchers illustrate the manifold nature of European Studies and present new trends in analysing European integration.

2.1 Integration theories

Different aspects of the EU have been explained using different concepts and approaches. For a long time, EU research has been focused on the major steps of European integration. Integration research has been dominated by the two schools of intergovernmentalism and supranationalism that both consider the EU to be a highly institutionalised international organisation (Scharpf 2001: 2), with Member States as sovereigns. The main question of European integration research has been why states give up their sovereignty and what drives integration (Grande 2000: 11). The intergovernmentalists believe that Member States are the driving forces and main actors; supranationalists believe that Member States share their power with supranational actors in the integration process, such as European institutions. The macro theories used to analyse the European integration process are the realist or liberal views of intergovernmentalism and the supranationalist view of neo-functionalism.¹³ As macro theories, they are not really applicable to policy processes and therefore are not discussed or presented any further here. However, some of their assumptions can be found in newer approaches. In several of their works, Wettestad and Skjærseth (2008b, 2009) applied liberal intergovernmentalism to their policy analysis of the EU ETS, focusing on the role of Member States.

While these macro theories have dominated the theoretical debate in political science for decades, in the 1980s and 1990s a paradigm shift of scholarly views of the EU took place that focused on the consequences and effects of the integration process (Grande 2000: 11). The change from a bottom-up to a top-down view can be seen as in line with a growing number of policy studies that started in the 1980s. The initial focus on policy-making and governance at the EU level was then complemented with an increasing interest in Europeanisation and implementation research, acknowledging that effective governance and problem-solving depends not only on policy-formulation but also on effective implementation (Knill/Lenschow 1999a: 1). Including different actors in the analysis and acknowledging the role of institutions, different types of neo-institutionalisms became the prominent theoretical approach.

2.2 Conceptualising governance in the European Union¹⁴

The major shortcoming of neo-functionalism and intergovernmentalism was that they did not overcome traditional concepts of nation-states or intergovernmental organisations when analysing the EU. The focus on governance in the EU led to a discussion on the structure and system of the EU that tried to avoid state-centred concepts.

¹³ Realist intergovernmentalism views power and security interests as reasons for integration; liberal intergovernmentalism, as economic interests. Neo-functionalists thought that European integration developed a dynamic of its own and that integration leads to spill-over effects.

¹⁴ On Governance in the EU, see Tömmel (2008b), Conzelman/Smith (2008).

The discussion of the system of the EU has been divided between realists, who consider the European Community as a highly institutionalised international organisation, and federalists, who view it as a federal or confederal consociation (Rosamond 2000: 150). Looking at the EU from a federalist perspective was most popular in the 1980s and 1990s, referring to the Europe of Regions (Conzelmann 2008: 14). With the Convention and the possibility of a European Constitution, an increasing interest in the federalist structure came about.

Federalist scholars (e.g. Döring 2004, Harbo 2005, Hrbek 2004, Kinsky 2004, Piazolo/Weber 2004, Sidjanski 2001, Sturm 2006a) agree that the EU already has important features of federalism such as regionalism (Council of Regions), subsidiarity, and legislative, executive, and judicative tasks of supranational actors, among other factors. Although it is close to a federation, the EU can also not be regarded as such because it is too loose (Tömmel 2006: 253). Despite the difficulties in classifying the EU, federalism for the EU is seen as an option for enhancing democracy (cf. Döring 2004: 228, Sidjanski 2001: 147-56, Sturm 2006a: 160), transparency, and efficiency (cf. Sidjanski 2001: 147-56), and to protect the sovereignty (cf. Döring 2004, Kinsky 2004: 290) and diversity (cf. Hrbek 2004: 316) of Member States and regions. However, as Tömmel (2006: 6) argues, the EU still lacks normative aims of a federal state and also federal structures, because the supranational level is not sovereign and Member states are autonomous.¹⁵

As the concept of federalism has a different connotation in the Anglo-Saxon world – for the British, federalism leads to a centralist state, whereas for

¹⁵ In implementation research as well, the EU has been compared to federalist states in attempts to apply theories especially from research on the USA to the EU. In recent publiccations of implementation research, a comparison between implementation in the EU and federalist states like the USA is no longer predominant. One attempt to view implementation from a federalist perspective is the research by Andrea Szukula (2004). She regards implementation performance from a macro perspective as a federal convergence pressure mainly enforced by the European Court of Justice (ECJ). According to Szukula, the federal structures and European law influence the Member States more than the other way around (Szukula 2004: 362-4). This top-down perspective is similar to Europeanisation research, although scholars coming from this tradition in implementation pressure, as will be shown.

continental Europeans, federalism is connected with a highly de-centralised system when referring to the EU¹⁶ – the term is often avoided in the European context. Regardless of the possibility of describing the EU using traditional conceptualisations of governing polities and its recognition as a system sui generis,¹⁷ governance takes place and can be described. The political system in which governance takes place is not the major concern of governance research; rather, the focus is on the structure. This is why this approach is useful for a "non-state polity like the European Union" (Conzelmann 2008: 11) with weak systemic structures (Tömmel 2006: 9).

With the drift of authority away from national governments to the EU level, the term "governance without government"¹⁸ (Jachtenfuchs/Kohler-Koch 1996) was developed. Acknowledging that the EU has already established stable institutions and that governance takes place on different levels with a multitude of actors, scholars in the 1990s began to refer to the system of the EU as "multi-level governance" (see e.g. Jachtenfuchs/Kohler-Koch 1996)¹⁹. Multi-level governance initially described a "system of continuous negotiation among nested governments at several territorial tiers – supranational, national, regional and local" (Marks 1993, 392, quoted in: Hooghe/Marks 2003: 3),²⁰ but the term is now applied more broadly to the EU (Hooghe/Marks 2001) or to transnational politics in general in order to describe political processes, which include state and non-state actors (Brunnengräber/Walk 2007: 20). The multi-level governance approach

¹⁶ Fischer (2000) gave a lecture at Humbolt University in Berlin in which he visualised a European federation with a bicameral system consisting of the EP and Council. The speech was received in a critical light in France and the UK (Tömmel 2006: 264).

¹⁷ This terminology reflects the fact that its nature and problems can neither be categorised in nation-state dimensions, nor can nation-state terminology be reasonably used for it (Jachtenfuchs 1997: 15).

¹⁸ Originally developed by Rosenau, James N./Ernst-Otto Czempiel (eds.) 1992: Governance without Government: Order and Change in World Politics. Cambridge: University Press

¹⁹ Other suggestions to describe transnational governance are multi-tiered governance, consortio or condominio (Phillipe Schmitter), polycentric governance (Phillippe Schmitter and McGinnis), multi-centred governance e, or network governance (Rhodes, Mayntz, Pappi) (Hooghe/Marks 2003: 3).

²⁰ Wettestad and Skjærseth (2008b, 2009) have used regime theory to include the influence of the international level.

recognises the fact that each level has its own actors, institutions, and proceedings but also underlines that they are interconnected vertically and horizontally, as well as territorially and functionally (Grande 2000: 11-5). Thus, multi-level governance focuses on the characteristics and particularities of governance in the EU without reducing its complexity.

As EU environmental policy is a "truly multi-level governance scheme [...] that facilitates co-ordinated actions between supranational, national and subnational actors" ²¹ as stated by Knill and Tosun (2008), the multi-level governance approach is used for the purpose of this research. The advantages of the governance approach are that:

First, a governance perspective is able to link policy-making and institution-building. Second, it re-introduces the competition for political power into the analysis. Third, it allows for discussion of normative issues of a good political order for the EU without losing contact with empirical research on how political life in the EU actually functions. (Jachtenfuch/Kohler-Koch 2004: 97)

The multi-level governance concept is used here because it allows or even demands the inclusion of all levels: the subnational, national, supranational, and international level, thus making it possible to depict the entire policy process. The international level is often left out of policy analysis, although it may have an influence on the EU (Birkel/Liefferink 2008: 255). Here, the international level will be examined, but only regarding its influence on the climate policy of the EU and its Member States more generally. Possible feedback concerning international climate negotiations is left aside to reduce complexity.

Because multi-level governance has no separate theoretical approach (Benz 2000: 141), as is often criticised, research risks being simply descriptive if it is not combined with other analytical and theoretical approaches (cf. Benz 2008: 54, Brunnengräber/Walk 2007: 19). An advantage of the multi-level governance approach over federalism is that it is less normative and hence not burdened with expectations (cf. Tömmel 2006). Nevertheless, this system must still be confronted with normative issues like democratic decision-making. This is a point made by Walk (2007), who suggests

²¹ For more information on multi-level governance and EU environmental policy, see also Bongardt (2007).

connecting multi-level governance research to the democratic deficit of policy-making. Braun and Santarius (2007: 103) also note that a loss of sovereignty by states takes place through multi-level governance, especially in agenda-setting and policy formulation. Moreover, in the implementation phase (that is actually a national issue), the loss of sovereignty increases, since the process is controlled and guided by EU institutions. Thus, to enrich the multi-level governance perspective and also implementation research, the following section describes the democratic deficit of the EU and relates it to problems of EU policy-making and implementation.

2.3 Democracy theory

Jachtenfuchs and Kohler-Koch (2004: 114) are critical of the lack of normative issues in European integration discourse. Policy studies (that have been popular since the 1980s) have focused on effectiveness and efficiency issues regarding problem-solving, but did not ask for responsible and responsive problem-solving, even though it is widely acknowledged that the EU has democratic deficits. However, looking at only one site of politics – namely, what is done, not how it is done – can present problems, as these two sides are interconnected. Despite its sui generis character, the EU cannot be exempted from "any normative critique which takes aim at its lack of democracy and legitimacy" (Karlsson 2001: 20). Therefore, the EU must meet certain democratic standards and comply with related values in order to produce legitimate policies. The EU certainly has democratic and tendencies, but deficits regarding aspects the legitimacy, representation, and participation (cf. Abromeit 2002: 11) also exist.

In the EU, citizens are represented by their government (governmental representation), by directly elected deputies in parliaments at the European, national, and regional level (parliamentary representation), and to a lesser extent by associations and other interest groups that are not elected (associative representation) (Benz 1998: 350). One of the problems regarding representation in the EU is that the population is not definitely determined because of continuing enlargements.

Participation is exercised through participation in elections, referenda, in political parties, interest groups, citizens' action groups, and in committees

(Thurich 2006), among other possibilities. One important criticism of EU politics is policies are made far away from citizens and addressees (cf. Schmidt 2000: 431), which makes it difficult for them to participate in the process. This alienation is enhanced by highly technical issues in policy-making, which limit direct participation within the EU to a small group of elites. This is also true for the EU ETS Directive: not only was it a new instrument, but also its complexity in technical definitions made it difficult to assess impacts or enable broad participation in its development.

Most actors participating in EU policy-making face the criticism of not being legitimate. The focus of the critique of democratic illegitimacy is on European institutions,²² but also on interest groups and NGOs. However, democratic legitimacy depends not only on legitimate actors but also on the process.

The European Parliament (EP), as the only directly elected European institution, has no full legislative competence. Only under the co-decision procedure relevant to, e.g., environmental policy is it equal to the Council. Under the Lisbon Treaty, the competences of the EP were extended by introducing co-decision for new fields including energy policy, which can be seen as an improvement.

Governments represented in the Council must be accountable to the general public; however, with an increased use of majority voting, especially in environmental politics, national interests become weaker and governments have reduced accountability because decision-making becomes less transparent. Another major problem of the EU's legitimacy is that is the idea of a general European public is questionable (cf. Grande 2000: 22); a

²² The dominant supranational institutions Council and Commission are neither directly elected by EU citizens nor by the directly elected EP (Furtak 2001: 249). However, they are indirectly legitimised (Schmidt 2000: 426) because national governments forming the Council are elected in national elections and the Commission is appointed by Member States and confirmed by the EP. However, the EP can only confirm or reject the Commission as a whole. Moreover, the EP – although directly elected – is also criticised because European elections are mostly decided on national issues, and citizens use European elections to vote for or against their governments (Karlsson 2001: 70-75). This is partly because no real European parties yet exist.

general public is seen as essential for a democracy (cf. Kohler-Koch 1998: 19).²³

Another criticism is that national legislative bodies like parliaments and second chambers or senates have no voice in decision-making at the EU level.²⁴ Additionally, national parliaments – the principals – cannot hold their governments accountable (König 2007: 413) because of the lack of transparency in decision-making under qualitative majority voting (QMV). Furthermore, they are often excluded from policy formulation, even though formally they should be included. The lack of national legislature representation at the EU level can be a problem with regard to implementation effectiveness, since they are primarily responsible for implementation. Thus, they must enact laws they had not decided upon and their leeway to adjust laws is limited. However, when it comes to implementation, legislative bodies can oppose or delay transposition (Jachtenfuchs/Kohler-Koch 2004: 104). König (2007) points out that the discontinuity of a two-stage decisionmaking process poses a legitimacy problem, as the decision-makers of today are not necessarily responsible for the legal and practical implementation tomorrow. Newly elected decision-makers may have to implement decisions "without having a realistic chance of amendment or revision in a timely fashion" (König 2007: 412). However, this is not a problem unique to EU policy-making, but might be more severe at times because of long time periods between the respective stages.

During implementation, when secondary instruments such as regulations, decrees, and circulars are chosen that do not require a parliamentary process, the parliament is excluded (König 2007: 421). Thus, Member States themselves contribute to the parliamentary deficit (cf. König 2007: 418). As

²³ Another issue raised when talking about the democratic deficit concerns the general question of a European civil society or a European public, which according to most scholars do not exist because they both require a common identity. If forming a European identity is possible and how to achieve this ideal is another debate that cannot be discussed here, although it is no less important.

²⁴ Only the Danish representatives in the Council must consult their national parliament before voting. In some other countries such as Germany, the position of the Bundestag must be taken into account by the government and the Bundesrat must be involved if its national competences are affected (Art 23 Basic Law).

will be shown in Chapters 8 and 9, this is the practice in many Member States and especially in new Member States.

The Commission has tried to overcome the input deficit by including civil society in policy-making (see European Commission 2001a: 42). Thus, in addition to the formal participants, interest groups as well as experts from different backgrounds also participate in the process. However, as pointed out by Kohler-Koch (2004: 432), the Commission ranks civil society as equal to the plurality of interest groups. Furthermore, the plurality of actors creates the problem that not all interest groups will have equal access to EU institutions (cf. Jachtenfuchs 1997: 29). On the one hand, European institutions can decide who gets access and who does not; on the other hand, financial and human resources decide on whether interest groups can make use of the access or not. Nevertheless, the theoretical equality leads to the problem that interest groups or NGOs are confronted with the accusation of being illegitimate, because they are neither elected nor are they accountable to anybody, instead shunning transparency and weakening the formal decision-making process (cf. Benz 1998: 355, Kohler-Koch 2004: 440-1). Other scholars do not share this view, claiming that NGOs and other interest groups do not seek political power that would need formal legitimisation (cf. Beisheim 1997: 21) but rather contribute to legitimisation and credibility in society (cf. Brunnengräber 1997: 263).

Policy advising faces the same problem. On the one hand, experts can contribute to difficult and highly scientific issues – as is the case in energy and climate change policy – so that decisions are scientifically based, but on the other hand, politicians give away accountability when they rely on expert advice. Furthermore, the external expertise in the form of advisories is not transparent, and the border between advisory and lobbying is not clearly defined (cf. Thunert 2004: 392, 417).

As some of these problems are inherent to the EU and unlikely to be overcome within the near future or ever, some scholars differentiate between input and output legitimacy (see Scharpf 1999). Output legitimacy is measured in economic demand of politics and not in democratic needs (Jachtenfuchs 1997: 24). Some argue that output legitimacy can be sufficient for highly technical issues, e.g., product standards and deregulation (negative integration) (cf. Scharpf 1999). Regarding output legitimacy, the legitimacy of interest groups is granted insofar as they contribute to the capacity to act, problem-solving, and implementation, thus to efficiency and effectiveness by means of their expertise (Sartori 1992: 418). The focus on problem-solving capacity is mostly reduced to policy-making, but is also relevant to implementation. "Support for a polity depends on its outputs. Thus, effectiveness has a direct impact on the legitimacy of the EU. The deficit linked" democratic deficit and the implementation are (Dimitrakopoulos/Richardson 2001: 353). As the EU also struggles with an implementation deficit, especially in environmental policy, output legitimacy is also not completely guaranteed when including implementation in the analysis.

In sum, the discussion concerns the voice of the people (input-oriented democracy) versus the benefit for the people (output-oriented democracy) (Sartori 1992: 418). Some political scientists regard these as two sides of one coin (e.g. Abromeit 2002: 19, Scharpf 1999: 16-7); others see them as independent from each other and thus certify EU legitimacy as long as the output is effective, which is also difficult to justify because of the implementation deficit. Regardless of whether output legitimacy is given or not, a democracy needs both legitimacies, and input needs to come primarily from legitimised actors that are representatives of the people. Therefore, the aim should be to achieve greater input legitimacy as well. However, this project – now with 27 Member States and a growing list of potential candidate countries – has become even more difficult than before. To simply accept output legitimacy cannot be the answer to the legitimacy problem, since this would not be in line with democracy standards widely accepted in the EU and its Member States.

For implementation research, the conclusion of democracy theory is that the question has to be whether implementation was effective and democratically legitimate. The main aspects taken from democracy theory regarding input legitimacy focus on participation and representation. The focus here will be on the national legislatures and stakeholders. Regarding output legitimacy, the question is whether the EU only adopts effective programmes that are then watered down at the national level, thus whether the effectiveness of the EU ETS was challenged by ineffective implementation. This will further be discussed in Part III.

There are two lines of study that have increased interest in EU implementation research: one is the increase in policy analyses; the other has its source in the emerging study of Europeanisation, looking not only at how Member States build the EU but also at how the EU impacts the Member States.

2.3.1 Excursus: How to overcome the legitimacy dilemma?

Although there are some scholars who certify that the EU's democratic deficit is legitimised²⁵ – "demokratisch legitimiertes Demokratiedefizit" (Schmidt 2000: 425-9) – because it is composed of sovereign and democratic Member States, the majority of scholars considers enhancing the democratic legitimacy as necessary (e.g. Abromeit 2002, Karlsson 2001) or desirable but difficult if not impossible (e.g. Benz 1998).²⁶ Benz (1998: 357), for example, doubts that the multi-level governance system of the EU can be democratised, because it would be very difficult to satisfy all levels, vertically and horizontally. Those who want to see the EU more democratically legitimised are divided into the group that focuses on parliamentarisation (Spinelli draft) with the aim of a bicameral legislative structure (e.g. Grande 2000, e.g. Karlsson 2001: 193-5)²⁷ and those who demand more direct participation of the citizens (especially Abromeit 2002)²⁸. The first is probably more likely to be realised.

²⁵ This group was supported by the Maastricht decision by the German Consitutional Court in 1993, which argued that the democratic deficit can be compensated by an enhancement of the national democracies (quoted in: Karlsson 2001: 171).

²⁶ For more information, see Karlsson 2001, Abromeit 2002.

²⁷ This would include an initiation right for the EP and more influence for the EP in selecting the president and Commissioners (see ibid.: 276 and 284).

²⁸ Abromeit (2002: 51) argues for national referenda "bringing the people back in" (ibid: 51), which should be held at least on major issues such as treaty revisions or a constitution. She also suggests giving territorial subunits such as German Bundesländer a veto right for any decision that concerns their autonomy enjoyed previously in the national state (Karlsson 2001: 211-214). Karlsson (2001: 276) considers information and deliberation as means for more interested citizens and more effectiveness that would ultimately also lead to better implementation.

2.4 Europeanisation

With the increase in policy studies in the 1980s, research into Europeanisation also grew (Jachtenfuchs/Kohler-Koch 2004: 109). In the middle of the 1990s, a shift from a bottom-up view of integration research to a top-down view took place, focusing on the impact of the EU on Member States' policies, politics, and polities. This approach became known under the term Europeanisation.²⁹ Europeanisation research has been undertaken in various fields. Europeanisation studies in recent years has focused on different aspects of policies (e.g. Haverland 2003), polities (e.g. Knill 2001), and politics (e.g. Hansen/Scholl 2002).

However, there is not yet one single approach or definition for Europeanisation. Rather, there are many approaches focusing on different phenomena and processes using the term Europeanisation, depending on the different backgrounds of scholars. Auel (2005: 297) names three³⁰ and Börzel/Risse (2007: 484-5) identify at least three different ways of conceptualising Europeanisation, using two contrasting views. Risse, Cowles, and Carposo (2001: 3, quoted in Auel 2005: 297) call the emergence of European institutions and governance at the EU level as Europeanisation, whereas Börzel (1999: 574, ibid.) restricts the term to the feedback effect of European politics on Member States. This latter approach is the truly top-down view and is also shared by Börzel and Risse (2007). Börzel (1999: 574, quoted in Radaelli 2000: 2) defines Europeanisation as a "process by which domestic policy areas become increasingly subject to European Policy-Making". Radaelli (2000) builds on this definition and adds a constructivist view, defining Europeanisation as

processes of a) construction b) diffusion and c) institutionalization of formal and informal rules, procedures, policy paradigms, styles, 'ways of doing things', and shared beliefs and norms which are first defined and consolidated in the making of EU-decisions and then incorporated in the logic of domestic discourse, identities, political structures and public policies. (Radaelli 2000: 4)

²⁹ A good overview of Europeanisation concepts and research is given by Knill (2005), Auel (2005), and Featherstone and Radaelli (2003).

³⁰ Auel (2005) mentions the concept of Europeanisation by Thomas C. Lawton that is probably the least common: this regards Europeanisation in the bottom-up tradition as the *de jure* transfer of sovereignty from the national to the EU level.

Another definition of Europeanisation used by Radaelli (2003) combines the top-down and bottom-up view (Börzel/Risse 2007). Börzel and Risse also add a reverse effect in their later research: Member States are not only takers of European policies but also shapers (Börzel 2003a), as can be proved by the prominent position the Council has in decision-making. Hence, the EU has a "two-way process of policy-making and institution-building at the European level which then feed back into the member states and their political processes and structure" (Risse 2004: 162). The taker and shaper approach becomes relevant for implementation analysis, as will be shown later.

Although a fashionable concept, the Europeanisation approach is still contested (Olsen 2002: 1), especially for its lack of an encompassing theory. Furthermore, there is only limited agreement on the causes and effects of Europeanisation. Jachtenfuchs and Kohler-Koch conclude from the debate that although national policy regulation and administrations change due to Europeanisation, they do it in "national colours" (Jachtenfuchs/Kohler-Koch 2004: 109), which means that its influence is limited to a certain degree. This argument is supported by Knill's (2001) study on the Europeanisation of national administrations. Coming from a neo-institutionalist perspective, he finds that institutions may change, but only within a certain framework that depends on the compatibility of national institutions with the requirements and the possibility to adapt.

For a long time, the focuses of policy analyses were on policy formulation and decision-making at the EU level, ignoring the problems posed by implementation. Especially in recent years, Europeanisation research has encouraged examination of what actually happens once a measure is adopted at the EU level. The interest of this research lies on the impact of European law on Member States. The use of the Europeanisation perspective in implementation research is appropriate, since the adoption of European law on the EU level influences not only policies but also politics (cf. Auel 2005: 293) and polities. Radaelli (1997) differentiates between direct and indirect Europeanisation. Direct Europeanisation takes place when Member States have to implement European law because it "reduces the degree of freedom of national policy". Indirect Europeanisation occurs when Member States adapt their policy-making to European paradigms. It could be argued that a new instrument like the EU ETS might also lead to a paradigm shift in the Member States whereby the instrument also spreads to other areas, but this will not be focus of this research. The hype of Europeanisation research is not the only source of implementation research. In policy analysis, implementation studies have been previously carried out (e.g. Demmke 1994, Windhoff-Héritier 1980), but generally from a bottom-up view. The underlying assumption of policy analysts was that "problems of implementation keep environmental policy from being as effective as it should be" (Sbragia 2000: 305).

2.5 Neo-institutionalism

The most prominent theoretical approach used in European studies to analyse policies is arguably neo-institutionalism.³¹ Neo-institutionalism focuses on the systemic level and especially policy-making, analysing how the EU works (Zito 2002: 159-60). It is based on the proposition that

1) 'Institutions matter': they influence norms, beliefs, and actions; therefore, they shape outcomes;

2) 'Institutions are endogenous': their form and their functioning depend on the conditions under which they emerge and endure. (Przeworski 2004: 527)

The key question posed by its supporters is how institutions affect the behaviour of individuals, as it is assumed that institutions have an effect on political outcomes through individuals (cf. Hall/Taylor 1996: 6). Consequently, institutions are the independent variable to explain outcomes. It is assumed that they "create elements of order and predictability" (March/Olsen 2005: 5). Institutions are not only a formal set of rules, as was seen by "old" institutionalists, but instead also include informal institutions that influence human behaviour. The degree and broadness of the definition depends on the school of neo-institutionalism.

The main schools of neo-institutionalist analysis can be divided into a historical, a rational choice, and a normative or sociological approach (see Hall/Taylor 1996, Rosamond 2000). All three approaches are based on the

³¹ For an overview of the different institutionalisms, see (Hall/Taylor 1996, Pierson/Skocpol 2002, Pollack 2004, Rosamond 2000, Spehn 2006).

assumption that "institutions matter" and even "have a weight of their own" (Héritier 1998: 27). The interest of institutionalists is in the extent to which they matter, "in what respects, through what processes, under what conditions, and why institutions make a difference" (March/Olsen 2005: 9). The different foci of the various institutionalisms are on normative and cultural institutions that establish a "logic of appropriateness" of human behaviour (sociological institutionalism), on strategic, goal-oriented behaviour within institutional constraints (rational choice institutionalism), and on the path-dependency of history on present-day policy-making (historical institutionalism) (Knill 2001: 20).³²

The concept behind historical institutionalism is path dependency, which suggests that particular patterns are repeatedly reinforced by "feedback mechanisms" (Pierson/Skocpol 2002: 6). Accordingly, historical decisions are determining factors of institutions whose patterns are found in presentday policy-making and that are persistent over time, although their environments may change (Knill 2001: 20-2). The question historical institutionalists are concerned with is why institutions produce such paths, i.e., "how they structure a nation's response to new challenges" (Hall/Taylor 1996: 9). This is why the historical institutionalism is the basis of implementation research, focusing on the goodness of fit and adaptation pressure, as shown in Chapter 8. Institutions are seen here as formal rules and procedures and as carriers of beliefs, knowledge, understandings, values, and established ways of doing things that shape the behaviour of actors (Rosamond 2000: 118). They also influence interests of groups acting in a political system (Windhoff - Héritier 1994: 79). Despite common belief to the contrary, historical institutionalists do not consider institutions to be the only variable; rather, they "locate institutions in a causal chain that accommodates a role for other factors, notably socioeconomic development and the diffusion of ideas" (Hall/Taylor 1996: 10), which enables a broader view. Historical institutionalism recognises the roles of resources and relationships of individuals (Pierson/Skocpol 2002: 13), constraining their

³² Not all institutionalisms are strictly separated, and indeed some overlappings exist, as all now include ideas as well and constructivists also assume strategic behaviour.

power and possible spheres of influence, but it does not determine what drives actors. Therefore, it can be combined with the actor-centred approaches of institutionalism in order to utilise both "calculus" and "cultural" approaches, one of its strengths (Hall/Taylor 1996: 17).

The basic assumptions of rational choice institutionalism are found in microeconomics, which regards individuals as acting to maximise their profits. The social science variant of rational choice is somewhat less radical, but still assumes that actors have a fixed set of preferences and interact based on strategic calculus, while institutions structure these interactions (Hall/Taylor 1996: 12). This school defines institutions as "formal legalistic entities and sets of decision rules that impose obligations upon self-interests political actors" (Rosamond 2000: 115). The difficulty in adapting already existing structures because of the limited scope of action and related sunk costs is seen as the reason behind the resistance of institutions to change (Spehn 2006: 184). More recent rational choice models regard actors' choices of interests as purposeful and their preferences as intentional, which makes them more adaptive to changing situations (Spehn 2006: 185-6). Some implementation studies are based on the propositions of rational choice especially veto player approaches (as shown later), but also goodness of fit approaches that see the reason for resistance as high adaptation costs.

Sociological institutionalism was developed in organisational science; it was claimed that forms and procedures in organisations and bureaucracies should be seen as culturally specific practices (Hall/Taylor 1996: 14). Its origin lies in the interest of sociologists in the "capacity of cultural and organisational practices (institutions) to form preferences, interests and identities of actors in the social world" (Rosamond 2000: 114). Thus, it is said to have ontological roots in constructivism, where preferences of actors are products of identities and social interactions that are determined by cultural and historical change (cf. Rittberger/Schimmelfennig 2005: 32). Sociological institutionalism has the broadest definition of institutions (including conventions, habits, and traditions) and thus culturalistic components (Spehn 2006: 188). Moreover, culture and institutions are seen as interlinked or even dependent (Hall/Taylor 1996: 14). In implementation research, these assumptions are especially found in approaches that have

constructivist elements using the role of positions based on belief systems as explanatory factors.

Actor-centred institutionalisms have a more precise conception of the relationship between institutions and behaviour (Hall/Taylor 1996: 17); however, when focusing on the micro level, they tend to lose view of the broader context as seen by historical institutionalists who "examine multiple institutions in interaction" (Pierson/Skocpol 2002: 12). Nonetheless, the advantage of all neo-institutionalists approaches is that they can be applied to all levels of policy-making (Pollack 2004: 154) and allow combination with other theoretical approaches. The criticism that these theoretical approaches find themselves confronted with is that they can explain persistence but have difficulty explaining changes (Zito 2002: 162-3), especially in the case of historical institutionalism. Change is addressed by more recent "work in progress" institutionalisms, namely, constructivist (see Hay 2006) and discursive institutionalism (see Schmidt 2005). These are either based on sociological or historical institutionalism, with a stronger relation to social constructivism or with a more positivist tradition, respectively. They overcome the economic, historical, or cultural determinism of the other three 'new institutionalisms' by including ideas that are (in comparison to the other institutionalisms that had also considered ideas) not static but rather dynamic, which leaves room for changes (Schmidt 2005: 12-3). Peter Hall, a historical institutionalist, has included ideas in his research that resulted from observations on empirical regularity. He concludes that policy is made within policy paradigms but that radical changes occur in times of crisis (Hay 2006: 66). The basis for these changes is paradigmatic shift. Moreover, constructivist institutionalists also focus on the ineffective and inefficient nature of social institutions in general. Institutions are build on ideational foundations; actors' perceptions again are shaped both by the institutional environment in which they find themselves and by existing policy paradigms and world views (cf. Hay 2006: 64-5).

The actor-centred institutionalism of Mayntz and Scharpf (1995) points out the advantage of combining a focus on individuals with an institutional approach, as both state and non-state actors are embedded in structures (Mayntz/Scharpf 1995: 44). According to these researchers, institutions and actors are interdependent and equally important. Whereas Mayntz and Scharpf (1995: 52) distance themselves from a purely rational choice approach, Scharpf develops this approach, basing his work on rational choice assumptions (Scharpf 2000: 34). The difference between actor-centred institutionalism and rational choice is that the former does not consider institutions as constraints but rather settings; however, compared to sociological institutionalism, their definition of institutions encompasses only formal rules (Mayntz/Scharpf 1995: 47, 52).

In brief, institutionalisms vary in their logic of explanation of continuity or change: interests and preferences in the rational choice version, pathdependency in historical institutionalism, the logic of appropriateness regarding cultural norms in sociological institutionalism, or change through ideas and discursive interactions (thus, communication) in discursive or constructivist institutionalism (cf. Schmidt 2005). Historical and sociological institutionalisms always assume that new institutions are built in an environment of other institutions. Rational choice institutionalism considers that institutions emerge because they offer the best option according to rational choice calculus. However, this would require a great deal of knowledge.

Neo-institutionalism, as indicated above, is one of the primary approaches used in implementation research. Chapters 8 and 9 demonstrate that this approach offers some explanations but needs to be further developed and combined with other approaches. As mentioned, learning approaches are also used for the analysis in this thesis.

2.6 Policy learning – Policy change

In EU studies, neo-institutionalist approaches are popular to analyse policy fields and policy-making in particular. Therefore, the most common neoinstitutionalist approaches have been presented in the previous section. Whereas neo-institutionalist approaches are usually used to explain resistance to change, policy change can be explained through policy learning, turning the focus to alterable aspects of political decisions (Bandelow 2003b: 324). The neo-institutionalist approaches explain why implementation was ineffective or failed; policy learning approaches show why implementation succeeds despite a negative constellation of factors that would predict ineffective implementation. Policy learning may also explain the use of new instruments or dynamics in a policy.

With the development of the EU ETS Directive as an example, it becomes evident that major changes in design and implementation take place throughout the whole process. These changes are not only simple adjustments or "improvements" of the instrument, but instead can be regarded as fundamental changes in the EU's (climate-related) policy-making. One possibility to explain this change is to assume that it was the result of a learning process. A number of scholars have proved that the policy learning approach can be applied to EU politics (e.g. Bandelow 2003b: 325, Radaelli 2000)33 and EU institutions (e.g. Böhling 2007, Kopp-Malek/Koch/Lindenthal 2009). In this case "change" becomes the dependent variable and agency the independent variable, since it is assumed that change can be explained by learning by (individual or collective) actors.

2.6.1 Policy change

To begin to clarify matters, the term policy change generally refers to major changes in a policy field and aims to explain entire processes and not only decisions. Policy learning is a source of peaceful change that adds a new aspect to politics, which is often perceived as being dominated by interests and power (cf. Döhler 1994: 48). In this case, policy change is assumed not to be the result of power relations, rival interests, or strictly external factors, but rather the effect of a change in preferences due to experience and new information and thus learning processes (cf. Bandelow 1999: 13, 22, Kissling-Näf/Knoepfel 1994: 99). Political scientists such as Sabatier and Jenkins-Smith (1999: 118) usually assume that policy change needs at least a decade, because "at least one formulation/implementation/reformation cycle" has to be completed.

³³ Both authors refer to Sabatier, P.A. 1998: The advocacy coalition framework: Revisions and relevance for Europe, Journal of European Public Policy, 5, 1: 98-130.

Sabatier and Jenkins-Smith also differentiate between grades of change. Accordingly, a "[m]ajor change is change in the policy core aspects of a governmental program, whereas minor change is change in the secondary aspects. Thus, it is the topic and the scope of policy change that determine whether it is major or minor. Linking change to scope also makes it clear that the same change may be 'minor' for one subsystem but 'major' for a subsystem nested within it" (Sabatier/Jenkins-Smith 1999: 147). Knill and Lenschow add to the debate on policy and institutional change, stating that "[w]hat seems a fundamental reform from the perspective of the affected actor may appear marginal change from a systems perspective" (Knill/Lenschow 2001: 188). According to Knill and Lenschow, the scope of change depends on the level of abstraction. To determine change, it must be clarified whether change took place on an institutional or actor level, thus whether to apply structure- or agency-based approaches. The interpretation of change therefore depends on whether it is viewed from the "level of the involved actors" or from "the remote perspective of the macro-political context" (Knill/Lenschow 2001: 211).

Policy change might be "measured" by looking at the output and hence the result of political decisions and processes. To uncover policy learning as the cause of this change, the political dimension returns and the actors become the focus of the analysis.

One question here is what is actually understood by the term learning when it is used by scholars.³⁴ Different definitions have been proposed by various scholars. Heclo first used the term political learning, defining it as "a relatively enduring alternation in behaviour that results from experiences" (Heclo 1974: 306, in: Csigó 2006). This definition points out the importance of experiences of previous strategies for future solutions that are not only considered as a reaction to a problem (Csigó 2006: 157-8). Hall uses the term social learning (1989, 1993) and defines "social learning as a deliberate attempt to adjust the goals or techniques of policy in response to past experience and new information. Learning is indicated when policy changes

³⁴ For an overview of different definitions of learning, see Csigó 2006.

as a result of such processes" (Hall 1993: 278, in: Csigó 2006). What both definitions have in common is the role of experiences, but in Hall's definition, new information is also important. Whereas Heclo focuses more on the changes in behaviour, Hall stays more on an abstract level in which goals or techniques must be modified or adjusted. Nevertheless, in both definitions learning actually is expressed in outcome. Instead of giving a definition here, there will be an attempt to characterise learning. First of all, learning is understood as the process as well as the output (Argyris/Schön 1999: 19), recognising that not all learning is transferred immediately into action.

Policy learning and policy change may be linked but can also be seen as independent from one another. It is usually assumed that a change is the result of external factors such as altered socio-economic conditions, new technology, changes in public opinion, changes in government, policy decisions, and impacts from other subsystems (Sabatier 1993: 126) or obligations from international or European agreements. However, as many scholars have proven, it can also be the result of policy learning or a combination of both externally altered frames and policy learning (cf. Knoepfel/Kissling-Näf/Marek 1997: 33). In addition, external factors can have an influence on internal learning processes. As mentioned above, policy learning can also take place without major changes as an immediate consequence and can thus be seen independent from change. Policy learning does not necessarily affect the output immediately but can also lead to changes in structures and processes (Bandelow 2003b: 324) that in the long term could enable policy change.

In sum, policy change can have two sources: a change in belief systems, or external shocks or crises (Bandelow 1999: 57). To identify changes in the development of the EU ETS Directive, external and internal variables need to be identified and their influences examined. Moreover, it needs to be determined whether change took place on the level of actors or of institutional structure. This is done throughout the analysis and summarised in Chapter 11.3.

2.6.2 Policy learning – Collective learning

Policy learning approaches combine theoretical assumptions of learning with policy analysis. Different policy learning approaches exist, but despite their differences in conceptualisation, they share the goal of explaining change and the assumptions that political goals and organisations are changeable (Bandelow 2003b: 291). Policy learning approaches are built on cognitive processes that take place in individuals. As a result of learning processes, individuals may consciously change their behaviour. These changes can influence structures, decision-making processes, or policy outputs (Knoepfel/Kissling-Näf/Marek 1997: 33-6). Prerequisites for policyoriented learning are a deep knowledge of problem parameters, the factors affecting them, internal feedback loops concerning policy effectiveness, and the changing perceptions of the probable impacts of alternative policies. Sabatier and Jenkins-Smith (1999: 145) consider such learning to be instrumental. They assume that actors seek to better understand the world in order to further their policy objectives, but also that learning is constrained by perceptual filtering. Thus, actors resist information challenging their deep core or policy core beliefs and will use formal policy analyses to buttress those beliefs.

Policy-oriented learning takes place in networks during policy formulation, implementation, evaluation, and revision. The network is the structure and learning is the process that enables change (Döhler 1994: 40). Learning through networks is not easy because of complicated decision procedures (Knoepfel/Kissling-Näf/Marek 1997: 16), but as Bandelow (2008) found, conflicts caused by veto players (for example) may also enhance or enable learning. One of Bandelow's (2008: 746) hypotheses of governmental learning is that "changes of collective governmental core beliefs by 'dissident' actors are more likely, the lower the concentration of power in a political system." This statement contradicts the veto player assumption that higher concentrations of power and fewer veto players lead to change. As policy learning depends on new information, a higher concentration of power may realise programmes more easily, but leads to stable policy preferences and

not change. The flow of information in consensus democracies thus seems to enable change.³⁵

As it concentrates on major changes such as European integration and the monetary union, this approach is legitimate because it is part of intergovernmental politics. In the case of environmental policy, where a number of actors are part of decision-making and even more actors influence the process, learning in networks makes more sense, although it is acknow-ledged that the decision-makers are the most important actors involved in learning. Stakeholders or advisors may enhance or weaken learning. However, transferring the basic results of Bandelow's study to the EU as a whole, the core idea is that debate between Member States – all veto players in a way, although they do not have a veto in QMV – leads to a better collective learning process, because Member States actively deal with the issue while discussing their different positions about the policy.

Critics of learning theoretical approaches point to the ignorance or neglect of categories such as power and interests (Bandelow 2003b: 323-4). Therefore, some scholars call for the inclusion of power relations (the role of elites, e.g., epistemic communities or advocacy coalitions) but also of legitimacy (cf. Csigó 2006: 59-60), since learning is not only determined by knowledge gains (cf. Böhling 2007: 150-1). Indeed, it matters who learns and not only that a critical mass learns. To bring power aspects back into the picture, I would argue that to enable changes in the policy formulation phase, primarily the decision makers have to learn; however, in the implementation phase the implementers and target group need to learn as well in order to achieve policy goals. Decision makers are partly influenced by experts, which gives these actors a certain degree of power as well. Moreover, stakeholders do not all wield the same power in influencing decision makers.

³⁵ Bandelow (2008: 758-60) found in a comparison of two case studies from Germany and the UK that a lower power concentration in Germany made second-order learning possible regarding European integration when solidaristic veto players had different core beliefs. This can be explained by the flow of new information. Hence, consensus democracies with many veto players seem to better fulfil the preconditions for collective learning than majority systems.

Although many researchers analyse organisational, network, or collective learning, they all agree that the basis for these collective learning processes is individual learning (cf. Bandelow 2008: 745, Döhler 1994: 49, Howlett/Ramesh 1993: 246, Kopp-Malek/Koch/Lindenthal 2009: 151, Pelfini 2005: 79). Learning can be separated into three levels: individual learning at the micro level, organisational learning at the meso level, and collective societal learning at the macro level (Pelfini 2005: 79). Learning can take place in organisations (Argyris/Schön 1999, Böhling 2007, Kopp-Malek/Koch/Lindenthal 2009), political systems and subsystems (Bandelow 1999, 2003a, 2003b, 2005, 2008, Sabatier 1993, Sabatier/Jenkins-Smith 1999), networks (Döhler 1994, Kissling-Näf/Knoepfel 1994), and institutions (Csigó 2006). Organisational learning theories build the basis for most of these approaches, focusing on the modes of learning. For study of the EU ETS Directive, it is most useful to analyse learning in policy networks. Policy networks include all actors relevant to policy-making. Thus, the level of analysis is the meso level, because in policy-making only selected actors and not the whole society need to learn in order to make changes, depending on the target of a policy. Moreover, most policies are only directed at a part of society. Nevertheless, the aim of environmental policies in particular should be the encouragement of societal learning in the long term. Organisational action is visible in individual action but does not necessarily include the learning of all individuals in a collective (Argyris/Schön 1999: 24). Studies of organisational learning usually attempt to look in the "black box" of an organisation and focus on organisational processes (Argyris/Schön 1999: 21). Here, the "organisation" is the policy network and the subunits in the black box are the different actors taking part in decision-making and implementation.³⁶

³⁶ Although they are organisations themselves, I do not intend to open their "black boxes" as well, because my interest is not in analysing learning within these organisations. The organisations are here considered as collective actors with a common position and public appearance. Considering only the visible and official position, power structures are partly reflected. Thus, the individual actor's learning within an organisation is ignored here as well for purposes of simplification.

The basis for policy learning-oriented approaches are the convictions, values, positions, and knowledge of individual actors (Kissling-Näf/Knoepfel 1994: 114, Knoepfel/Kissling-Näf/Marek 1997: 29) or of collective actors. These aspects can be summarised in belief systems inherent to each actor.

Belief systems³⁷ consist of a deep core that includes basic convictions and values independent of policy areas; a policy core that consists of the perceptions and targets of a specific policy; and secondary aspects that determine decisions on instrumental or institutional preferences, specific positions, and strategies. The resistance to change varies between the components. The deep core is assumed to be very stable; changes within it can be compared to religious conversion. Policy cores are still relatively persistent but are less rigid; their empirical aspects change more easily, whereas normative aspects are more resistant to change. The secondary aspects are the easiest to change: they are adjustable to circumstances, depending on experiences, information, and strategies (Bandelow 2003b: 292, Sabatier 1993: 130, Sabatier/Jenkins-Smith 1999: 121-2).

For the analysis of actors, I use belief systems instead of only interests because they are more inclusive and can integrate interests that are determined by factors like, e.g., socialisation (Kissling-Näf/Knoepfel 1994: 99) and not only material interests, as is often conceptualised in rational choice theory. Moreover, belief systems can also be conceptualised for collective actors and even for policies. Policy learning can be seen as collective learning because a number of actors in a policy network enable the change.

The concept of policy learning is used at different levels. On the one hand, it is used to explain the overall changes in climate policies of the EU and thus of its Member States. Thus, it aims to examine the introduction of the instrument and its development. On the other hand, policy learning may explain effective implementation on the national level due to learning. To

³⁷ Converse (1964), who first spoke of belief systems, used the term *belief systems* to refer to "a configuration of ideas and attitudes in which the elements are bound together by some form of constraint or functional interdependence" (Converse 1964: 207, quoted in Bandelow 1999: 48). He differentiates between core and secondary beliefs.

analyse learning, the following questions based mainly on Kopp-Malek, Koch, and Lindenthal (2009: 17) and Csigó (2006: 166)) give guidance in the assessment of learning:

Who learns? The subject of a learning process is always the learner (Argyris/Schön 1999: 19), who can be an individual or collective actors (organisations, networks). In the analysis, I concentrate on key state actors (administrations and decision makers) with legitimate power and European institutions, because change depends on central actors. Similarly, Csigó (2006: 167-8) points out that non-state actors are not relevant learners because they have no direct influence on results. Think tanks and epistemic communities are intermediate actors who provide information and options that legitimise the activity of political actors. Environmental NGOs or business associations can also support argumentation.

What do they learn? Actors can learn about something (knowing what) but they can also learn how to do something (knowing how). The content or object of learning can be instruments or concepts like programmes, laws, measures or processes, strategies, or objectives (Csigó 2006: 154).

From whom do they learn? Organisations can learn from role models, by applying theories into practice, and from their own experiences or the experiences of others. Generally, learning from others is determined by a) power relations, b) political and economic interdependencies, c) historical and cultural heritage, d) institutional structures, and e) the object of learning (Csigó 2006: 154, 180).

Why do collective actors learn? Learning requires a trigger; it may be voluntary or forced and can result from external or internal pressure. External pressure can result from membership in an international organisation, socio-economic changes (Csigó 2006: 154), awareness of a problem, public debate about a problem, the demands of people affected by an unsolved problem, new scientific knowledge, new policy instruments, or new legislation (Kissling-Näf/Knoepfel 1994). Internal triggers for learning might be new members in an organisation, dissenting behaviour of members, or intrinsic learning through reassessment of the status quo (Kopp-Malek/Koch/Lindenthal 2009: 25-6). Political entrepreneurs (personalities)

enhance collective learning processes (Bandelow 2008: 745). These are mostly personalities who are part of the learning subject.

What enables or constrains learning? Preconditions for learning are, for example, ability, perception, willingness, opportunity, and structure. Ability, perception, and willingness are important because people give data, information, or knowledge a meaning and make it a subject of interpretation and interest reflecting power relations as well (Kopp-Malek/Koch/Lindenthal 2009: 23); who decides on the relevance is determined by institutions and structure. Opportunity can be presented because of external or internal challenges or changes. The learning path described by Knoepfel, Kissling-Näf, and Marek (1997: 222) starts with the trigger (events, necessities, or opportunities) that have to be perceived as such and generate concern. If changes have to be made, concerned or affected actors can learn within an existing or new network whose aim it is to solve a problem. If network participants agree on paths and establish new knowledge, their behaviour might change and influence outputs. However, processes can be discontinued at any time and after any of these steps.

Most learning theorists acknowledge the role of institutions³⁸ that can be dependent or independent variables (Bandelow 2003b: 325). Learning is restricted by institutions in the sense of sociological institutionalism (Csigó 2006: 172). Institutions can be thus collective ideas and paradigms, the cultural or social context, or the generally accepted rules or values of an organisation that protects and constrains learning-subjective perceptions and assessments of the situation and circumstances (cf. Argyris/Schön 1999: 19, 2007: Csigó 2006: 172-3, 175, Böhling 152, Kopp-Malek/Koch/Lindenthal 2009: 29) or of policies or programmes that are influenced by learning processes (cf. Bandelow 2003b: 325). Institutional constraints can also be the governance style, i.e., whether decisions are made hierarchically and directed top-down, or whether cooperation takes

³⁸ For the interaction between learning and institutions, see Csigó (2006: 180).

place and the diffusion of ideas is possible (cf. Kopp-Malek/Koch/Lindenthal 2009: 154-5).

How do they learn? The most common approach to assess learning is the one developed for organisational learning by Argyris and Schön (1978, quoted in Argyris/Schön 1999). They differentiate three modes of learning: single-loop learning (first-order learning, improvement, and adjustment), double-loop learning (second-order learning, complex learning, change) and deutero learning (reflexive learning, learning to learn). For this thesis, only the first two are of relevance. Deutero learning could possibly be applied to the open method of coordination (OMC) in which Member States have to develop own initiatives. In addition, when looking at implementation in general, deutero learning could be detected when new Member States have problems initially in dealing with EU requirements and learn to develop better implementation systems. However, this is not the focus of this thesis because it would require a longitudinal analysis of Member States' implementation performance. The concepts of single- and double-loop learning are based on the assumption that some learning takes place within sets of beliefs and values and other types of learning require changes in these frameworks because they incorporate contradicting beliefs and values (Argyris/Schön 1999: 14-5).

Single-loop or first-order learning operates on the strategic level and leaves norm systems untouched. This type of learning, which can be applied to instrumental learning, implies that only the strategy is changed while the aim stays the same. Through evaluation of or feedback from an unsuccessful process, misinterpretations can be detected and adjusted in the subsequent phase. Processes are made more effective and lead to the desired result through new knowledge (Csigó 2006: 155). Single-loop learning includes learning to improve and to adapt or adjust. To judge whether an improvement is good or bad depends on the belief system (Argyris/Schön 1999: 19-20). We find first-order learning in a situation in which new policy instruments or measures are introduced to achieve the same objective. "As far as the general values, attitudes and perceptions of the policy problem and of the suitable solution remain the same, first order learning can be attested to" (Bandelow 2008: 745). Double-loop learning, in contrast, leads to a change in policy core beliefs as well as in strategies and assumptions, and is less concerned with an improved effectiveness of processes. Double-loop refers to two feedback loops: change of belief or norm systems can be in parallel with strategic changes, or be a consequence of such changes (Argyris/Schön 1999: 36). Double-loop or second-order learning operates on the level of changes in objectives or paradigms to achieve an overall goal as the result of additional or new information (Csigó 2006: 155). "[I]f the changes of general goals are more than instrumental and if these changes are based on experience or new information, these can be classified as second order learning" (Bandelow 2008: 745).

In short, this means that double-loop learning is a process in which norms are altered and ways of seeing and doing things are challenged, whereas single-loop learning leads to improved processes (Böhling 2007: 148, referring to Argyris and Schön 1978).

2.7 Summary

In the previous sections, all relevant concepts and theories were presented. As a theoretical framework, the EU is considered to be a multi-level governance system (Jachtenfuchs/Kohler-Koch 1996). Multi-level governance takes place on different levels (from the international to the regional level) and includes the different actors on each level. Thus, this approach allows observation of interactions between different levels and various actors including state and non-state actors (Brunnengräber/Walk 2007: 20). Moreover, policy-making takes place in different stages (agenda-setting, policy formulation, implementation, evaluation and revision or termination), which is also referred to as the policy cycle (see Jänicke/Weidner/Biermann 2001, Jänicke/Kunig/Stitzel 2003). Despite criticism for being overly static (cf. Sabatier/Jenkins-Smith 1999: 138-9), as steps overlap regarding time and competences, this will serve as the heuristic tool for this analysis. Generally, different theories or theoretical approaches are used to analyse each stage. The focus here is on implementation; therefore, only implementation research is considered. Most implementation research has its basis in neoinstitutionalist assumptions or learning theories. In Chapter 8, the implementation approaches relevant for the analysis are presented and operationalised.

Democracy theory is used here as a theoretical background to confront the EU with its democracy deficit and legitimacy issues. Democracy theory is usually discussed in the scope of decision-making on the EU level, but to a lesser extent can be applied to the implementation phase, where scholars are generally interested in the effectiveness of a policy. Consequently, implementation research here is not only understood as part of the problem-solving capacity debate, but also as touching upon questions of legitimacy.

Neo-institutionalist and learning approaches build the foundation for the process analysis. As has been mentioned before, neo-institutionalism explains resistance to change while policy learning focuses on the dynamics of policy change.

3 METHODOLOGICAL FRAMEWORK

Because methods are more than a tool for their impact on the course and results of research, this chapter is important to position and demonstrate the scope of the research. In the following sections, the method used is explained and justified.

3.1 Process analysis

The interest of this research project is to analyse the development of the EU ETS with a special focus on implementation as the key phase to a) prove the effectiveness of the design and b) to provide the background of experience for the revision of the EU ETS Directive. The method used for the study of the policy cycle is a process analysis (see Blatter/Janning/Wagemann 2007), also called process tracing (see Bennett/George 1997, Checkel 2005), which means that causality paths are reconstructed. The aim is to find causal mechanisms and not effects. This method is used to look in the black box between independent and dependent variables (Blatter/Janning/Wagemann 2007: 133) in order to identify empirically causal relationships. Process tracing is a typical tool for case-oriented studies.

3.2 Methodology

This doctoral thesis follows an empirical research design.

As mentioned above, the centrepiece of this thesis is a comparison. Comparisons in social science can serve several goals: namely, to learn more about countries as political systems; to aggregate findings in typologies (concepts), taxonomies, or classifications (cross-national divisions between cases); or to test or formulate hypotheses, theorems, models, theories, or simply predictions (see Keman 2005: 200, Patzelt 2005: 48). Comparisons can be a means of identifying the correlation of cause and effect (see Barrios 2006: 31) by describing or explaining the similarities and differences of policy-making in different settings (cross-sectional) and periods or time intervals (longitudinal) (see Keman 2005: 203, Schmidt 2003: 261).

The aim of this project is to compare the implementation of the EU ETS Directive in four different Member States of the EU. The cognitive interest is to discover which factors influence the scope of governmental decisions on different policies. I will combine cross-sectional analysis with longitudinal analysis and thus compare the process and output of implementation in four EU Member States in depth while also comparing the two phases of designing the NAP in order to learn about changes and their causes within a Member State. This could provide interesting insight, because most of the independent variables and the setting will not change in the longitudinal comparisons, though the output may change. Moreover, with the comparison it is possible to identify country-specific factors, Directivespecific factors, and general factors influencing the implementation.

Methodologically, a qualitative comparison was preferred over a quantitative approach, in order to reflect more on the process than to compare only the output or outcome. Qualitative research focuses on one or a few cases and utilises intensive interviews and in-depth analyses of historical material (King/Keohane/Verba 1994: 3-4), in this case documents. Qualitative and quantitative research can be standardised or non-standardised. Although this thesis uses non-standardised data, evaluation is standardised to some extent using the content analysis (see below). To have achieve the depth of case studies but to be more than descriptive, this project is a focused comparison (see Blatter/Janning/Wagemann 2007), which means that only a few cases are analysed in depth. The aim of focused comparisons is not to find causal relations, but rather to test theories and to identify other intervening variables and alternative explanations.

One of the major problems of comparative policy studies is that in general they are not representative, since policies differ in many aspects across countries or time periods; hence, they are only representative for the analysed subject. Moreover, it is difficult to find the most similar cases when comparing countries. The variability in comparing policies reflects the diversity of politics and different research designs (Schmidt 2003: 275). Qualitative research in particular is often subject to the criticism that it cannot be generalised because of the small-n problem, i.e., the small number

of cases and many variables.³⁹ In recent years, these problems have been addressed by qualitative researchers designing more systemised research, thus increasing standardisation (see King/Keohane/Verba 1994). This approach corresponds to Ganghof's (2005) x-centred qualitative research interests. X-centred research uses only one or a few independent variables and is interested in "Wozu führt x?" (What results from x?). As this thesis is interested in explaining the variation in the dependent variable in a multivariable model, Ganghof's y-centred research, which asks "Was führte zu y?" (What led to y?) is followed here (Ganghof 2005: 93). The advantage of the y-centred analysis is that it is open to unforeseen situations, whereas the x-centred approach would leave new factors aside and concentrate only on previously determined factors (Ganghof 2005: 91).

For this purpose, already existing theories and hypotheses are operationalised and tested; on the other hand, the document analysis and expert interviews are conducted to find alternative explanations. New factors detected as being influential in one country are tested in the other countries. Likewise, factors determined in the first phase in a country are implemented for testing in the second phase. Thus, the research process is understood as dynamic and cyclical. The theories to be tested in this thesis are presented and discussed in Chapters 1 and 8.2.

The research strategy presented here seems adequate for the analysis because it reflects the pluri-causal nature of decisions. This approach makes it possible to trace processes and to analyse the consequences of decisions, events, etc., and thus acknowledges the complexity of politics. Cognisant of the critiques of qualitative research, the aim of this thesis is not to generalise its findings on implementation or environmental policy but rather to understand the entire process.

³⁹ Regarding the so-called "small-n" problem, see: Lijphart, Arend 1971: Comparative Politics and the Comparative Method. In: American Political Science Review 65, 3: 682-693.
3.2.1 Sampling of cases

For this study, a random sampling is not helpful because the relevance of the countries is more important than their representativeness; therefore, criteria were chosen in order to determine the sampling. The population of this empirical study are the (now) 27 Member States of the EU. At the time of sample selection, the EU consisted of only 25 Member States, and at the time of policy-making, of only 15 Member States. However, the new Member States are also interesting for the analysis, because they have already reduced their emissions more than necessary due to the restructuring of their economies after regime changes. Moreover, it is interesting to see how new Member States deal with a new instrument for which they had not participated in policy-making decisions. For reasons of practicability (time and the limited capacity of only one researcher), the research was restricted to four country case studies. The Member States for the case studies and comparison were chosen based on the criteria of number of participating installations, fuel mix, and share of emissions covered by the EU ETS. The aim was to examine Member States who have similar settings regarding these criteria, but that differ in the ways they dealt with implementation.

It is expected that the number of participating installations will pose an administrative challenge and will also have an influence on the transposition because more stakeholders are involved. The energy mix matters, since countries with a high share of fossil fuel in their energy generation are likely to be exposed to more lobbying from the energy sector. In addition, the potential for politicising the process is higher and it is expected that the interests of participating sectors are to be found in the respective ministries.

Furthermore, the reduction target under Kyoto is considered to be influential regarding the implementation. Actually, this could be irrelevant because no matter what the Kyoto reduction target is, Member States must reduce emissions with this instrument; however, it is expected that ambition will be dependent on the usefulness of this instrument to achieve its target.

Already existing climate policy is relevant when comparing different measures aimed at the same target. Hence, in countries with many already existing measures, the new policy must be embedded into the mix or must be made compatible. Consequently, already existing measures might need to be adapted or changed.

All these factors are expected to pose challenges to political negotiations and might be used as arguments within a country for a more ambitious or less ambitious design. Therefore, these factors influence how the Directive is implemented.

Because CO2 is the predominant greenhouse gas resulting primarily from energy consumption, the energy mix of a country has a major influence on the amount of emissions. The EU ETS Directive focuses on the energy sector and energy-intensive industries, since their contribution to CO2 emissions is in most countries considerable and is the main contributor to greenhouse gas emissions. Thus, it is of interest to select countries whose industry is especially affected by the Directive. On the one hand, these are countries that depend heavily on fossil fuels like coal and gas. On the other hand, the countries must have a large share of energy-intensive industries. Hence, cases were selected according to the number of installations and the fuel mix in the electricity generation. The five biggest Member States of the EU-15 with regard to participating installations were Germany (1,845), Italy (1,240), France (1,172), the UK (1,078), and Spain (819). Of these countries, the Member States with the most similar fuel mix regarding their high share of solid fuels (mainly coal and gas) and their use of nuclear energy are Germany, the UK, and Spain. (France produces its electricity mainly by nuclear power; Italy does not use nuclear power at all.) In addition, all three selected countries increased their share of renewable energy in recent years by domestic efforts, with Spain and Germany being leaders regarding installed wind power. With respect to the share of emissions covered by the EU ETS scheme, all countries had percentages around 50 %. Another reason for choosing these three countries was that according to their compliance culture, they all belong to the "world of domestic politics" (Falkner et al. 2005) (see Chapter 8.2.3).

As the analysis of a new Member State was also desired, Poland with 1,166 and the Czech Republic with 435 participating installations were considered as potential cases. The fuel mix in the electricity generation of the Czech Republic is more similar to the cases already selected; Poland generates its electricity almost exclusively with coal. The share of renewable energy is small in both countries. In the Czech Republic, as in the three countries selected, more than 50 % of greenhouse gas emissions are covered by the EU ETS. In Falkner et al.'s categories, the new Member States form a separate group called the "world of dead letters", but the variables influencing policy-making are similar to the "world of domestic politics".

The aim was to find one country that has to reduce its emissions,⁴⁰ one country that was allowed to increase its emissions,⁴¹ and one new Member State.⁴² Finland and France were previously obliged to keep their emissions at 1990 levels, but due to an increase they now must reduce their emissions as well. Additionally, the idea was to find one country that already had experience with emissions trading in any form, which are only Denmark or the UK. Furthermore, the UK has already achieved its target, whereas Germany still has to make additional effort; thus, they are interesting to compare, even though they are in the same group according to their reduction targets.

Production sector and energy system are important because they are the targets of the Directive and could thus be influential factors or intervening contextual variables for decision-making among policy makers. In general, the cases were chosen on context data. However, all four countries differ in political style, system, relations between interest groups and the government, economic development, and already existing climate policies – all factors that influence implementation, according to existing theories. The different country profiles, including detailed information on the listed criteria, are found before each case study in Chapter 9.

⁴⁰ Eligible countries were: Austria, Belgium, Denmark, Germany, Italy, Luxemburg, the Netherlands, and the UK.

⁴¹ Eligible countries were: Ireland, Greece, Portugal, Spain, and Sweden.

⁴² Eligible countries were: Cyprus, the Czech Republic, Hungary, Estonia, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

Criterion	Czech Republic	Germany	Spain	UK
Number of participating installations in 2005	high	high	high	high
Energy mix based on fossils in 2004	high	high	high	high
Share of emissions covered by the EU ETS in 2005	high (60 %)	high (60 %)	high (44 %)	high (46 %)
Gap to reduction target in 2004	Over- achieved	Small	Big	achieved
Already existing climate policy in 2004	No	Yes	Yes	Yes

Table 1: Characteristics related to the EU ETS Directive

3.2.2 Data collection and evaluation

Information for the study was compiled by document analysis in conjunction with expert interviews. Hence, the formal as well as the informal process of policy-making could be examined. The data collection for this research was limited on the one hand by focusing on a time period (2000-2009), by the research goal (to examine the implementation process and how it influenced the policy learning of EU institutions and EU Member States), and by the research questions.

3.2.2.1 Document analysis

The analysis of documents was the essential basis for this research project and the main source of information for the empirical analysis. The advantage of this method is the quantity and variety of sources, and that the material already exists and just needs to be gathered and selected (Mayring 1993: 31). Moreover, documents are primary data and thus free from the subjective interpretation of a third person. The objective of the document analysis was to work out how the Directive was implemented, to compare the implementation in the four selected countries, to see what changed from one phase to another, and to compare the Directive of 2003 with the review of 2009. In the end, the process of change could be reconstructed in depth and factors that influenced the process identified. The document analysis for this project built on the methods by Mayring (1993), Reh (1995) and Manheim and Rich (1995). Documents can include all sorts of visual testimony of historical or political incidents. For this study, only written documents were relevant. The number of documents was limited by the scope of the research, as outlined in the introduction.

Selection criteria for the relevance of the documents was based on Mayring (1993: 32) and Manheim and Rich (1995: 186), but was adapted to the interests of this study. In accordance with the research interest, the relevant documents were the following:

communicator/author	Documents prepared by EU institutions, govern- ments, legislative bodies, administrations, NGOs, business representatives, think tanks, research
addressee	The addressees of the document are governments, legislators, EU institutions, or the public.
type of document	Documents can be official documents such as legislation or communications, press releases, positions papers, reports, or studies.
intention	The content of the document has to be in direct relation to the policy process, which means that if it is not an official document, it needs to be intended to influence or evaluate the legislation.
place and time	Only documents that are within the scope of the research, i.e., published in the Czech Republic, Germany, Spain, or the UK or by an EU institution within the research period 2000-2009.

On the European level, the relevant documents were the EU ETS Directive of 2003 and 2009 and communications and reports by the European Commission concerning its implementation. On the national level, legislation, positions of the legislators, protocols, reports, and press releases were considered. Because the process was also influenced by non-state actors, the document analysis also included position papers from stakeholders and reports and studies by advisory bodies. Most documents were available on websites of the respective actors; some documents were provided by the actors on request. The scope of documents gathered for analysis was made as broad as possible, with the aim of reflecting as many perspectives and positions as possible while limiting it to the most relevant actors. In the case of the Czech Republic, the document selection was restricted by language, since only English documents could be considered.

The classification of the documents was made according to their distance to the subject: The first group were legal texts; the second group, official statements and communications; the third group, position papers; and the fourth group, evaluations. This classification refers back to the that of Manheim and Rich (1995: 184), who created three classes: 1) internal documents for internal use, 2) internally generated documents that are externally directed, and 3) externally generated documents that are internally directed.

The method for analysing documents in political science has its origin in historical and legal studies. Whereas the analyses in legal studies focus on the interpretation of legal texts, the historical approach places the documents into context. Document analysis is about understanding (particularly in humanities) and explaining (particularly in the social sciences), in the tradition of interpretative and hermeneutic approaches (Reh 1995: 202).

There are various possibilities for the interpretation of documents. The documents here are only analysed in a content-based approach. Content-based analyses include systematic analysis, teleological interpretation, and the historical-genetic method. They examine the entire process of development of legislation and look for the underlying intentions. The systematic interpretation looks at the interaction in which the norm is set and contextualises the document by examining the text in relation to its environment. The teleological interpretation seeks out the intention, aim, and function of a norm or piece of legislation. The historical-genetic method includes also the historical development of legislation or similar previous legislation. This method focuses on the emergence and development of a low by looking at all relevant material, such as the proposal and protocols of

the parliament and committees. It is additionally used to determine the intention of the legislative body and its origin and development (Reh 1995: 207-8). I have mixed systematic analysis with the historical-genetic method because in this way the process and the context can be adequately considered.

3.2.2.2 Expert interviews

Because documents are only a fragment or detail of a greater process, which they reflect only selectively (Reh 1995: 204), research is enriched by expert interviews to discover details of the informal and non-written processes. Expert interviews are generally structured with the help of a list of guiding questions that provide a structure but also allow room for flexibility and adaptability to the situation (Meuser/Nagel 2002: 77-8). The purpose of expert interviews is to gain information that cannot be otherwise found out and to hear different perspectives on the same event in order to get an intersubjective picture (Jahn 2006: 195-6).

The definition of expert is based on the social-representative expert definition from constructivism, which means that experts are those who are considered as experts by society (cf. Bogner/Menz 2002: 40-1), or the status "expert" is given to a person by the researcher (cf. Meuser/Nagel 2002: 73). Here, experts are determined by their specific knowledge of a topic and/or process that they have gained due to their role or function in a relevant organisation in the policy field. Contrary to other interview types, such as biographical interviews, in expert interviews the interviewee is not the object of the analysis; instead, the focus is on his or her organisational or institutional context (Meuser/Nagel 2002: 72). The experts chosen for interviews were representatives of governments, administrations, parliaments, parties, businesses or business associations, NGOs, think tanks, or research institutes. To reduce the number of potential interview partners, only experts directly involved in the process (as a decision maker, stakeholder, or advisor) were contacted. The aim was to have a more or less broad picture in each country with representatives from the state level, business interests, and NGOs. In the Czech Republic, one limiting factor was the language ability - in either English or German - of the expert. When possible, similar experts from the different countries were sought out. To ensure that interviewees agreed to the use of the data for the study, in most cases interview agreements were done. In other cases (e.g., telephone interviews), the agreement to use the interviews for research purposes was made via e-mail or at the beginning of the interview. The interviewees were promised that the material would be used anonymously, which is why interviews are quoted using abbreviations. All in all, the willingness to be interviewed was surprisingly high. 40 requests were sent to potential interview candidates, out of which 22 interviews were conducted, three interview partners were not able to give interviews due to a lack of time, two were willing but had to be cancelled on short notice, and 13 potential interview partners did not reply at all. For most non-responding or negatively responding potential interview partners, other experts from the same field were found. Only experts from the governments were difficult to access. In the end, state actors as well as non-state actors in each country were interviewed. The interviews included twelve experts from the state sector (two ministry staff, one former employee at a ministry, one administration staff, seven Members of Parliament, one Commission staff), two from advisory bodies, five representatives of NGOs, and three employees of companies or business associations. From the European perspective, three interviews were held; in the Czech Republic and the UK, three; in Spain, four; and in Germany, nine. Out of all interview partners, only five were women. The interviewees came from a variety of backgrounds: seven were economists, three were political scientists, two were lawyers, two were natural scientists, one was an engineer, and seven were from unknown backgrounds.

Bogner and Menz (2002: 37-9) distinguish three types of expert interviews that are relevant in the methodology debate: exploring, systemising, and theory generating expert interviews. The first is used to get a first overview of a topic and to form hypotheses, the second aims at systemising and gathering information, and the third is based on the method of Meuser and Nagel (1991, quoted in Bogner/Menz 2002) and is used for the "kommunikative Erschließung und analytische Rekonstruktion der 'subjektiven Dimension' des Expertenwissens" (the communicative development and analytic reconstruction of the "subjective dimension" of the expertise). However, it is not possible to strictly separate these types. The interview technique used in this thesis related mostly to the systemising typology, because the informal and otherwise inaccessible knowledge of the expert was of interest. The focus of the interview was the EU ETS Directive and its implementation, and the questions were based on variables generated in implementation theory. This form of interview includes the subjective views of the interviewees on the object and helps to reconstruct the process. Four interviews had a rather explorative character because the subjects being interviewed were not involved in the process but were experts in climate change policy, thus they had an outside view of the process. One of these interviews was quite insightful, but as the person did not want to be taped or quoted it is counted as an explorative interview as well.

In order to ensure that the interview data collection was systematic, comprehensible, and comparable, an interview guide was prepared. The interview guide helped to keep focus on the relevant topics; however, it was adjusted to the individual interviews and changed over the interview period when new hypotheses developed. Interview questions slightly varied from expert to expert due to the different foci of their work and knowledge. In addition, the order of the questions varied, taking into account already mentioned information that did not need to be asked for again. The interview guide generated for the purpose of this thesis was influenced by the analysis of relevant literature, theories, and documents and reflected the operationalised variables.

For this research study, interviews were held either face-to-face or via telephone. Six interviews were completed over the telephone, the rest in person. Most interviews that were held face-to-face were conducted in the office of the expert; only four took place outside the office at request of the person interviewed. The interviews were taped to ensure that the content was not subject to the arbitrariness of the interviewer taking notes. Only two interviews were not taped, one because of its explorative character and the other because the interview partner did not want to be taped or quoted. Because modern recorders are small and unobtrusive, it is assumed that the

recording did not disturb the interview atmosphere and in only one case was the taping unwelcome.

Interviews were generally transcribed completely; only parts that were out of the interview context were left out. This approach was selected in order to be able to detect previously unexpected statements by considering the whole interview in the evaluation. The focus of the analysis was the content of the interview and not the way things were said. Thus, the transcription was simplified as described by Meuser and Nagel (2002: 83). All but the Spanish interviews were transcribed by the interviewer; the Spanish interviews were summarised in an interview protocol with the help of a native speaker. Since only the most important statements were transcribed, a pre-selection took place. In all cases, attempts were made to stay close to the original text when interpreting the data.

The interviewer, simultaneously the author of this thesis, can be viewed as an expert as well and was considered by the interviewee as co-expert or expert from another discipline (Bogner/Menz 2002: 50-4). The co-expertise exists because of the document analysis that had been previously completed. However, the expertise was limited to the formal process. Only some interviewees were scientists, but often from other disciplines; other interviewees shared the discipline political science, but were no longer active in science.

The evaluation of the interviews is described below:

- The focus of the evaluation was the content and thus what was said and not when or how it was said;
- For the evaluation of expert interviews, thematic categories were used;
- The functional context of an expert was important for the interpretation; their comments were viewed in the context of their institutionalorganisational membership;
- To keep the interview focused the interview guidelines was important; the interview guidance made the interviews comparable (see Meuser/Nagel 2002: 81-2).

3.2.2.3 Evaluation and analysis method

Documents and interviews were evaluated according to the qualitative content analysis (see Mayring 1993), because this method allows a standarddised analysis of non-standardised material. Thereby, a structure is brought to the evaluation and the number of documents and interviews can be handled competently. Categories or codes are the basic principles of content analysis. They are either drawn from the material (inductive categories) or they are previously determined, referring to assumptions from implementation research or to research questions (deductive categories). Both types of categories are then applied deductively to the text and paraphrases are assigned to categories. The process includes feedback loops, as this dynamic process allows the reallocation of categories and combination of many detailed categories into a few encompassing categories. The coding here is carried out deductively using the variables from implementation theory or the guiding questions, respectively. With the interviews for this thesis, it turned out that not all variables were manageable in interviews, as they were too abstract. Nevertheless, inductive categories can also be generated where knowledge is provided that cannot be categorised according to the theory. The interview questions build a good basis for the code system. The content analysis guarantees that the entire text of the interview is acknowledged. However, not all sections of an interview were used in the final text, as those that were not of relevance for answering the research question were left aside. Often experts got into details with technical matters that were important for the political discussion but cannot all be included in this thesis.

The qualitative content analysis and the objective hermeneutics try to bridge the explaining (erklären) and understanding (verstehen) methods, insofar as they try to objectively reconstruct and interpret the subjective meaning.

3.3 Summary

This research project is a comparative policy analysis. The thesis is theoryguided empirical research and comparison is conducted qualitatively and focused. Four case studies are compared with each other, but within each Member State, the first phase and the second phase of the EU ETS are also contrasted. Moreover, the EU ETS Directive of 2003 is compared with the EU ETS Directive of 2009. Process analysis or tracing is used to reconstruct processes and decisions. The four Member States that constitute the cases to be analysed were purposively selected. Data was collected with the help of document analysis and expert interviews. These were evaluated and analysed with the qualitative content analysis.

4 THE POLITICS OF CLIMATE CHANGE

Climate politics, like most environmental politics, is conducted under a high level of uncertainty and depends heavily on scientific knowledge and research. Because most decision makers are not necessarily experts in this field, scientists have to transmit a basic understanding of natural phenomena such as climate change. When science serves as the basis for political action, it automatically becomes politicised, and climate change is indeed a highly politicised topic, as will be shown throughout this text. In the Intergovernmental Panel on Climate Change (IPCC)⁴³ – whose reports serve as basis for political action – the reciprocity of science and politics becomes evident as the IPCC was established as an interstate council by the United Nations Environmental Programme (UNEP) and the World Meteorological Organization (WMO) (cf. Oberthür/Ott 2000: 28) in 1988.

Although it took decades for scientific warnings to reach the public and politicians (Enders 2007: 15), climate change is now regarded as one of the most threatening environmental problems because of its broad global impact. Climate change is often referred to as global warming, indicating the consequence of the change: the increasing average global temperature. Despite some natural factors that determine the Earth's climate, the majority of climate researchers assumes that the global warming the Earth is facing today is mainly of anthropogenic origin due to the increase in the concentration of greenhouse gases⁴⁴ in the atmosphere (see Graßl 2005: 19). This increase is among others caused by human activities such as the burning of fossil fuels, waste, land-use, and certain farming methods. However, deforestation also contributes to the climate change, as the Earth's lungs (the forests) absorb less CO2.

The climate has varied throughout Earth's history: there were ice ages and warm periods, and it has been proven that these were related to the CO_2

⁴³ For further information about the IPCC and their reports, see www.ipcc.ch.

⁴⁴ CO₂ is one of the main greenhouse gases responsible for human-induced climate change, making up a bit more than half of the gases; the others are methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), per-fluorocarbons (PFC), and sulphur hexafluoride (SF₆). These all have different global warming potential but because CO₂ is the most common one, it is the focus of climate discussions.

concentration (Rahmstorf/Schellnhuber 2006: 17-32).⁴⁵ The IPCC report shows that without anthropogenic effects, the global surface temperature would have been lower than it is today (IPCC 2007b: 61). The abnormal climate change we are talking about when we refer to the anthropogenic source is the promptness and rapidity of the warming. Human impact has managed to have the same effect within only 100 years for which natural warming requires thousands of years (Rahmstorf/Schellnhuber 2006: 53).

Global warming describes the phenomena in which the global average surface temperature⁴⁶ has increased in the 20th century by ca. 0.6°C (Albritton/Meira Filho [Co-ordinating Lead Author] 2001: 26). If we maintain a business-as-usual policy, the Earth is likely to heat up by 1.4 -5.8°C in this century (Albritton/Meira Filho [Co-ordinating Lead Author] 2001: 69) or by 0.2°C per decade (IPCC 2007a: 45). New investigations even expect the warming to be more severe than predicted thus far. The IPCC report of 2007 additionally states that even if the level of greenhouse gas emissions and aerosols had been kept at 2000 levels, an increase of 0.1°C per decade would still take place (IPCC 2007a: 45), as the persistence of greenhouse gases in the atmosphere is very long (Graßl 2005: 20). Despite global warming, parts of the world can be colder or an extremely cold winter or summer can occur without contradicting the fact that global warming is taking place. It is widely assumed by the public that the Earth could cope with a 2°C increase in temperature, which is viewed sceptically by Brunnengräber et al. (2008: 60) because of the arbitrariness of the number. Nevertheless, this number is seldom questioned and is used as an orientation in many political documents.

The consequences of global warming are manifold and have an impact on human life and societies, ecosystems, biodiversity, and feedback effects.

⁴⁵ The CO₂ concentration has varied over Earth's history, and it has been proven that there is a correlation between the concentration of CO₂ and temperature. When the CO₂ concentration sank, the Earth was colder and when it was getting colder, the CO₂ sank. It also worked the other way around: when CO₂ concentration increased, the temperature increased, and when the temperature rose, the CO₂ concentration increased as well.

⁴⁶ The average of near surface air temperature over land, and sea surface temperature.

(Rahmstorf/Schellnhuber 2006: 54-81). Finally, the economy is also at risk due to climate change. It is estimated that an increase in temperature of about 5 - 6°C could lead to an average 5 - 10 % loss in global gross domestic product (GDP), with poor countries facing a potential loss of 10 % of their GDPs (Stern 2006: IX). To sum up, climate change will have a broad impact and is therefore of ecological, societal, and economic relevance. While the impact and effect of climate change is more of economic relevance in the North, the problem threatens the existence of people and cultures in the South (Brunnengräber, et al. 2008: 62).

The attempt to halt climate change is called mitigation. Mitigation measures aim at reducing greenhouse gas emissions from all emitting sectors by new clean technologies, energy efficiency, and conservation measures or by promoting new renewable energies.⁴⁷ Other options are to capture greenhouse gas emissions by reforestation and afforestation.⁴⁸

Although most well-known and respected climate researchers and most politicians in Europe consider climate change to be a severe problem, there are also sceptics who either deny or play down climate change or its anthropogenic origin (see Rahmstorf 2005, Rahmstorf/Schellnhuber 2006). Another aspect of the discussions on climate change is whether the current measures to halt climate change will be effective. While some only criticise the measures and instruments of the Kyoto Protocol but call for a more ambitious climate policy (e.g. Brunnengräber, et al. 2008), Lomborg (2004) calls climate measures inefficient because the money spent on climate change measures could be used more efficiently for other policies, such as combating illnesses or hunger. However, their calculations are only valid from a short-term perspective. Regardless of all doubts about the un-

⁴⁷ New renewable energies are solar or wind power, for example. Although nuclear power is often seen as a clean technology because it does not emit greenhouse gas emissions directly, the risk to environment and health is too high, and decommissioning nuclear waste has not yet been completely resolved. Moreover, uranium and plutonium reserves are finite. Thus, it is not considered here as an energy alternative to deal with climate change.

⁴⁸ CCS technologies attempt to capture emissions from installations and store them away, mostly in spaces underground. The problem of CCS is that the consequences of putting CO₂ and other greenhouse gases underground cannot ultimately be foreseen.

certainties of climate change, climate change policies can help to achieve other objectives, like decreasing air pollution or the preservation of biodiversity (cf. Stern 2006: XVI). Furthermore, energy efficiency, energy saving, and renewable energies matter when it comes to energy security, which is also a security issue for dependencies.

The international community and especially the EU have decided to act. But although it is widely known what could be done to halt climate change, the complexity of the matter and lack of willingness have made negotiations for an international climate policy difficult. The major problem is that those countries with high levels of economic development are the polluters, but the countries most vulnerable to the consequences of climate change are the countries that still need to develop. It is thus a question of justice and of how to promote sustainable development. The fact that the historical responsibility is the burden of the industrialised countries is less debated, but who should be involved in future decisions and have concrete reduction targets has not yet been agreed upon. This is a highly politicised question. As changes are often connected to costs, negotiations concern who will have to pay how much. One thing that is certain is that the ones that will pay for inaction are the ones most vulnerable to the consequences of climate change and future generations. Already in 1986, Beck (1986: 46, 48) described this problem in his work "Risk society" stating that risks are unequally distributed and enforce class structures or inequalities. But he also assumes that environmental problems have a boomerang effect, which means that in the long run they also endanger the wealth of the polluter, a fact that most wealthy countries are not sufficiently aware of yet. Hence, it is obvious that these problems have to be addressed in cooperation because of their transboundary effects.49

⁴⁹ In political science, transboundary cooperation in environmental politics is usually explained by the Global Governance approach, focusing on the world community and the global commons, or by the Regime Theory that focuses more on the institutionalisation of international politics.

5 THE INTERNATIONAL CLIMATE POLICY

The International Conference on Human Health held in Stockholm in 1972 marks the starting point of international environmental politics, where the global and transboundary impact of environmental problems was pointed out. The first UN-sponsored World Climate Conference was held in 1979 in Geneva and was more of a scientific nature than of political interest. However, it led to the aforementioned IPCC and can be seen as the first step in international climate politics. This was the first time that climate change was discussed and global warming was explained. In the end of the 1980s, climate change became an issue of public interest and was no longer restricted to science (Enders 2007: 53). At the second World Climate Conference in Geneva in 1990, the framework for an international cooperation was laid down. But it was only in 1992, at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro one of the largest conferences dealing with environment and development ever – that the world community took action. The outcome was among others the UNFCCC⁵⁰, an international convention with the goal of halting global warming and of reducing its impact. The UNFCCC came into force in 1994 and as of 2010, 194 countries and the EU had ratified the convention. The UNFCCC was a milestone, considering that at that time the scientific basis for climate change was thin. At the third Conference of the Parties (CoP) held in Kyoto in 1997, a protocol was adopted that is now known as the Kyoto Protocol.⁵¹ In subsequent years, the details were discussed and negotiated at annual conferences and meetings.⁵² Negotiations on both the UNFCCC and the Kyoto Protocol were influenced by the IPCC reports.

The discussions at the conferences concentrated mainly on reduction targets and how to achieve them. Santarius (2008) compares the negotiations on reduction targets in the Kyoto Protocol to a bazaar, because industrial countries tried to avoid serious emissions cuts and sought relative targets related to historical emissions. Both emerging economies and developing

⁵⁰ United Nations Framework Convention on Climate Change 1992.

⁵¹ Kyoto Protocol to the UNFCCC, hereafter referred to as the Kyoto Protocol.

⁵² For more information, see www.unfccc.org.

countries understood justice as introducing per capita emission targets and recognised the responsibility of industrial states for their record of historical emissions (Brunnengräber, et al. 2008: 101).

The Kyoto Protocol includes binding measures and individual reduction agreements for countries listed in Annex B (mostly Organisation for Economic Co-operation and Development (OECD) countries and transitional countries in Central and Eastern Europe). The first reduction period covers the five-year period from 2008 to 2012. According to Article 3 of the Kyoto Protocol, in this period countries named in Annex B must reduce their greenhouse gas emissions⁵³ by a minimum of 5 % compared to 1990. The reduction targets range between an increase of 10 % for Iceland and a decrease in emissions of 8 % for EU-15 and other new Member States, with the exceptions of Hungary and Poland (with a lower reduction target of 6 %) and Cyprus and Malta (not listed in Annex B). The EU itself also became a member of the Kyoto Protocol, and the EU-15 formed a so-called 'bubble', which means that they have to achieve their target as a group as stated under Article 4 of the Kyoto Protocol. As a bubble, the EU has a target of -8 %, the individual Member States have different targets, ranging from Portugal, which can increase emissions by 27 %, to France, which must keep emissions at 1990 levels, to Luxemburg which must reduce emissions by 28 % taking 1990 as baseline level. This differentiation was based on the economic development of the countries, reduction potential, and feasibility but was also a result of political agreements to get all parties on board.

According to the Protocol, it is left up to the countries how to achieve their targets and which measures to implement.⁵⁴ The instruments created under the Kyoto Protocol to cut the costs for Annex B parties are the flexible mechanisms 'Emissions Trading' (Article 17) and the two project-based

⁵³ The greenhouse gases covered by the Protocol are the gases considered to be the main contributors to climate change: carbon dioxide (CO₂); methane (CH₄); nitrous oxide (N₂O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF₆).

⁵⁴ Annex I parties are obliged under the Protocol to monitor and report their emissions and submit annual national inventory reports, which are reviewed by experts to certify compliance or non-compliance. In the case of non-compliance, the party must develop a compliance action plan and fulfil the target in the next period, plus a penalty of 30 %.

mechanisms 'Joint Implementation' (JI) (Article 6) and 'Clean Development Mechanism' (CDM) (Article 12).⁵⁵ CDM in particular also aims at realising knowledge and technology transfer to developing and transitional countries. Only countries that have ratified the protocol can make use of the flexible mechanisms. These instruments resulted from pressure by the USA, which was not willing to accept binding targets or to sign the Protocol unless they were included. At the time of the Kyoto Protocol negotiations, the EU strongly opposed the use of the flexible mechanisms (Skjærseth/Wettestad 2008b: 35), arguing that domestic efforts must be done first.

The Kyoto Protocol came into force on 16 February 2005 after 55 signatory states representing 55 % of the worldwide greenhouse gas emissions had ratified the protocol. It was mainly due to the effort of the EU that the Protocol did not fail – after the USA, the main emitter, declared their abstention from the treaty – because the EU pushed Russia to ratify the Protocol so that it could come into force. Since then, it is binding for the parties to the Protocol. In 2010, 189 countries and the EU had ratified the Protocol; of these, 37 countries and the EU have a binding reduction target.

The Kyoto Protocol was criticised by some as it only regulates the output – the emissions – but does not question the fossil energy systems (cf. Brunnengräber, et al. 2008: 188). The flexible mechanisms are criticised because they soften the reduction targets (cf. Enders 2007: 16). Moreover, emissions trading is seen as privatisation of public goods and considered as neo-liberalisation of environmental politics (cf. Altvater/Brunnengräber 2008, Brunnengräber, et al. 2008). The project-based mechanism CDM is viewed especially sceptically due to its potential for misuse (cf. Witt/Moritz 2008) and JI is criticised for the hot air⁵⁶ it would bring into the market. In sum, the flexible mechanisms undermine the already unambitious reduction targets but it is quite likely that they will be part of future

⁵⁵ CDM projects are realised in a non-Annex B country by an Annex B country; JI projects are realised by an Annex B country in another Annex B country.

⁵⁶ Hot air refers to emissions that are cut because of shutdowns in industry. The term often refers to emission reductions that took place in Middle and Eastern Europe.

agreements because of their increasing popularity. At recent conferences the post-2012 regime was discussed but only at the Conference in 2011 in Durban, the international community designed a road map for a future protocol. However, the next phase will only start in 2020 and until then, negotiations on a binding protocol continue.

The EU has announced its acceptance of a reduction target of 20 % compared to 1990, and if other industrial countries are also willing to have ambitious reduction targets, they would even increase the number to 30 %. However, some complain that the reduction target is unambitious since most Middle and Eastern European countries are still far under their targets from the first Kyoto period because of the restructuring of their economies after 1990 (Luhmann/Streeck 2007: 20). Taken that climate researchers demand a greenhouse gas reduction of 80 % compared to 1990 level, it becomes obvious that the EU has to prepare for a low carbon society.

6 THE CLIMATE POLICY OF THE EU

"[T]his was the easiest way to get climate on the agenda." (Interview EU, NGO, section 23)

As a member of the Kyoto Protocol, the EU must ratify and implement it by adopting measures to achieve its targets. In order to better understand problems of implementation, a short introduction to the development of the EU climate policy and to EU environmental policy – the (legal) basis for climate policy – is important.

6.1 Background

The interest behind the creation of the European Economic Community (EEC) in 1957 was – as the name implies – in the first place, the economic integration of the five founding members. Economic growth and industrialisation were seen as the way to prosperity and thus environmental policy was not pursued for its own sake at that time. In the beginning,⁵⁷ environmental measures could be seen as rather "incidental" (Hildebrand 1993: 14) or as a "by-product of economic integration" (Knill/Liefferink 2007: 2) and were part of agricultural, economic, industrial, or nuclear policies. The underlying intention was based on the fact that different standards could lead to technical barriers and market distortions.

The starting point of a common environmental policy was the adoption of the first Environmental Action Programme (EAP)⁵⁸ at the summit of 1972. During the period up until 1987, the focus was on quality standards for water and air, and the legal basis were Articles 100 and 235⁵⁹ of the EECtreaty⁶⁰ (Hildebrand 1993: 27). An important step towards an integrative environmental policy was done in 1981 when the DG Environment was

⁵⁷ For an all-encompassing overview of European environmental policy, see McCormick (2001) and Knill and Liefferink (2007).

⁵⁸ EAPs are not binding but set a framework and guidance for the most urgent environmental issues and serve as justification for legal initiatives.

⁵⁹ Article 100 addressed the harmonisation and approximation of laws and aims at the creation of a single market. Article 235 allowed legislation in areas that are not a shared competence under the Treaty but are of common interest.

⁶⁰ Treaty establishing the EEC of 1957 (EEC-Treaty), also referred to as the Treaty of Rome.

established, engulfing all previous entities concerned with environmental issues that were located in other DGs (Albert 1997: 35).

With the adoption of the Single European Act (SEA)⁶¹ in 1986, environmental policy became a shared competence of the EC. After the introduction of the environmental chapter, environmental legislation could be based on Article 130r-t EEC Treaty, under which prevention and protection measures were allowed if commensurate with the treaty. Because in some areas of the environmental chapter, Article 130s demanded unanimity in the Council and gave the EP only a consultative status, much legislation was still based on Article 100 (single market), which required majority voting in the Council and was adopted in a cooperative process with the EP (Tenbücken 2002: 91-2).

In 1993, the Maastricht Treaty⁶² came into force, and the protection of the environment became an aim of the EU under Article 3 TEU, which was supplemented by the goal of sustainable development under the Treaty revision in 1997 in Amsterdam.⁶³ Additionally, the European Environmental Agency (EEA) was established in 1994 with the task of coordinating and monitoring environmental policies and of collecting and providing environmental data. Another milestone was the introduction of the environment as a cross-cutting issue in the Treaty (Article 130r(2), now Article 11 TFEU)⁶⁴ to ensure the protection of the environment and sustainable development and to enhance environmental integrity. Since the Maastricht Treaty it is agreed (Article 130r(2), now Article 11 TFEU) that legislation represents only minimum standards, allowing Member States to set more extensive measures (Jordan 2002: 56). The idea was to promote leadership and to avoid blockades in the voting process. As it is also

⁶¹ SEA of 1986, came into force in 1987.

⁶² TEU of 1992, also referred to as the Maastricht Treaty; with this treaty, the EEC was renamed the EC, presenting the first pillar of the EU.

⁶³ The Treaty of Amsterdam amending the Treaty on the EU, the Treaties establishing the EC and related Acts (1997), also referred to as the Amsterdam Treaty.

⁶⁴ The cross-cutting or integration principle demands consideration of environmental aspects during the formulation and implementation of measures in other policy areas of the Community (such as transport, regional, or agricultural policy) (see Knill/Liefferink 2007: 15, McCormick 2001: 80).

common practice that in the case of majority voting consensus is intended, most directives and regulations are only based on the smallest denominator.⁶⁵ With a shift towards co-decision under the Amsterdam Treaty, the EP was able to influence more environmental policy-making, another important step, as the EP is usually more ambitious than the Council.⁶⁶ The treaty revision in Nice in 2002⁶⁷ did not bring any substantial changes for the environment and thus the following aims and principles guide environmental policy. The aim of the EU as set in the treaties establishing the EU is a high level of protection of the environment and sustainable development, "taking into account the diversity of situations in the various regions of the Union" (Article 191, 2, TFEU). Environmental policy is mainly based on the precautionary⁶⁸ and polluter-pays principle,⁶⁹ as stated in Article 191 TFEU. Although a high level of protection is aimed at, measures should be compatible with the economy using a cost-benefit analysis (Article 191, 3, TFEU).⁷⁰ The costs and benefits are balanced if investments

⁶⁵ This relates to the safeguard principle, allowing Member States to adopt stricter protection measures as long as they are compatible with the treaty if it causes a risk to human or animal health (see McCormick 2001: 85).

⁶⁶ Under the Amsterdam Treaty, the articles were renumbered and the environmental chapter comprises Articles 174-176 (Articles 191-193 TFEU). Article 100 was changed to Article 95 (Article 114 TFEU).

⁶⁷ The Treaty of Nice amending the Treaty on the EU, the Treaties establishing the EC and certain related Acts, also referred to as the Nice Treaty.

⁶⁸ The precautionary principle aims to protect the environment by preventing damages and risks. The idea behind it is that "Cure is usually more expensive then prevention." For prevention, scientific knowledge is a prerequisite for precautionary measures, scientific evidence does not have to be present but the suspicion of harmfulness is sufficient to act. Thus, the precautionary principle strengthens the prevention principle (see McCormick 2001: 75-85).

⁶⁹ The polluter-pays principle or producer responsibility requires the person who pollutes or risks to pollute the environment to pay for it by its prevention, removal, and compensation (see Knill/Liefferink 2007: 15), costs that otherwise would have to be borne by society. However, costs are often imposed on the consumer. This principle internalises environmental pollution as external costs of production and consumption in the balance of a product. The aim is to achieve a respectful use of natural resources (cf. Wicke 1993: 151-2). The price being paid should reflect the costs of repair or avoiding damage, thus reflecting a cost-benefit analysis. The problem of this principle is that sources of cause are not always known or are multiple (cf. McCormick 2001: 75-6).

⁷⁰ McCormick (2001), however, remarks correctly that it is easier to calculate the costs of action than inaction, citing the example of reducing greenhouse gas emissions.

in ecological and environmental protection improve or preserve the state of the environment; however, it is difficult to estimate the costs for non-action (cf. Knill/Holzinger/Schäfer 2006: 406, McCormick 2001, 184). National sovereignty is addressed by the subsidiary principle that states that action should take place on the most suitable level.

The Lisbon Treaty,⁷¹ adopted in 2007, has two aspects that are worth mentioning because of their relevance for climate policy. The first is the explicit mentioning of combating climate change as an objective in the environmental chapter:

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

- preserving, protecting and improving the quality of the environment,
- protecting human health,
- prudent and rational utilisation of natural resources,

- promoting measures at the international level to deal with regional or world-wide environmental problems, and in particular combating climate change. (Article 191 TFEU (ex Article 174 TEC))

The other aspect that is new and of major relevance is the introduction of an energy chapter, XXI, which gives the EU the possibility of basing future energy legislation on the basis of Article 194:

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

- (a) ensure the functioning of the energy market;
- (b) ensure security of energy supply in the Union;
- (c) promote energy efficiency and energy saving and the development of new and renewable forms of energy; and
- (d) promote the interconnection of energy networks. (Article 194)

Energy policy is closely linked to climate change because the energy sector has high potential for reducing greenhouse gas emissions. Previously adopted energy policies were intended to enhance the single market and the harmonisation of standards and conditions, thus they were based on Articles 94-95 TEC (Articles 114-115 TFEU) or 154-155 TEC (Articles 170-171 TFEU). It was also possible to base policies on Articles 174-175 TEC (Articles

⁷¹ The Treaty of Lisbon amending the Treaty on the EU and the Treaty establishing the European Community, signed at Lisbon, 13 December 2007, also referred to as the Lisbon Treaty or the Reform Treaty.

191-192 TFEU) referring to the environmental chapter (Haberzettel 2000). The decision procedure for both chapters now is the co-decision of the Council and the EP and QMV in the Council. Fiscal policies, among others, are still subject to unanimity voting in the Council.

However, before explicitly mentioning climate policy, the EU adopted measures related to climate change mitigation such as limits on emissions from industrial plants or rules on specific substances in the air (such as sulphur dioxide and nitrogen dioxide). The EU also contributed to international attempts to address the depletion of the ozone layer and the problem of climate change (McCormick 2001: 180). The instruments used were mostly emission limits. Related directives were e.g.: The Integrated Pollution Prevention and Control (IPPC) Directive ⁷² adopted in 1996, which has overlapping aims with the EU ETS Directive, and the Large Combustion Plants (LCP) Directive⁷³, regulating sulphur dioxide and nitrogen oxides emissions and dust from LCP each year.

Climate change as a separate topic came on the political agenda in the mid-1980s; the Commission published a research policy statement in 1985, and the EP adopted a resolution in 1986. However, it was not yet part of the Fourth EAP at that time. Nevertheless, the Commission decided to take action by promoting energy efficiency and renewable energy by the end of the 1980s. Today, the Directive to promote renewable energy in the electricity sector⁷⁴ and the Biofuels Directive⁷⁵ set targets for the EU and

⁷² Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control, hereafter referred to as IPPC Directive.

⁷³ Directive 2001/80/EC of the EP and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from LCP, hereafter referred to as LCP Directive.

⁷⁴ Directive 2001/77/EC of the EP and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market, hereafter referred to as Renewables Directive.

⁷⁵ Directive 2003/30/EC of the EP and of the Council of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport, hereafter referred to as Biofuels Directive.

each Member State and cogeneration is promoted.⁷⁶ In 1990, the European Council and a mixed ministerial meeting of Environmental and Energy Ministers decided that greenhouse gas emissions needed to be reduced and agreed to stabilise the emissions in 2000 at 1990 level. Even then, it was clear that the burden had to be shared according to the grade of industrialisation in order not to harm economic development (cf. McCormick 2001: 281). The sixth EAP "Environment 2010: Our Future, Our Choice"⁷⁷ adopted in 2002 was the first EAP in which the EU declared climate change to be a priority for action and calls for the establishment of an EU ETS, which resulted in the Directive adopted one year later. Since 2010, climate policy is dealt with in the newly established DG Climate Action.

Shaping a policy at EU level may affect the implementation performance of Member States, as shown by Börzel (2003a). The air protection policy of the EU was primarily influenced by the UK and Germany, who had different approaches regarding environmental policy in general. Whereas the UK regarded environmental policy as the protection of nature, Germany regarded environmental protection as a technological challenge. As a result, the UK sets standards for air pollution and Germany for industries, using the BAT as a point of reference. The advantage of the latter policy is that environmental protection takes place also where air pollution is not a problem; on the other hand, in industrial centres, the level of air pollution can be still high (cf. Héritier et al. 1994: 28-30). The reason for taking a different approach is that Germany (situated in the middle of Europe) had serious problems with forests dying from air pollution, while the UK was in a relatively comfortable position as an island, only "exporting pollution". Forced to deal with this problem at home, Germany successfully influenced air pollution policies in the 1980s and was responsible for the introduction of standards. In the 1990s, when the criticism of substantial measures increased - they were blamed for the implementation deficit - the UK became

⁷⁶ Directive 2004/8/EC of the EP and of the Council of 11 February 2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC, hereafter referred to as CHP Directive.

⁷⁷ Decision No 1600/2002/EC of the EP and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme.

more successful at uploading procedural policies like eco-auditing (Héritier, et al. 1994: 391). Moreover, in the 1990s a change in the design of policies and choice of instruments took place, leaving more flexibility to the Member States and national interpretation (see Holzinger/Knill/Schäfer 2002: 2). Both issues are part of implementation research.

6.2 The implementation of the Kyoto Protocol

As mentioned above, the EU has been one of the main promoters of international climate policy and especially of the Kyoto Protocol. However, one could say that the international climate policy has also shaped European climate policy. As a proponent of ambitious aims for a climate protection regime on the international level, the EU has had to prove leadership also at the domestic level in order to be a credible negotiator. In addition, Member States are confronted with their historical responsibility. The EU or its institutions "play a significant role in designing European climate change legislation as well as encouraging and interacting with national climate change activity within its Member States" (Damro/Hardie/MacKenzie 2008: 179), which can be supported by the large number of measures adopted in recent years.

The climate policy of the EU today has been mainly based on international agreements and particularly on the UNFCCC and the Kyoto Protocol, but is more encompassing and recently has become independent from international negotiations. Because of its complexity, the climate change problem cannot be handled with one catch-all instrument; rather, it requires a mix of measures to tackle it. Since the beginning of the 1990s, the EU has adopted a number of measures in the transport, energy, and industrial sectors. The overall aim has been to reduce greenhouse gas emissions without hindering economic growth. Thus, the EU has mainly focused on clean technologies, renewable energy, and energy efficiency.

The European Climate Change Programme (ECCP) represents the implementation of the Kyoto Protocol at the EU level. Equivalent to national climate change programmes, it consists of a number of measures aimed at controlling emissions in different sectors.

6.2.1 The ECCP

The Commission launched the first ECCP in 2000.⁷⁸ This climate package was developed by Commission staff from different departments, Member State representatives, and external stakeholders such as industry and environmental groups. It consists of the most environmentally effective and most cost-efficient measures and policies. It refers partly to already existing measures, the sixth EAP (2002-2012), and the sustainable development strategy. In working groups and sub-groups, the measures and policies for the different sectors (energy, transport, industry, research, and agriculture) were sampled.

The measures published by the Commission in the ECCP report in 2001 (see European Commission 2001b) were an Action Plan for the ECCP, a proposal for ratification of the Kyoto Protocol, a proposal for an EU ETS, and a proposal for regulating certain fluorinated gases. The working groups had compiled about 40 measures addressing all sectors but varying in their state of applicability. At that time, the EEA had estimated that 336 million tonnes (Mt) CO2eq were necessary to comply with the Kyoto target; the proposed measures would have a reduction potential of almost double that amount. However, this potential depends on exact numbers, concrete implementation, the interplay of various measures, and external conditions such as the weather.

The second ECCP⁷⁹ was launched in 2005, addressing the period after 2012 and enhancing the measures and policies of the first ECCP. The new working groups dealt with the review of the previous topics and concentrated on aviation, cars, and new technologies such as carbon capture and storage (CCS)⁸⁰ and adaptation strategies.

⁷⁸ See http://ec.europa.eu/clima/policies/eccp/first_en.htm [last accessed: 2011-04-12].

⁷⁹ See http://ec.europa.eu/clima/policies/eccp/second_en.htm [last accessed: 2011-04-12].

⁸⁰ CCS technologies attempt to capture emissions from installations and store them away, mostly in spaces underground. The problem of CCS is that the consequences of putting CO₂ and other greenhouse gases underground cannot ultimately be foreseen.

The keystone of the reduction strategy of the EU is arguably the EU ETS Directive, a market-oriented instrument, which is new to the EU.

6.3 The theoretical concept of emissions trading

Emissions or certificate trading⁸¹ belongs to the category of new economic instruments in environmental politics. The idea behind this instrument is to set a limit (cap) on pollution – ideally on the basis of scientific findings – and to have a limited amount of certificates (rights to use). The specific amount of emissions is brought to a market in the form of licences or certificates, which are allocated for free or with costs to the emitter (Wicke 1993: 242) and are tradable. Theoretically, this instrument can be applied to all kinds of (limited) natural resources; however, it should be only implemented for areas where the reduction is of global impact and not for areas where a local toxic impact can be expected (Rogall 2002: 266).⁸²

The concept of emissions trading is quite simple. Each participating actor receives a certain number of certificates that allows the actor to emit a certain gas. The allocation can be based either on a benchmark system (e.g. according to the BAT or average emissions of participants) or it can follow the grandfathering model that allocates certificates according to historical emissions. Certificates can be allocated for free or with costs. If certificates are sold or auctioned, the instrument becomes fiscal and leads to public revenue (Rogall 2002: 265). How to use these revenues can be decided by the state, but naturally it would make sense to invest into related measures. Another option could be to provide relief to consumers who had been exposed to higher costs.

The period in which emissions reductions must take place is determined in advance, and the cap is lowered in each phase. According to economic theory, the actor would invest in clean technology unless the abatement costs are higher than buying certificates (Holzinger/Knill/Schäfer 2002: 4).

⁸¹ The idea and concept is based on the work of Dales in his book *Pollution, Property and Prices* (Dales, J.H. 1986: Pollution, Property and Prices).

⁸² Water pollution would therefore be an example where it would be difficult to use certificate system due to local impact. The use of caps leading to illegal waste disposal should also be avoided.

The actor can thus decide on the action to take or buy certificates on the market, as long as the final number of certificates corresponds to the amount of emissions released. If the actor fails to comply, a penalty must be paid that is higher than the market price for a certificate.

Such a system requires a highly functional monitoring and reporting system in order to be successful. Moreover, the effectiveness depends on the design of the system, especially the capping and allocation method and its implementation.

The aim of this instrument is to reduce emissions where it is most costefficient. Ecological effectiveness and economic efficiency are granted because it is a cap and trade system. First, the cap sets a limit on the total amount of emissions; the number of certificates is regulated accordingly. Second, the certificates are tradable, which opens the possibility to choosing between investing in new technologies and buying certificates on the market depending on the costs. Consequently, the instrument is commensurate to the compatibility of economy and ecology (Rogall 2004: 62).

The advantage of emissions trading versus command and control regulation is that it is said to be economically less costly because reductions take place where they are most cost-efficient. In addition, the incentive for innovation and exceeding the target would be higher because additional reduced emissions can be sold in form of certificates in the market. The decision of how to comply is left to the owner of an installation. The aim of economic instruments is to change environmental behaviour sustainably and to move away from reactive environmental policy. However, this goal only achieves success when the instrument is designed consequently (Wicke 1993: 385). An option to have even higher standards than those set by the state would occur if also non-participating actors (grassroots initiatives or environmental agents) could buy certificates without using them. Theoretically, administrative costs and complexity are expected to be low, because the administration would be able to concentrate only on the allocation and control of emissions certificates (Wicke 1993: 386).

There are few already existing examples of trading schemes. Tradable certificates were first introduced in the US American Clean Air Act of 1974

and one of the most prominent examples until the introduction of the EU ETS was the SO2 trading system, which was part of the 1990 revised Clean Air Act (see Schreurs 2008).

6.3.1 ... and its criticism

Although the system sounds theoretically quite convincing, there were some doubts in related discussions, especially in the 1980 and 1990s, when it was first discussed in a broader context. According to Wicke (1993: 386), some scholars expressed concerns because the instrument could lead to a barrier for new market entrants. Moreover, strong market participants could gain a monopoly position or squeeze other participants out of the market by buying up all the certificates. While these problems are quite unlikely because participants compete for emission rights not just within their own sector, another more emotional or ethical argument against this instrument was that it would be selling the right to pollute. The latter argument was particularly used by environmental NGOs in the 1980s and 1990s and in more recent years by anti-capitalist critics, using the analogy of selling indulgences (cf. Enders 2007: 17). Enders (2007: 116) states that the use of economic instruments in climate policy is in line with the trend of monitarising societal problems, which is rarely questioned by the scientific networks that accompany the political process. Critics (cf. Altvater 2008, Altvater/Brunnengräber 2008, Brunnengräber, et al. 2008) regard the monetarisation and privatisation of public goods as the result of a neoliberal hegemony.⁸³ Defenders of the trading system (cf. Wicke 1993: 387-8) argue that pollution would take place with or without the "rights", but that with the introduction of emissions certificates, the polluter pays and the cap limits the absolute amount of greenhouse gas emissions. This is also an argument in favour of the cap and trade system over taxes, which do not set a limit.

There is also a small number of scholars who generally regard emissions trading as a politically inadequate instrument (cf. Braun/Santarius 2007:

⁸³ For a general critique of the use of market instruments and the privatisation of nature from an anti-capitalist perspective, see Altvater (2008).

123). Brunnengräber et al. (2008: 133) criticise the fact that emissions trading leads only to short-term profitable investment and not to a general substitution of fossil energy systems. A change in the energy system from fossil fuels to renewable energies is considered to be the most appropriate measure, since it would address the problem at its source (cf. Altvater 2008: 166, Brunnengräber, et al. 2008, Massarrat 2008: 208, Mez/Brunnengräber 2008: 231).

Proponents of trading systems point out the relevance of the design (cf. Wicke 1993: 387-8). For instance, the number of participants is an important aspect, as too many participants or too few emitters would lead to a bureaucratic system in which administrative costs were not in accordance with ecological effectiveness. The bureaucratic design of the EU ETS and the high transaction costs it imposed is criticised by Massarrat (2008: 204). Moreover, when allocating for free, distributive justice must also be considered because of the potential windfall profits that were observed in the EU ETS when energy producers made high profits at the expense of consumers. Another sensitive issue is compatibility with already existing measures focusing on the same subject. All of these aspects were considered during the policy-making at the EU level and are therefore discussed in greater detail in the next chapter.

6.4 Policy-making of the EU ETS Directive

Problem definition and the agenda-setting of climate change policies have been described in previous chapters. During policy formulation, measures and instruments are decided upon and designed. The Commission has the right to initiate policies and is responsible for drafting them. There are five different forms of legislation known in European Environmental law: the three binding forms are regulations, directives, and decisions; in addition, there are also recommendations and opinions that express the standpoint of European institutions but carry no legal weight (McCormick 2001: 71-4). Directives often result from action programmes, frameworks, or green or white papers. Decisions aim at one or more actors that could be Member States, institutions, or individuals, addressing mostly administrative issues. They are often also adopted to approve the terms of international conventions. Regulations and directives are the most relevant forms for policymaking. Whereas directives must be transposed into national law, regulations are in force once adopted. The aim of regulations is to standardise national legislation and standards. Directives, on the other hand, intend to harmonise national legislation; only the objectives are binding, but the preferred measure can be decided by the Member State. National parliaments are thus included in policy-making, as they have decision power in the implementation process (cf. Skjærseth/Wettestad 2008b: 23), but only if directives are not implemented by decrees or other legal instruments that do not require a parliamentary process (see Chapters 2.3 and 7.1).

The Commission must carefully decide on the right instrument because the choice of the instrument has an influence on the procedure. Moreover, decision-making in the case of regulations might be more difficult, as there is no room for adjustments on the part of the Member States. In the case of directives, the Commission has to find the balance between strong harmonisation and flexibility. To improve the process, (national) experts are usually present or consulted before legislation is prepared and published. The draft law is submitted to the legislative bodies – i.e., the EP and the Council. Their power relationship differs depending on the type of procedure – co-decision, cooperation, assent, or consultation – applicable to the article the policy is based on. Co-decision is the most common procedure for issues under the environmental chapter, except for policies concerning taxes. In the case of co-decision, the EP and the Council have equal power, giving the EP a quasi-veto if it rejects a law (Pfetsch 2001: 162-3). In addition, the voting procedures vary in the Parliament and the Council, which in the end results in a number of possibilities of policy-making (Wessels/Müller 2000: 110). In the Council, decisions can be made by unanimity or by a simple, qualified, double-qualified, or two-thirds majority. QMV has become the general procedure in recent years in environmental politics⁸⁴ and thus Member States can be overruled, although consensus decisions are common. Consequently, Member States may have to implement directives they did not want at all or in the final form. To get

⁸⁴ See Bergström/Farrell/Hériter (2006) on the introduction of the QMV.

unwilling Member States on board, either financial compensation or package deals are a solution, whereby concessions are given to these Member States in other negotiations. The EP can either approve a policy by a simple or an absolute majority. Although a simple majority is sufficient for decisions in the Commission, policies are usually approved by consensus.

At the time it adopted the Kyoto Protocol, the EU was still sceptical about the use of emissions trading as an instrument. "The EU ETS [was] developed in contrast to command-and-control approaches, and even to the taxation instrument, and its potential for reconciling EU economic and environmental goals encouraged its definition. The system was therefore designed as a flexible mechanism that should help Member States to progress jointly towards the Kyoto target, through horizontal learning processes" (Buchner/Catenacci/Sgobbi 2007: 18) that began with the Green Paper in 2000.

6.4.1 EU ETS Green Paper

In the case of emissions trading, it was the Commission that initiated the instrument as part of the climate policy (see Skjærseth/Wettestad 2008b: 87-90). The ETS was prepared by working group I of the ECCP, which consisted of European Commission staff, national experts (from Germany and the UK, among others), industrial groups (Bundesverbandes der Deutschen Industrie (BDI) and Emissions Trading Group UK, among others) and the NGOs Foundation for International Law and Development (FIELD), Climate Action Network Europe (CAN Europe), and the World Wide Fund for Nature (WWF). The preparation of the EU ETS Green Paper was done under consideration of reports and working papers on a possible EU trading scheme prepared by various research institutions (see among others FIELD 2000). These reports influenced the Green Paper to a large extent (cf. Skjærseth/Wettestad 2009: 109). In 2000, the European Commission presented the EU ETS Green Paper on greenhouse gas emissions trading within the EU/ 85 expressing the will to establishing an ETS.

⁸⁵ Green Paper on greenhouse gas emissions trading within the EU, COM (2000)87, hereafter referred to as EU ETS Green Paper.

Emissions trading was a new instrument for the EU and for most Member States. Nevertheless, the EU chose to implement a trading scheme for its "certainty of environmental outcome" and because reductions "take place where the cost of reduction is the lowest".⁸⁶ Hence, the EU acted in accordance with the arguments for the theory of emissions trading, hoping to achieve economic efficiency and ecological effectiveness.

The plan to implement an EU-wide trading scheme was initiated at a time when it was uncertain whether the Kyoto Protocol would come into force. Therefore it is seen by some as "particularly puzzling and risky" (Damro/Hardie/MacKenzie 2008: 186) on the one hand, but a clever step on the other hand, because as a result the EU would gain experience before the international ETS would start in 2008. As this was the intention, the EU planned to have a trial period from 2005 to 2007. The second period, from 2008 to 2012, would coincide with the international reduction period set under the Kyoto Protocol. Another reason for an EU-wide scheme was to prevent Member States from creating their own ETSs, which would be more difficult to harmonise. At the time of preparing the EU ETS, only the UK and Denmark had designed domestic ETSs (but using different designs), and the Netherlands, Sweden, and Ireland had planned to use the instrument (Skjærseth/Wettestad 2008b: 87-90). However, many other states at that time were very sceptical about this instrument, and the Commission needed to work hard to persuade these Member States to get them all on board.

When the EU ETS Green Paper was under discussion in 2000, the positions of the Member States were almost as numerous as the countries involved. The big questions in the beginning were whether to have voluntary or obligatory participation, the degree of harmonisation, whether to have relative or absolute targets, and whether to create an upstream or down-

⁸⁶ EU ETS Green Paper, p. 8.
stream system (Steuwer 2007: 82).⁸⁷ More detailed questions raised by the EU ETS Green Paper focused on:

- the allocation method: The questions were whether to give certificates for free or at a fixed price and whether to use auctioning, benchmarks, or grandfathering. Another problem related to allocation was how to deal with new market entrants: on what basis should they receive certificates and how to ensure that the cap would not be exceeded;
- the scope of the ETS: The questions were which sectors and which gases to include. The Commission proposed using the definitions from the LCP Directive and the IPPC Directive as starting point. The criteria for the final definition would be the potential effects on competition and administrative feasibility. The decision on the gases was only decided when the Directive was proposed;
- the effective monitoring, reporting, verification, and enforcement: This issue was addressed later in the preparation of the monitoring and reporting guidelines;
- the compatibility with the Kyoto Protocol's international emissions trading: As it was unclear at the time of formulation what the international ETS would look like, this topic was discussed only in general terms. The linking with the project-based mechanisms CDM and JI represents one parallel to the international emissions trading.

All these choices had proponents and opponents. Out of the then 15 Member States, six opposed an ETS in principle, among them the two 'big' and influential Member States France and Germany. The group of supporters mainly consisted of countries that had already planned or even realised their own ETS. The nine Member States who were in favour of an ETS were divided as to the design, some favouring a decentralised system (e.g., the UK) over a centralised one (Skjærseth/Wettestad 2008b: 97-8). The main drivers of an EU-wide trading scheme were the Commission, but also

⁸⁷ An upstream model addresses the level of primary fuels, whereas a downstream model addresses the direct emitters of greenhouse gases. For the advantages of the upstream model, see CCAP (1998).

Member States (like the UK) who were in favour of the instrument. Spain seemed to be not very interested and played a minor role in the process (cf. Steuwer 2007: 113). The Czech Republic was not a Member State at that time. However, an expert from the Ministry for the Environment was in the working group that prepared the EU ETS Directive, so the country was able to follow the legislation's development from the expert point of view. At that time, it did not arrive at the political level, even when the experts were telling politicians that there was something happening in the EU that would have an impact on the Czech Republic; Czech industry and decision makers thought that the instrument would not harm them, since they had over-achieved their reduction target under the Kyoto Protocol (Interview CZ, GOV, section 28). An expert from the government explained the situation as follows:

We followed it only in the way that we knew that something was happening, but as we were not in a position to participate in the decision-making, it was taken not too seriously and also as we were in a position of being safe under the Kyoto Protocol, everybody said well, if they want to regulate emissions, if we're ok it's probably not going to be an issue for us. (Interview CZ, GOV, section 26)

Stakeholders and the public were also invited to comment on the EU ETS Green Paper. In general, environmental NGOs called for ensuring environmental effectiveness when designing the scheme, favouring auctioning. Industry and business interests warned about the international competitive disadvantage and demanded distribution of the reduction burden equally on all emitting sectors and not only on industry, preferring grandfathering as the allocation method (see European Commission 2001c). The aim of the Commission was to have a harmonised system with flexibility for the Member States (Skjærseth/Wettestad 2008b: 97-8), which in the end they got.

6.4.2 EU ETS Directive

Emissions trading was introduced in the EU as a directive and hence only as a framework, setting objectives. The first draft of the EU ETS Directive was communicated by the Commission to the Parliament and the Council in 2001.⁸⁸ The EU ETS Directive was based on Article 175(1) TEC (Article 192 TFEU) and follows the procedure laid down in Article 251 TEC (Article 294 TFEU) and was adopted under co-decision of the EP and the Council.

Between 2001 and 2002, the first reading took place. In the EP, the Committee on the Environment, Public Health and Food Safety (ENVI) was in charge of the EU ETS Directive, but the Committee on Economy (ECON), the Committee on Industry, Trade, Research and Energy (ITRE) and the Committee on Legal Affairs (JURI) were included as well. The EP produced over 300 amendment proposals; 74 of them were adopted by the EP but not even half of these were accepted by the Commission. When the EU ETS Directive was discussed in the Council, Denmark had the presidency. As Denmark was one of the few countries who had already established a domestic trading system, the Danish presidency promoted the EU ETS Directive and was able "to develop a political solution" (Skjærseth/Wettestad 2008b: 119). The common position adopted by the Council was not accepted by the EP, which led to a second reading. The EP introduced many of the previously failed amendments again, but in the end only 17 amendments were finally passed after long discussions with the Commission. Eventually, the EU ETS Directive was adopted on 13 October 2003.

In the end, the EU ETS:

- is a mandatory but decentralised system, with the cap (maximum number of emissions permitted within a period) set and the allocation method decided on by the Member States, which are fixed in a NAP (Article 9),
- covers the CO2 emissions⁸⁹ from the energy-producing and energyintensive industries⁹⁰ (excluding the aluminium and chemical sector⁹¹) (Annex I),

⁸⁸ Proposal for a Directive of the EP and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, hereafter referred to as Draft EU ETS Directive.

 $^{^{89}}$ Unless the measuring of non-CO $_2$ greenhouse gases is reliable, these gases are not included in the ETS.

- allows opt-in and opt-out for installations and gases, decided by Member States and approved by the Commission (Articles 24 and 27).
- demands that every installation in the covered sectors hold a permit (Article 4) that authorises the operator to emit greenhouse gases and obliges participation in the EU ETS (Article 6),
- has transferable allowances (certificates) generally given for free to permit holders, but allows up to 5 % in the first period and up to 10 % in the second period to be auctioned or sold by Member States (Article 10),
- bases the allocation method on grandfathering (based on historical emissions) or benchmarks and allowing early actions⁹² to be taken into account (Annex III),
- poses sanctions of 40 € and 100 € per tonne of CO2 in the first and in the second period, respectively, on installations that failed to submit the number of certificates corresponding to their actual emissions at the end of each year (Article 16).

The flexibility of the EU ETS Directive leaves room for adjustments to national circumstances for Member States in the implementation process.

In the EU ETS Directive, two phases were planned: The first period, which was to serve as a learning phase, started in 2005 and lasted until the end of

⁹⁰ The participating installations included in the EU ETS are the following energyintensive and energy-producing industries with an activity of over 20 MW: combustion installations, mineral oil refineries, coke ovens; production and processing of ferrous metals: metal processing, and iron or steel producing installations; mineral industry: cement clinker, lime, glass, and ceramic manufacturing installations; and other activities such as the pulp and paper industry.

⁹¹ The argument for not including the chemical sector was due to the administrative and measuring complexity. The direct emissions of the chemical sector amount to less than 1 % of EU's total emissions, but encompass 34,000 plants (European Commission 2001a: 10). However, Skjærseth and Wettestad (2008: 124) call it a "political decision" because of CEFIC's (industry lobby of the chemical sector) successful lobbying. Moreover, "[a]lthough verification is difficult, there is much to suggest that the exclusion of the chemicals sector was also tactically motivated, related to weakening German opposition to emissions trading and strengthening cooperation with the chemical industry in the upcoming REACH process."

⁹² Early actions are modernisations realised before the start of the EU ETS that led to a decrease in greenhouse gas emissions.

2007. The second phase coincides with the international Kyoto commitment period, lasting from 2008 until 2012.

In 2004, the EU adopted the so-called Linking Directive⁹³ amending the EU ETS Directive and including the possibility to use credits from CDM and JI projects. After long discussion, the use of external credits was allowed from January 2005 onwards. The following aspects were inserted into the EU ETS Directive:

- the amount of external credits is fixed by Member States in their NAP (Article 11a),
- credits must be in accordance with the UNFCCC, with the exemption of credits from nuclear activities and LULUFC activities (Article 11a, 3) and large hydroelectric power production activities (more than 20 MW and in line with the rules of the World Commission on Dams) (Art 11b, 6).

The Linking Directive was also widely discussed, the biggest problems being of quantitative nature - up to which percentage the project-based mechanisms should be allowed - and of qualitative nature - inclusion of sinks, nuclear energy, and hydro power. The Commission, environmental NGOs, and the EP were initially opposed to the linking of emissions trading to project-based mechanisms, but it was strongly backed by the Council and business interests (Braun/Santarius 2007: 114-5).

6.5 Analysis: Actors and institutions

The EU ETS is the largest and first region-wide trading scheme and also the first to encompass multiple sectors. It is now the major instrument of the EU's climate policy and one of the most important instruments for achieving emissions reduction targets. As it is a new instrument in European Environmental Governance, the question is: How it was possible that the EU established the first region-wide trading scheme within such a

⁹³ Directive 2004/101/EC of the EP and of the Council of 27 October 2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community with respect to the Kyoto Protocol's project mechanisms, hereafter referred to as the Linking Directive.

short period of time, even though this instrument had been opposed by many Member States and the EU as a whole during the negotiations for the Kyoto Protocol?

Applying historical institutionalism to the introduction of the EU ETS, the process would not have been as "smooth" as it finally was, because it demanded a change in existing patterns to address problems. According to Skjærseth and Wettestad (2008b: 14) it was "surprisingly rapid policy-making in relation to the original scepticism as to including emissions trading in the Kyoto Protocol, and the novelty and complexity of this policy instrument", which contradicts the neo-institutionalist assumption of path-dependency. Within two years, the Directive passed two readings and was adopted. The EU ETS Directive was decided within an amazingly short time, which is even more surprising considering the extremely different positions of the Member States and other actors. Consequently, it is understandable that the outcome was acceptable although not the best option; possibly it was the best option at that time.

The paradigm shift in addressing environmental problems can be better explained by focusing on actors. Given that the Council is the key actor in EU policy-making, Member States⁹⁴ are the focus of this analysis. As has been shown, most Member States opposed this instrument in the beginning but agreed to the EU ETS Directive when it was adopted. Exponents of rational choice would explain this change as coming from material interests and strategic planning; however, this is not tenable, considering that the material interests of addressees were threatened. From a strategic perspective, it was the only option, as the introduction of taxes had previously failed and a common approach was intended. The logic of appropriateness can only explain the use of this instrument by assuming that the Kyoto Protocol was in force at the time of introduction, which was not the case. However, sociological institutionalism may explain why Member States complied once the rules were established, even though they had previously opposed the instrument. The combination of strategic and socialised

⁹⁴ The roles of the four selected Member States in the process are found in the introduction to each case study.

behaviour of actors as assumed in the constructivist approach may best explain the introduction of the EU ETS by the Commission: on the one hand, the responsible department was staffed by economists who believed in this instrument; on the other hand, the introduction of taxes had failed and thus this instrument was considered to be a good alternative that would not require unanimous voting in the Council. Aspiring to an ambitious climate change policy, at a time when the USA had withdrawn from the Kyoto Protocol, this was an opportune moment for the EU to demonstrate decisiveness. Another important element of constructivism is persuasion.

Throughout the policy formulation and decision-making, the Commission played an important (Braun/Santarius 2007: 122) and strategic role (Buchner/Catenacci/Sgobbi 2007: 20), persuading sceptical Member States and leading the decision-making for the Directive to a smooth and rapid adoption. The Commission had a strategic advantage due to its expert knowledge of the instrument (cf. Steuwer 2007: 105). The DG Environment in particular gained expertise through commissioned research projects and was thus in an advanced position compared to other DGs, the Council, and the Parliament, as well as to stakeholders and Member States (cf. Braun/Santarius 2007: 113). Skjærseth and Wettestad (2009: 109) also underline the importance of knowledge-building in the Commission for the development of the EU ETS. At the time of policy-making, only a few experts existed.

The EP played a strong role in the process (cf. Braun/Santarius 2007: 115) as well. The main points the EP demanded were a mandatory, more centralised system with the cap set at the EU level, the inclusion of the aluminium and chemical sector, the possibility to use opt-ins and opt-outs even in the first phase (as a concession to British, German, and Finnish Members of the European Parliament (MEPs) who preferred a voluntary scheme (Skjærseth/Wettestad 2008b: 127)), inclusion of all six Kyoto gases, and auctioning.⁹⁵ The EP succeeded in introducing the temporary inclusion

⁹⁵ For details, see Skjærseth/Wettestad 2008: 125-38.

and exclusion of sectors (opt-in and opt-out), and the inclusion of at least a small amount of auctioning.

The Council cannot be seen as a homogenous actor because of the diverse interests of the individual Member States. In general, the Member States favoured a decentralised and voluntary system, as has been shown in the discussion of the EU ETS Green Paper. In the end, they accepted the proposal of the Commission without major changes. Skjærseth and Wettestad (2009: 110) assume that the reason for this shift could be a change in preferences after the consultation on the EU ETS Green Paper. Moreover, they acknowledge the influence of the Commission, which was "very active behind the scenes in Council negotiations" (Skjærseth/Wettestad 2009: 113). Interests groups were very active in the policy-making process as well. In addition to the official consultation, they also lobbied the European institutions, especially the EP when the EU ETS Directive was in its first and second reading, and the Council via the national governments. The environmental NGOs that were united as the so-called Green-8 at the time of decision-making were represented primarily by CAN Europe. Whereas environmental NGOs in the Kyoto process opposed emissions trading, CAN Europe was open to emissions trading under the condition that is would be properly designed. From the beginning, the environmentalists preferred auctioning as the most environmentally effective allocation method. They also wanted to see other sectors included in the EU ETS, but not other gases because of hitherto unsolved measurement problems; moreover, they wanted the use of project mechanisms to be restricted (see CAN Europe 2001a, 2001b). The Commission knew that they would have to take the NGOs on board in order to convince the EP as well (cf. Skjærseth/Wettestad 2008b: 76). In general, the EP is more open to the concerns of NGOs than those of industry. DG Environment is the DG that is most open to the inclusion of civil society, partly to have a counterpart to the strong industry lobby but also to strengthen its own arguments and positions (cf. Furtak 2001: 112) for more progressive environmental politics. Six associations from the energy-intensive industries (the cement, glass, lime, non-ferrous metals, paper, and steel industries) also formed a group

and prepared common position papers (Energy Intensive Industries 2003). The energy-intensive sector was generally against an ETS because they feared that their international competitiveness would be distorted because they could not pass additional costs on to the consumer as the energy sector could.

As the energy-producing industry had different objectives depending on the type of fuel used, they acted independently. It was clear that coal was the fuel most threatened by emissions trading; hence, companies and associations who relied on coal were very active, lobbying at all levels. The biggest interest groups EUROPIA and UNICE⁹⁶ supported emissions trading, thanks to the establishment of internal ETS in BP and Shell (Skjærseth/Wettestad 2008b: 75). Thus, the Commission had some support from this side as well. Eurelectric, the association of electricity producers, were in favour of an ETS but on a voluntary basis and under the condition that companies would not be burdened with other measures at the same time (see Eurelectric 2001).

Most industry stakeholders demanded a harmonised allocation method and the use of external credits for cost efficiency. They were also in favour of free allocation and stressed that early actions should be rewarded. Despite the lobbying of stakeholders, in general the EU ETS Directive 2003 did not pay them very much attention during policy formulation; at this time, it was just another EU directive. The industries concerned and the interest groups actually only realised the impact of the Directive when it had already been adopted (Interview EU, COM, section 37).

As has been shown, the EU ETS was not without controversy; in the following section, it is discussed why this instrument was chosen and which alternatives existed.

6.6 Discussing the initiation of the EU ETS (Directive)

As has been shown, the instrument has been criticised (see Chapter 6.3.1) and the design of the EU ETS has some weaknesses, as will be shown in

⁹⁶ EUROPIA – European Petroleum Industry Association and UNICE – Union of Industrial and Employers' Confederations of Europe.

detail in the case studies (Chapter 9).⁹⁷ The focus of this chapter is on the question of why the EU ETS was established and whether any alternatives had been explored.

The alternative to the EU ETS Directive would have been a regulation or a more harmonised directive; this would have been preferable to avoid all the special rules and particular interests at the national level (Interview DE, POL-4, section 15) that were a problem during implementation, as will be shown in the case studies in Chapter 9. However, a regulation or more harmonisation would have been quite unlikely because of even more resistance by Member States and more difficult negotiations. Nevertheless, the advantages would have been more harmonisation and fewer market distortions, and perhaps even improved efficiency and greater effectiveness. The disadvantage of a regulation would have been the exclusion of the national legislature and thus less legitimacy, and maybe more resistance in practical implementation. Hence, the practical solution was to start with the EU ETS Directive as it was adopted in 2003. Politics in the policy formulation of the EU ETS Directive was driven by pragmatism.

I think that in the actual process you have to differentiate between the ideal solution that would be taken from the text books, and what is actually feasible under the actual conditions. In this sense, the Emissions Trading Directive of 2003 is such a product regarding what was eventually possible. It was a good start, to gain experiences and to start with emissions trading and it was intended to take a first step, a step in a learning process (Interview EU, COM, section 7, translated by VA)

All in all, the Commission was satisfied with the design of the EU ETS Directive 2003 (Interview EU, COM, section 3), but to have the chance for changes within a short period of time, the EU ETS Directive included Article 30, which demands that the Commission reviews the EU ETS in the middle of 2006. As will be shown in Chapter 10, the evaluation and review of the Directive indeed led to improvements.

⁹⁷ Basically, the EU ETS as such is viewed less critically than the link with the other two project-based mechanisms and especially the CDM. On the one hand, the use of external credits undermines domestic efforts; on the other hand, the lack of international controls jeopardises the environmental integrity, sustainability, and additionality of these projects (cf. Lafeld 2007: 187, Witt/Moritz 2008).

Some decisions of the EU ETS Directive can be traced back to the influence of a single actor or a group of actors. However, the EU ETS is also interesting because it marks a new step in environmental policy-making. To take a step back, the question is also whether there was an instrumental alternative. Böcher and Töller (2007: 300-1) identify three approaches to instrumental choice. The first they call naïve instrumentalism; it assumes that policy makers have a tool box from which they can pick the most suitable instrument and implement it, which does not correspond with the political reality. Public choice approaches regard politicians as rational actors who want to maximise their profit - i.e., to win elections - and thus choose instruments that are effective but whose costs are not visible to individuals. This approach, however, does not explain a change in instrumental choice. A third approach explains the change by diffusion, arguing that the use of instruments in one place makes its use possible in another place if it is proved to be effective. The consequentionalism attached to this approach is criticised by Böcher and Töller (2007: 301). Despite their criticism, they recognise that these approaches contain useful ideas but do not fully explain instrumental choice or change.

To test the main assumptions of the first and the second approach, different potential instruments are presented and discussed in the following paragraphs to evaluate suitability and related costs.

The different instruments used in environmental politics are direct regulating instruments, indirect effecting instruments, new economic instruments, and other instruments (see Rogall 2002: 213-44). The suitability of an instrument depends on the constitution and the circumstances of a matter. Moreover, the costs of environmental protection must be paid by the overall budget of the state (indirect costs for citizens) or by consumers (direct costs for consumers), depending on the type of the instrument.

Direct instruments are also called hard instruments and include all kinds of regulations, such as command and control or bans. Bans focus on forbidding (certain chemicals, for example); commands just limit their environmental harmfulness by introducing standards or norms. While the ecological effect of these instruments is high, the ecological and economic efficiency is low, as it does not provide incentives for innovation and only sets standards according to the BAT (Rogall 2002: 216-20). These instruments present high implementation costs for industries; they generally reflect the polluter-pays principle and belong to the category of non-fiscal instruments (Wicke 1993: 193-4). Non-fiscal instruments do not impose costs on the national budget and if imposed on the consumer, costs are not transparent and thus are invisible to individuals. The theory of public choice argues that they are therefore easier to establish because conflicts between stakeholders are weaker, as these instruments are less transparent in their price signals (Böcher/Töller 2007: 308).

Examples of indirect and so-called soft instruments are information campaigns, the increase in an environmental awareness, voluntary agreements, investments in research and development (R&D), promotion programmes, labelling, reporting, and audits. They are aimed at changing the actor's behaviour and are thus ecologically less effective and often economically inefficient (Rogall 2002: 221-31) but politically easy to implement. The indirect instruments reflect less the polluter-pays principle and are mostly paid by society in form of indirect taxes (Wicke 1993: 193-4), as in the case of investments in R&D and promotion programmes. Voluntary agreements have the advantage that both parties, the governmental and the industrial actors, are equal players in the negotiation process and in the determination of objectives, means and measures (Holzinger/Knill/Schäfer 2002: 18-9); however, their effectiveness depends on the willingness of the industry, since the only enforcement instrument of the government is the threat to introduce binding legislation in case of non-compliance.

New economic instruments also aim at changing behaviour; however, they put price or costs incentives on the actor. New economic instruments are fees, (special) taxes, levies, deposits, licences and certificates, environmental liability obligations, and bonus-malus systems. The advantages of these instruments are that they are ecologically effective and economically efficient at the same time. However, these advantages are only realised if these instruments are implemented correctly and if factors such as targets or prices are set accordingly (Rogall 2002: 231-40). In short, new economic taxes intend to internalise the external costs of environmental pollution otherwise borne by society. Traditionally, subsidies (which contradict the polluter-pays principle) were the only economic instruments in use (Holzinger/Knill/Schäfer 2002: 16); these put the financial burden on the state budget and on society. The new economic instruments, on the other hand, reflect the polluter-pays principle and can offer incentives for innovation. Some of them are aimed at the consumer who might have to pay a tax for a harmful component (carbon tax) dependant on the amount of consumption. Other instruments focus more on production; however, generally costs for the producer or polluter are imposed on the consumer again. Tax instruments thus have a more obvious impact on social justice than other instruments where costs are also priced in but less visibly than in the case of taxes. Both eco taxes and trading systems have found their ways into European and national environmental politics. Massarrat (2008: 202-3) notes that both instruments were introduced at a time when fossil energy and oil were cheap, and the aim was to regulate consumption by prices. At a time of steadily increasing energy prices, these instruments are criticised because of their social impact on basic needs when energy costs increase and become unaffordable for parts of society. What makes emissions trading more popular than a tax is most likely that it places the reduction target at the centre and not the revenue (cf. Schäfer/Creutzig 2008: 115). An encompassing strategy is an ecological fiscal reform (Rogall 2002: 251-65), which has been initiated in many EU Member States thus far. Ecological fiscal reform would include an energy tax on primary energy and/or carbon emissions (for advantages and disadvantages, see Rogall (2002: 252)), ecological tax on environmentally harmful products, and reductions in environmentally harmful subsidies. Revenues can be used for tax relief in the social security system. Wicke (1993: 652-7) proposes that the savings from these cuts could finance an ecological Marshall Fund, which would be used to address global environmental problems.

Neither naïve instrumentalism nor the public choice approach can fully explain the introduction of the EU ETS. A ban on greenhouse gases similar to the ban on ozone-depleting substances under the Montreal Protocol would have been completely unrealistic because of the quantity involved and their natural occurrence. A limit on emissions would have been difficult to set for each sector, which is why command and control instruments would be less suitable. Standards could have been suitable to reduce emissions in production or for building (which is done anyway), but at the same time no absolute limit would have been set. The only two remaining instruments of state intervention that are ecologically effective are taxes and a trading scheme. With the establishment of taxes, however, an overall limit is not guaranteed. According to an advisor to the German government, emissions trading was the most suitable instrument because it sets quantitative targets and the trading is expected to reduce the costs (Interview DE, ADVISOR, section 28). Therefore, we can say that emissions trading was a suitable instrument but faces the problem that related costs are visible, as is the intention for market instruments (Böcher/Töller 2007: 308). As politics is more complex than simply the search for the best solution, the explanatory power of this approach cannot be satisfactory here. According to the public choice approach, emissions trading would not have been selected by Member States, as it was not a popular instrument at the time of adoption, neither among energy-intensive industries that favoured voluntary agreements nor among most environmentalists.

Emissions trading is a suitable instrument to reduce overall emissions and related costs.

As has been shown, all type of instruments have advantages and disadvantages, but in the case of climate policy, new instruments were necessary because the already existing measures (including the IPPC and LCP Directives that set standards for air pollution) were not efficient and not primarily directed at climate change. Market instruments were already on the agenda in the early 1990s. The Commission had made proposals for introducing an energy and carbon tax in 1991, an energy tax in 1995 that would be at first voluntary and then binding, and a proposal for restructuring energy products in 1997 (Rogall 2002: 253-5). A common energy or carbon tax would have required unanimity in the Council and failed due to resistance by some Member States, especially the UK (cf. Skjærseth/Wettestad 2008b: 89), but also France, Ireland, Portugal, and Spain, among others (cf. Rogall 2002: 253-5). The attempt of 1997⁹⁸ succeeded only in 2003 with the introduction of a minimum standard for an energy tax, and the option for a kerosene tax on domestic flights, thus opening the possibility for further developments of ecological fiscal reform (Rogall 2004: 58). The Council Directive on the taxation of energy products and electricity⁹⁹ was adopted in October 2003, only shortly after the EU ETS Directive had been adopted. The Directive was based on Article 93 TEC (Article 113 TFEU) of the tax provision chapter, requiring unanimity in the Council and the consultation of the EP and intending to harmonise taxes. The Directive only focuses on energy and electricity used as motor or heating fuel and does not tax raw materials. Member States have to set the taxes, taking account of the minimum rates that increase over the years.

The failure of a carbon or energy tax opened up the path for the establishment of the EU ETS.

Policy instruments can be classified according to their focus and are either substantial procedural (see Holzinger/Knill/Schäfer or 2002, Knill/Liefferink 2007). Direct and economic instruments are generally substantial, since they address standards (environmental quality objectives or others). Procedural instruments include most indirect instruments such as participation and information rights, certification procedures such as audits or labelling, and other instruments. The first years of EU environmental policies were defined by traditional regulatory interventions such as command and control regulations, norms and standards (Holzinger/Knill/Schäfer 2002: 2). The reason for the focus on norms and standards in the first place was that before the SEA introduced an environmental chapter, environmental measures had to be based on the harmonisation stipulation of Article 94 (Knill/Liefferink 2007: 15). Only in the 1980s did the Commission start to use economic instruments as well, such as fees, taxes, or licenses, which are addressed in the third and

⁹⁸ Proposal for a Council Directive Concerning the Restructuring of the community Framework for the Taxation of Energy Products, COM (1997) 30.

⁹⁹ Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity.

especially the fourth EAP (Holzinger/Knill/Schäfer 2002: 2-3). In the fifth EAP, the EU expressed the possible use of market-based instruments. The reason behind the shift to these new instruments was that they were economically more efficient and ecologically effective and, on the other hand, they aimed at changing national contexts by setting objectives and positive incentives (Holzinger/Knill/Schäfer 2002: 9, Knill/Lenschow 1999a: 7). Moreover, new modes of governance (see also Chapter 7.1) were introduced in the EU to address the implementation deficit. These new modes of governance included competition, cooperation, and markets and hence also emissions trading (Knill/Liefferink 2007: 44, Knill/Tosun 2008: 155).

The establishment of the EU ETS can be seen as in line with a general shift toward more procedural instruments and new modes of governance.¹⁰⁰

Considering that the EU opposed emissions trading during the Kyoto negotiations, arguing that it would be a means to "buy the right to pollute", ¹⁰¹ it is surprising that the EU established the first greenhouse gas emissions trading system worldwide. Applying regime theory, Skjærseth and Wettestad (2008b: 31) assume that the initiation as well as the decisionmaking of the EU ETS was influenced by the climate regime. The climate regime has affected the EU ETS by means of pressure, opportunities, and learning. Lafeld also states that the EU ETS was influenced by global events such as the Kyoto Protocol and the development of flexible mechanisms, but also by national efforts such as the introduction of trading systems in the UK, the Netherlands, and Denmark and experience from third countries like the USA's Chicago Climate Exchange 2001 (cf. Lafeld 2007: 129, picture). This would support the assumptions of the policy diffusion approach. Evidence for a close connection to the Kyoto Protocol is found in the EU ETS Directive itself, in the wording of the preamble and also in the articles. To cite only few references, the ETS was intended to be compatible

¹⁰⁰ It is not the aim of this thesis to explain the instrumental shift in EU policy-making. This has been done extensively elsewhere; see, for example, Holzinger/Knill/Schäfer (2002) and Knill/Liefferink (2007).

¹⁰¹ Environment Commissioner Ritt Bjerregaard, quoted in: McCormick 2001: 287.

with the UNFCCC and the Kyoto Protocol (recital 22), taking new developments into account in its review and helping the Member States on their path to the Kyoto targets (Annex III). The linking with the other two flexible mechanisms also indicates proximity. Nevertheless, the EU ETS must also be seen as independent from the Kyoto Protocol, as "[i]n no way did the Kyoto Protocol require the development of the EU ETS" (Interview DE, ADVISOR, section 28, translated VA) - pointed out by an interviewee who explained that the Kyoto Protocol did not demand the implementation of regional ETSs. Moreover, international emissions trading differs from the EU ETS, and the linking with the flexible project mechanisms was not a requirement. Last but not least, at the time of decision-making, the enactment of the Kyoto Protocol was still very uncertain (Interview DE, ADVISOR, section 28) because in the beginning of 2001, Russia (playing the decisive role after the USA had withdrawn from the Protocol) was still reluctant to ratify the Protocol. Hence, the EU ETS was introduced even without the Kyoto Protocol as a certainty. Moreover, the EU ETS was designed without much acknowledgment of the international ETS, because at the time of its designing, the rules and modalities of the international scheme were incomplete. The international ETS was conceptualised as a trading system between states and not between companies. However, it was designed to be compatible with other schemes. The reasons for the EU to continue working on the proposal could be therefore 1) to have a forerunner position and possibly to better influence the design of the international ETS, and 2) to have an EU-wide instrument. This hypothesis leaves room for feedback effects in international politics. Basically, it can be said that the Kyoto Protocol put emissions trading on the agenda of political discourse, but during the time of decision-making the EU ETS became independent from the Kyoto Protocol. Hence, more than the diffusion approach often used to explain the spread of instruments for the EU ETS, the assumption of Böcher and Töller (2007: 305) that discourse about instruments matters can be supported: politics is not independent from scientific or political discourse and thus the choice of instruments can be explained accordingly.

The underlying assumption of this approach is that instruments are not neutral but have a political, symbolic, ideological, and even moral weight (Böcher/Töller 2007: 305). For a long time, economic instruments were rejected by environmentalists because they saw economic growth as a problem of environmental pollution, demanded bans on polluting substances, and favoured command and control instruments. With the sustainability discourse starting in the 1980s, some environmentalists recognised the interdependency between economic growth and the environment. The source of environmental pollution is seen in wrong price signals (Jachtenfuchs 1996: 440). This is why the inclusion of external costs became an issue of giving incentives to consumers and producers to take social costs of environmental problems into account (Majone 1993: 102). In the case of command and control instruments, the costs of an instrument are not visible for everyone as they are in the case of (and also the intention of) economic instruments. But the argument for trading schemes is rather that it is the only instrument that is ecologically effective and economically efficient at the same time. It was thus intended to reduce the costs of climate policy.

The Kyoto Protocol did not ask for the establishment of an EU ETS but put the topic on the agenda of political discourse. This discourse – underlined by scientific discourse – supported the establishment of the EU ETS.

As actors do matter and public choice approaches fail to explain the initiation of the EU ETS Directive, their role can be explained by belief systems and learning. The EU was indeed sceptic about the instrument, but it was convinced that action to halt climate change had to be taken. Thus the deep core of most EU Member States' belief systems (that action needed to be taken to tackle climate change) did not need to be changed. However, it was the way in which Member States did not agree and someone was needed to convince the EU – first and foremost, the Member States and EU institutions – that allowed emissions trading to emerge as a possible instrument. According to Skjærseth and Wettestad (2008b: 74), this someone was the socalled BEST group ('Bureaucrats for Emissions Trading') led by Jos Delbeke, who saw an opportunity behind emissions trading took place with a change in the majority of the staff in the climate change unit. The new staff, Jos Delbeke, Ger Klaasen, Peter Vis, and Peter Zapfel had had previous experience with economic instruments in general and in particular with ETS. Steuwer names Jos Delbeke, Peter Vis (advising the EP), Moreira da Silva (a rapporteur in the EP), and Margot Wallström as important agents. Wallström was especially important in obtaining the support of the Green Party and other environmentalists (cf. Steuwer 2007: 100). Skjærseth and Wettestad (2009: 109-10) trace the development of the EU ETS back to knowledge-building in the Commission and its actions as an entrepreneur. Something that was clear when implementing the Kyoto Protocol and looking for a community strategy was that a new instrument had to be found, since experience had shown that an energy or carbon tax would not have been feasible because of the required unanimity (see above). Evidently, these were favourable conditions for emissions trading in the EU. Moreover, the Commission invited external expertise by commissioning research studies such as the FIELD study, which included many aspects found in the final Directive (downstream model, grandfathering). Furthermore, not only were all relevant actors invited at an early stage to participate in the consultation, but many workshops were also held.

It was not only the Member States and the EU institutions that changed their attitudes towards emissions trading. Interestingly, the acceptance of these economic instruments was high among industry before it was introduced. Rogall (2004: 63) assumes that it was just a tactical manoeuvre to make arguments against direct instruments and that they were only acceptable until they were actually realised, because at the time of the policy formulation, energy-intensive industries lobbied against an obligatory trading scheme. In addition, environmental NGOs that had opposed emissions trading with the slogan "trading pollution is not a solution" (Skjærseth/Wettestad 2008b: 27) during the Kyoto negotiations were less reluctant when it was put on the table, because they suddenly realised that this instrument could actually be effective when the design and implementation were ambitious.

A group of new employees in the climate division of DG Environment (i.e., the BEST group) can be seen as a determining factor for a change in the instrument choice. Moreover, capacity building by the Commission and other actors enhanced the chances of adopting an ETS.

The guiding question was why the EU chose to create an EU ETS as the key instrument for reducing greenhouse gas emissions. As presented earlier, the EU ETS is not the only instrument but is one of the main instruments in the EU's climate policy. Some of the advantages of a certificate trading scheme were mentioned, and what could have been the window of opportunity to establish the EU ETS has been discussed. To summarise, there are several reasons that might have brought about the establishment of the EU ETS.

As has been shown in Chapters 4 and 5, two general facts led to an EU climate policy:

- the threat of global warming, and
- international obligations and reduction targets resulting from the UNFCCC and the Kyoto Protocol (Damro/Hardie/MacKenzie 2008: 186), of which the EU and its Member States are members. This relates to the institutional filter mentioned by Böcher and Töller (2007: 313).

The choice of the instrument can be explained:

- by the perception of emissions trading as a suitable instrument to reduce the costs of complying with the Kyoto Protocol
- and the fact that taxes were not feasible at that time (Rogall 2002: 253-5, Skjærseth/Wettestad 2008b: 89);
- moreover, by a general shift towards more procedural instruments and new modes of governance in the EU (Holzinger/Knill/Schäfer 2002: 9, Knill/Lenschow 1999a: 7);
- by scientific and political discourse that was favourable for market instruments (Böcher/Töller 2007: 306-7) because of the inclusion of flexible mechanisms in the Kyoto Protocol and hence the probable start of the international ETS in 2008 (Damro/Hardie/MacKenzie 2008: 186);

• with new employees in the climate division of DG Environment – the so-called BEST group – for whom it was the right time to propose the option of having an EU-wide ETS (Skjærseth/Wettestad 2008b: 14).

Moreover, as has been explained in Chapter 6.4, increasingly more Member States had started to test trading systems and design national ETSs. Thus, the Commission wanted:

- to avoid different trading systems and harmonise policies before most Member States established their own schemes (Damro/Hardie/MacKenzie 2008: 188);
- in addition, the instrument was supported by Member States like the UK and Denmark who hoped to upload their domestic ETSs to the EU level or at least to make the EU instrument compatible with their own (Skjærseth/Wettestad 2008b: 87-90).

From a multi-level governance perspective, it can be summarised that the initiation of the EU ETS can be traced back to incidents at different levels and the support of different actors.

6.7 Excursus: Alternatives to the EU ETS

In the previous section, I have tried to trace the emergence of the EU ETS and have presented alternative strategies. However, I mentioned only alternative options that had been discussed or that would have been easy to explain because of previous real-world implementations.

In this excursus, an alternative to the current climate policy and an approach to tackling global warming are discussed: the change of our energyintensive and environmentally harmful lifestyle. This would require a change in production structures and consumption patterns (Altvater 2008: 166). Certainly, the emissions trading instrument does not approach the problem at its roots. The new "promise" of CCS also falls short, dealing with the problem only at the surface or under the surface, to be more precise. A change in consumption patterns is for most liberal societies a challenge because it could be achieved by command and control, by financial incentives, or by rising awareness. The first is only acceptable as long as it is not restrictive, because it would then result in opposition if it really "threatened" modern lifestyles. The second would lead to social injustice, because which lifestyle one can live would become (even more than it is already today) a question of price. The final option is a long process and the outcome is not certain or predictable, but it would be a bottom-up approach instead of a top down approach, initiating a discourse on new paths (Brunnengräber, et al. 2008: 207). This would probably be the most sustainable but also the least likely option. Another systemic approach would be a change in the international climate policy; the problem in the way it has been pursued so far is that it addresses the emissions. According to Brunnengräber et al. (2008: 72), however, an all-encompassing climate policy would have to lead to a restructuring of all systems, including mobility, energy, and the distribution of goods. Because the burning of fossil fuels is one of the major contributors to global warming, the best option would probably be to "leave the oil in the soil" (Altvater 2008, Brunnengräber, et al. 2008): addressing the problem at its source by reducing the annual oil production and hence the CO2 (Massarrat 2008: 208). The idea behind this approach is a transformation of the energy system towards renewable energies. However, this is inhibited by hegemonic structures (cf. Brunnengräber, et al. 2008: part IV) and the interests of market players supported by politicians. Because the cut in fossil energies would have an economic consequence on many states whose income depends on oil production, the transformation would have to be taken step by step and a long-term perspective on economic alternatives would have to be established in these states (Massarrat 2008: 209). Instead of burning this resource, it would be maintained for other oil products for which no or few alternatives exist. An alternative to the EU ETS that would have touched on this strategy could have been a quota model on the level of fuel producers (upstream model), as was proposed by Massarrat in the 1990s. He states that consumers will not change their consumption patterns as long as markets offer enough petrol, diesel, fuel oil, gas, and coal (Massarrat 2008: 201).

7 IMPLEMENTING EUROPEAN LAW

As one of the key instruments of the EU to tackle climate change with major impact on national climate policies, implementation performance for the EU ETS is a very important issue, because only here the instrument's design demonstrates its real qualities. In this chapter, the implementation process is described. At first, I focus on the implementation steps and the relevant actors that participate, before coming to the implementation deficit and effectiveness, the main subjects of implementation research. Afterwards, different strategies and measures are presented that are directed at improving compliance performance. Guiding questions are: Which criteria determine an effective implementation? How did the Commission address the implementation deficit?

7.1 What is implementation, and who plays what role?

Once a policy has been adopted on the EU level, it needs to be implemented by the Member States according to Article 291 TFEU. Implementation is seen by many as the phase in which a policy displays its effectiveness (cf. Jann/Wegrich 2003: 90), because words on paper are finally put into practice. Whereas EU regulations apply directly, the implementation of EU directives requires two steps: the adaptation of national law to the provisions and requirements of a policy – the legal implementation – and the application of the law, which is the practical implementation.

During the legal implementation or transposition,¹⁰² provisions of a directive are incorporated into national law. For this purpose, either new legal acts are adopted or existing ones are amended. The choice of the appropriate implementation measure (national laws, decrees, regulations, or administrative provisions) depends on the subject and requirements. Legal acts are transposed by the legislative bodies (e.g., laws) or by governments only (in the case of decrees or delegated law). Thus, the transposition process depends on the choice of the instrument and the political system, and so do the participating actors. Most studies analysing legal implementation include the legislative process and the legal output. In the case of the EU

¹⁰² The two terms are used synonymously here.

ETS Directive, in addition to the incorporation of the objectives of the Directive into national law, Member States also had to prepare a NAP (see Chapter 9.1).

After having transposed a directive, the Member State is obliged to notify the Commission about its national implementation measures. The text is then scrutinised by the Commission and either accepted or rejected. It could also be approved under conditions that the Member State must fulfil.

The practical implementation or application of EU law is similar to the implementation of national law. During the legal implementation, Member States had appointed the responsible administration or established new administrating institutions. During the practical implementation, this administration is then responsible for the application of the law and must ensure compliance by the addressees of a policy. The result of the practical application is referred to as the practical output, which depends on how the administration deals with a law and how implementation is controlled and monitored. In the case of the EU ETS, the practical output would be the administration of the system by the responsible authority, the establishment of the registry, and the distribution of permits and allowances. In addition, the carbon market is created and a price is set on greenhouse gases. The two phases are not strictly separated from each other and overlap chronologically, as the adaptation by administrations takes time as well.

The policy output are measures of the political-administrative system (Jänicke/Kunig/Stitzel 2003: 59), thus consist of the legal and the practical output of the implementation.¹⁰³ The impact of the implementation is the reaction of the addressees to the output. In the case of the EU ETS Directive, the reaction could be investment in clean technologies by the industry or the purchase of certificates on the market. The outcome of a policy can be identified by changes in the system such as fewer emissions in the atmosphere. Outcomes can be intended or unintended (Jann/Wegrich 2003: 80), and it is difficult to trace back the outcome to only one source or policy.

¹⁰³ As the terms output, outcome, etc., are used differently depending on the author and discipline, I will differentiate between legal output and practical output, which together form the output of an implementation.

The enforcement of a policy can be seen as the third stage of implementation (cf. Bursens 2001: 3) or as a separate step following the implementation. In the case of EU law, enforcement takes place on two levels. On the one hand, the Member State has to enforce the law at the national level, which is done by the government and/or the respective authority. On the other hand, according to Article 258 TFEU, the Commission – as the "guardian of the Treaties" – has to check whether Member States are complying with EU law and can start infringement proceedings if necessary (see below). The EU legislatures decide how the work of the Commission in the implementation process needs to be executed.

In addition, during or in the beginning stages of an implementation, the Commission actively supervises the implementation by, for example, preparing implementation guidance or by holdings talks with Member States. For the implementation of the EU ETS Directive, the Commission designed guidance for the implementation¹⁰⁴ to help Member States to deal with some requirements of the EU ETS Directive (see Chapter 9.1).

In the implementation process, the Commission is accompanied by a number of committees of the Council; this process is usually referred to as comitology.¹⁰⁵ The committees consist of national civil servants; the exact composition and tasks of these committees vary depending on the type of comitology procedure (Knill/Liefferink 2007: 61). The advisory committee is the weakest form, although the Commission must take its opinion on implementation measures into account and inform the committee of considerations of its opinion. Advisory committees are common in the realisation of the common market. More sensitive policy programmes (e.g.,

¹⁰⁴ Communication of the Commission on guidance to assist Member States in the implementation of the criteria listed in Annex III to Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, and on the circumstances under which force majeure is demonstrated.

¹⁰⁵ This system of committees was institutionalised in 1987, although it had been in existence since the 1960s in the Common Agriculture Policy when supervisory bodies were created. The EP protested against its exclusion later when it was institutionalised. For more information on the interest constellation in the introduction of the comitology procedure, see Karlsson 2001.

under the Common Agricultural Policy (CAP)) are accompanied by a management committee, which can block a decision by the Commission and bring the Council back into decision-making on the basis of QMV.¹⁰⁶ In the case of the regulatory committee, the Commission needs the approval of the committee and must follow its opinion.¹⁰⁷ Regulatory committees are used in all kinds of policies (Steunenberg/Schmidtchen 2000: 8-9, Tömmel 2006: 129-30). Although the committees and/or the Council are the only actors who have decision rights under the comitology procedure, the role of the Commission is also strong, since it chairs all committees and initiates and presents proposals (Brandsma/Blom-Hansen 2008: 2). Only under the Council decision of 2006108 that modified the comitology rules of 1999109 was the EP granted a veto right for amendments. Beforehand, this right was only permitted if a legal act was adopted under co-decision (European Parliament 1997) by allowing the possibility to comment and to be informed by the Commission and the Council according to the so-called Modus Vivendi.¹¹⁰ The lack of democratic legitimacy was criticised by, among others, Steunenberg and Schmidtchen (2000), who propose including the EP in the implementation process either by replacing the national civil servants in the comitology committee or by giving the EP a veto power in the committee. Karlsson (2001: 245), considering national parliaments to be the truly democratic representatives, proposes inclusion of national parlia-

¹⁰⁶ This committee has two proceedings: a) The Commission can decide on measures, but if the Council adopts another decision, it is binding for the Commission; b) In case of an unfavourable opinion by the committee, the Council must agree on the proposal made by the Commission. Only after its approval or non-reaction can the Commission implement the regulation.

¹⁰⁷ Here, there are again two proceedings: a) If the opinion of the committee should be negative on the implementing measure, the Council has to decide on it with a QMV within three months, or it can change the proposal by unanimity; b) the Council can reject a proposal with a simple majority and thus block it.

¹⁰⁸ Council Decision of 17 July 2006 amending Decision 1999/468/EC laying down the procedures for the exercise of implementing powers conferred on the Commission.

¹⁰⁹ Council Decision of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission.

¹¹⁰ Modus vivendi of 20 December 1994 between the EP, the Council and the Commission concerning the implementing measures for acts adopted in accordance with the procedure laid down in Article 189b TEC.

mentarians in the comitology committees to make the committees more democratic and to better connect the EU level to the national level in the decision-making for implementation instructions.¹¹¹

Comitology in the case of the EU ETS Directive is specified in Article 23 and determines that the committee acts under the regulatory procedure. The Commission had to prepare proposals for the monitoring and reporting guidelines that were adopted as a Commission Decision.¹¹²

In addition to the official actors responsible for implementation, other actors are involved in the process as well. These other actors can be policy advisors or consultants who prepare studies on specific aspects of the legislation or make proposals. Depending on the national tradition of inclusion of stakeholders, business associations and environmental NGOs can also have a small or strong influence on the result. The case studies in Chapter 9 demonstrate in depth how the implementation process took place in the Czech Republic, Germany, Spain, and the UK.

7.2 Implementation deficit

The implementation deficit indicates the gap between adopted policies at the EU level and their implementation at the national level. The implementation deficit is particularly high in environmental politics. According

¹¹¹ Comitology is perceived differently among political scientists: for rationalists, it is an instrument of control; for constructivists, it is an instrument of deliberation (in the Habermasian tradition, Joerges/Neyer 1997, quoted in: Pollack 2004: 144). According to the latter group, the committees provide a forum composed of national and supranational experts in the search for the most efficient problem-solving (Pollack 2004: 143). According to Pollack (2004: 145), in most quantitative, qualitative, and case studies it becomes evident that Commission, EP, and Member States are well aware of the implications of the choice of the comitology procedure. Examining the history of the comitology procedure, it is also quite likely that the institution of committees was a means of control rather than of deliberation for the Commission. However, deliberation, argumentation, persuasion, and collective preference formation may take place in at least some comitology committees, as Joerges and Neyer (1997, quoted in Pollack 2004) argue. Moreover, the committees have developed and were modified since their beginnings. Nevertheless, the comitology committees definitely limit the autonomy of the Commission. See also Pollack (2003) for an extensive discussion.

¹¹² Commission Decision of 29 January 2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the EP and of the Council.

to the Commission's annual report on monitoring the application of Community Law, ¹¹³ non-compliance with EU environmental law amounted to about one fifth of all open cases in 2006 and thus has a high priority. The implementation deficit can result from 1) non-implementation, 2) nonconformity, or 3) incorrect application. Whereas the first two categories are related to the formal transposition, the last refers to the practical implementation (Knill/Liefferink 2007: 149). Non-implementation means that a Member State has failed to adopt and/or inform the Commission about national implementation measures before the deadline (also non-communication). In the case of non-conformity, measures are transposed incorrectly or incompletely; hence, they do not conform to the requirements of the directive. Incorrect application indicates a failure of the administration to apply the law as requested by a directive. Non-conformity and incorrect application have a more qualitative character and are more difficult to detect. All offences indicate non-compliance: "Non-compliance means failure by a Member State to fulfil its obligations under Community law. It may consist either of action or omission."¹¹⁴ Non-compliance can be intentional, be the result of misinterpretation, or be due to a lack of ability.

The search for the worst laggards in implementation, or classification of different Member States has been attempted by many scholars. The most all-encompassing and profound classification is arguably the Worlds of Compliance approach by the group led by Falkner (see Falkner/Hartlapp/Treib 2006, Falkner/Treib 2007), as presented in Chapter 8.2.3.

7.3 Addressing the implementation deficit and effectiveness

The Commission is well aware of the implementation deficit and has designed different strategies to enhance implementation effectiveness. The approach of the EU and its Member States to address the implementation deficit can be categorised into top-down or bottom-up approaches.

¹¹³ 24th Annual Report from the Commission on Monitoring the Application of Community Law. Brussels, 17.7.2007 COM(2007) 398 final.

¹¹⁴ See http://ec.europa.eu/community_law/infringements/infringements_en.htm [last accessed: 2011-04-10]

The most formal but also most powerful instrument to address violations of European law are infringement proceedings (Articles 258 and 260 TFEU, ex-Articles 226 and 228 TEC) brought by the Commission against offensive Member States. Here, the European Court of Justice (ECJ) plays a vital role, ruling on cases that could not be solved between the Commission and Member States on a bilateral basis. In the case of directives, the three categories the Commission uses for infringement procedures are those mentioned above: 1) non-communication; 2) non-conformity; and 3) incorrect application. The suspected infringements can be detected though complaints by national citizens, organisations, or corporations, the initiative of the Commission itself, petitions and questions by the EP, or simply by the non-communication of the transposition of the directive by a Member State (Börzel 2003b: 9). Normally, the first steps are informal talks, followed by a letter of formal notice in which a deadline is given to the Member State, before which the Member State must comply with the EU law in question. This step is followed by a reasoned opinion, in which the Commission sets out legal justifications for a proceeding based on the formal letter. If a legal act is still not implemented accordingly, the Commission can call on the ECJ to open litigation. The ECJ must judge the violation of the Member State and whether the measures demanded by the Commission are justified. Since the Maastricht Treaty, the EU can also impose fines on Member States (Börzel 2003b: 9-10, Knill/Liefferink 2007: 148). However, not only the Commission but also Member States can start a case by making appeals to the ECJ against decisions of the Commission. This happened in the case of the EU ETS, when a number of Member States took the Commission to court because they opposed the Commission's Decision on the NAP. Infringement procedures are considered here to be a reactive approach to the implementation deficit because they only become relevant once a Member States does not comply with the provisions. Nevertheless, this topdown approach is very effective. Generally, infringement proceedings do not lead to litigation but are solved at an earlier stage.

One strategy to improve practical implementation and enforcement was the bottom-up approach initiated by regulators and authorities of Member States in the 1992 European Network for Implementation and Enforcement of Environmental Law (IMPEL).¹¹⁵ In the beginning, this was a forum, but now IMPEL is an international non-profit association of the environmental authorities of the Member States, acceding countries, and candidate countries of the EU and EEA. The Commission itself is also a member. Its aim is primarily to exchange information and experience, to discuss and advise on implementation, to improve inspections, monitoring, and reporting, to build capacity of staff (inspectors), and to ensure effective implementation and enforcement of EU law. This "instrument" to improve implementation was initiated by regulators and authorities at the national level and its approach is to learn from one another and to encourage best practice. There has not yet been much research on IMPEL, so the success of this approach cannot really be judged.

Other approaches by the Commission assume that the reasons for noncompliance are caused by problems in the policies to be implemented.

In the beginning of environmental politics at the EU level in the 1970s, directives were highly regulatory with little flexibility for Member States (Knill/Lenschow 1999a: 6). The measures were then principally orders, norms, and standards. The restriction to orders, norms, and standards can be explained by the fact that environmental policy at that time was driven by harmonisation aims. Implementation deficits gave rise to criticism and call for the re-nationalisation of environmental politics (Holzinger/Knill/Schäfer 2002: 409). It was presumed that environmental problems could be better solved at the national or regional level, where policies could take into account existing circumstances. However, this would only make sense in areas that did not have transboundary consequences or where harmonisation was not important. The question remains whether practical implementation really improves when laws are adopted at the national level. Research from federal states like the USA and Germany has shown that problems remain.

As the renationalisation of environmental politics was not really an option for the Commission, in the mid 1980s the Commission started to focus on

¹¹⁵ See http://impel.eu/ [last accessed: 2011-04-10]

implementation effectiveness and exactly on the problems scientists had previously found for federal states. They thought that the problem of implementation were overly inflexible directives that did not leave room to account for national circumstances. With an increasing number of Member States with different political cultures and problem-solving traditions, the issue became more apparent and forced the Commission to reassess policymaking. The Commission tried to integrate the findings by using more context-oriented instead of interventionist approaches. Policies were thus less substantial and focused instead more on the processes, defining procedures rather than substantial aims¹¹⁶ (cf. Holzinger/Knill/Schäfer 2002: 2, Knill/Lenschow 1999a: 7, Knill/Holzinger/Schäfer 2006: 409, Knill/Liefferink 2007: 24, 37). In sum, the intention was to make it easier for Member States to comply by leaving more flexibility to adjust measures to national contexts. It was assumed that overly strict and inflexible legislation made it difficult for the Member States to comply. This approach can be considered as a proactive attempt because its aim was to avoid the implementation deficit by changing the policy formulation. However, research has not shown that the shift to other instruments and more flexibility led to better implementation performance. Moreover, context-oriented approaches are not applicable to every problem. In a study by Knill, Holzinger, and Schäfer (2006), the researchers found that the aim of 80 % of environmental policy was to harmonise product or process standards, which would make an overly flexible policy counterproductive. For the remaining 20 % that do not have an impact on competition within the internal market, contextoriented instruments are indeed a feasible alternative to interventionist measures.

Further steps toward greater effectiveness and fewer adaptation requirements were the so-called new modes of governance that also addressed the implementation deficit. The different modes of governance are: hierarchy, negotiations, competition, cooperation (Bähr/Treib/Falkner 2008: 92, Benz

¹¹⁶ Legislations focusing on substantial change are norms and regulations; those focusing on regulating processes are labelling, eco-audits, information rights, and impact assessments (Holzinger/Knill/Schäfer 2002: 17).

2008: 37, Tömmel 2008a: 26), and markets (Börzel 2008: 63). Hierarchy and negotiations dominated the EU governance system for a long time; competition, cooperation, and markets can be considered to be new modes of governance. In the EU, they have been recently introduced, especially in fields that are not part of the shared competences. They combine substantive objectives with procedural regulations whose most important features are monitoring, comparative assessments, and publication of implementation performance. Hence, political pressure is created (Knill/Liefferink 2007: 176). The most prominent example is probably the Open Method of Coordination (OMC).¹¹⁷ Here certain benchmarks are set for the entire EU; national responses are formulated independently and without the threat of formal sanctions. The EU merely provides a context and enables structures for cooperation and learning among national policy makers. The regulatory impact rests on dissemination of best practice and the provision of incentives (peer review) rather than legal obligation and control (Knill/Liefferink 2007: 176). The OMC is only relevant for policy areas within the competence of Member States that are regulated intergovernmentally. The only actors that are relevant for OMC are the Commission and the Member States.

The EU ETS, as a market-oriented instrument aimed at changing environmental behaviour, is also considered to be a new mode of governance (see Knill/Liefferink 2007: 44, Knill/Tosun 2008: 155). The use of economic instruments make sense if, for example, emissions must be restricted in an entire region (Holzinger/Knill/Schäfer 2002: 414-5). The context-oriented or economic instruments are only more effective if they are applied to certain issues and not in all situations.

¹¹⁷ The OMC was introduced at the Lisbon Summit 2000. The design of OMC can vary depending on the policy area. In general, OMC processes comprise: 1) policy guidelines containing specific timetables for achieving the objectives; 2) comparison of best practice, establishing qualitative or quantitative indicators and benchmarks; 3) setting specific targets, taking into account national and regional differences; and 4) monitoring, evaluation, and peer review organised as a mutual learning process. According to the Commission, the OMC should be seen as a complementing or reinforcing tool where legislative solutions have little scope (European Commission 2001a).

In the 1990s, the Commission also tried to overcome the implementation gap by including more addressees in the process (Holzinger/Knill/Schäfer 2002: 404). Generally, the inclusion of stakeholders and the public can be seen as an important step because it raises awareness among the affected stakeholders, who can also serve as experts. Moreover, the inclusion of civil society can increase legitimisation. Nevertheless, the inclusion of more actors also has disadvantages because policy-making becomes less transparent and not necessarily more effective. Furthermore, the democratising effect is questionable, as was shown in Chapter 2.3.

8 ANALYTICAL FRAMEWORK

EU implementation research is interested in questions concerning Member States' compliance, implementation effectiveness, and the general question about implementation deficits that has been previously described. Although implementation theory and research is still relatively new, especially at the EU level, easily three decades of theory building have now passed. In the following sections, the criteria for testing implementation effectiveness are developed in Chapter 8.1, and then different theoretical approaches are presented and operationalised in variables in Chapter 8.2 that will help to explain the implementation of the EU ETS Directive.

8.1 Effectiveness of the implementation

Qualitative research in particular deals with the effectiveness of implementation,¹¹⁸ which includes timely, complete, and correct implementation as well as the process and cannot be simply expressed in numbers and statistics. In general, an implementation was effective if the formal and practical implementations are in line with the requirements of the respective directive (Knill/Lenschow 1999a: 4). However, one problem is that there is no common definition of implementation effectiveness among scholars (cf. Knill 2003: 170, Knill/Liefferink 2007: 151). To judge an implementation's effectiveness, criteria must be set. The approach followed here relates mainly to Knill and Liefferink (2007), because this work includes the findings of various research by other authors as well as the research done by the two authors themselves. It can thus be seen as the most all-encompassing strategy. In the judging effectiveness, they distinguish between top-down and bottom-up perspectives and include different dimensions, depending on whether the focus is on the output or outcome and whether the analysis is target-oriented or process-oriented. A combination of these strategies is possible.

Focusing on the output, according to Knill/Liefferink (2007: 151), effective implementation is "assumed if the legal transposition and the practical

¹¹⁸ Effectiveness refers to the comparison between the targets and the actual performance (Bandelow 2003a: 305).
application correspond to the objectives defined by the policy under investigation". The criteria to judge the output from a target-oriented perspective can be taken from the Directive and are those on which the Commission bases its ruling. The effectiveness of the implementation is then judged from a top-down perspective. "Yet it remains excluded, if, and to what extent, the objectives of a policy are actually achieved" (ibd.). The problem of analysing the outcome from a target-oriented perspective is that it is difficult, for example, to trace back reduced emissions to one policy only, and that delayed effects make it difficult to analyse the outcome soon after completion of the implementation. Knill and Liefferink (2007: 154) point out that it "is analytically problematic as the actual link between policy instruments and their effects is often obscure".

From a bottom-up perspective, the focus is more on processes at the national level. The question is which processes take place to ensure compliance. Regarding the output, the analysis from this perspective includes the interrelationships and positions of actors, institution-building, and adaptations – or, if looking at the outcome learning, capacity-building and support-building (Knill/Liefferink 2007: 153-4). It is more difficult to evaluate the implementation from a process-oriented perspective because the basis for measurement of effectiveness is not easily operationalised due to its highly qualitative nature. Nevertheless, for qualitative research the process is of the same value as the target-oriented approach, because only the process tells us about the emergence of decisions and results.

The criteria for implementation effectiveness from a top-down perspective are the aims to be achieved and the deadline specified in a policy programme. Implementation effectiveness depends on how these targets are achieved. The following criteria, based on Knill and Lenschow (1999b) and Knill and Liefferink (2007), indicate an effective or ineffective implementation from a top-down perspective, taking into account the output and target-oriented dimensions: a) complying with the deadline, b) adopting adequate implementation measures, c) complete and correct incorporation of aims into national law, and d) complete and correct application.¹¹⁹ These criteria are specified in the analysis of the implementation of the EU ETS Directive (Chapter 9.8). Categories for implementation effectiveness from a top-down perspective are:

- Effective: if all dimensions are met or if there is only a minor deficit or slight delay.
- Ineffective: if more than one dimension shows non-compliance.

Content is considered more important than punctuality in the assessment unless the delay is so severe that it has an impact on the general aims of the policy.

From a bottom-up perspective and taking the output and process dimensions into account, it is difficult to develop hard criteria (Knill/Liefferink 2007: 154) but nevertheless it is important to ask how the output was achieved. The aspects examined in detail and that are expected to support effective implementation are: e) appointing institutional and administrative competences, f) consultation with stakeholders and the public (often required by EU law), and g) cooperation between actors. As learning is an analytical category of its own, it is not discussed further here.

In the following section, the importance of these criteria are explained and (in the case of the target-oriented criteria) operationalised. The processoriented criteria are to be checked with a process analysis. Both sets of criteria help to structure the analysis of the case study.

a) Complying with the deadline: All directives require transposition and notification of the Commission before a certain date. The deadline is important so that policies apply in all Member States within a certain time frame. Offences against this criterion are the easiest to detect because in this case, the Commission does not receive notification. The indicators for this

¹¹⁹ Knill and Lenschow (1999b) use the criteria timeframe, completeness, and integration into the regulative context for the legal implementation, and adherence of legal requirements and appropriateness regarding the aims of the EU policy for the practical implementation. In Knill and Liefferink (2007: 149), almost the same criteria are used as investigative criteria for the introduction of infringement proceedings.

criterion are notified and not notified.¹²⁰ The indicator can be graded no delay, minor delay, moderate delay, or major delay. Relative indicators are better than absolute, since delays vary between a month and several years depending on the policy. Whether a delay is minor or major must be viewed relatively, in comparison to other Member States. Therefore, a delay of more than six months in the implementation of the EU ETS might still be classified a minor delay if the first Member States to have implemented a directive were six months late. A delayed implementation can still be effective; likewise, a punctually transposed policy may nevertheless be ineffective.

b) Adopting adequate implementation measures: Different kinds of positive laws have different aims, require different legislative procedures, and have different impacts. Similar to the EU level, where regulations, directives, and decisions are used for different purposes, the same must be done at the national level. Choosing the appropriate form for implementing EU law is thus a very important step. This criterion has two characteristics depending on the scope and the resulting process and should also be relatively easy to check. For the first characteristic, the indicator is binding or not binding; the other characteristic has the indicator parliamentary process or nonparliamentary process. Note that a non-parliamentary process does not necessarily contradict the requirements of a directive; it is thus a qualitative criterion.

c) Complete and correct incorporation of aims into national law: The aims of the directive are usually listed at the beginning. The aims and requirements of a directive are interpreted by each Member State, which is why so many different ways of implementation occur. Identifying offences against this criterion is probably the most challenging, because not all consequences can be anticipated. Its effect on the practical implementation and the outcome can be tremendous. The indicators for this criterion are complete or incomplete and correct or incorrect; to judge this criterion, the decisions by

¹²⁰ To detect abuses of this criterion, official data by the Commission is taken. As these data do not reflect the state of the transposition or its quality, the statement of this criterion is poor and can only be seen as simplistic.

the Commission are taken as a basis. Criteria b) and c) together provide information about the conformity of the legal implementation, which can be indicated by conform, with deficits, with major deficits.

d) Complete and correct application: The correct application of a law refers to the functioning of the administrative authority. Environmental law often requires monitoring and reporting of the practical implementation. Although reports are written and usually have to be sent to the Commission, deficits in compliance with this criterion are not easy to detect and the Commission depends on the cooperation of various actors. In the case of the EU ETS Directive, this detection was slightly easier because of the fact that a common market was created and the functioning of the registry was important for the participants of the EU ETS. The indicator here is also conform, with deficits, with major deficits.

e) Appointing institutional and administrative competences: As a first step in the implementation process, the competent ministry or ministries and administrative authority must be appointed. Usually, there is one leading ministry but it is possible that cooperation with other ministries would be required because of overlapping competences. It needs to be checked whether an already existing administration is responsible for the application or whether a new administrative authority must be created.

f) Consultation with stakeholders and the public (often required by EU law): The consultation process is important in order to take into account the interests and opinions of different stakeholders. Abuses are not easy to detect and are generally reported by the affected stakeholders. Moreover, consultation can vary in extensiveness, which makes it difficult to judge this criterion. Abuses can also mean that some groups are excluded from the process or discriminated against.

g) Cooperation between actors: Cooperation between actors includes cooperation between the government and parliament, but also between ministries and agencies. Often problems in cooperation delay implementation or lead to ineffectiveness because of no consensus or opposition.

The analysis of the implementation's effectiveness is also a search for factors that influence the implementation. The variables that are presumed to influence the implementation effectiveness are described in the following section.

8.2 Theoretical approaches to implementation research

Implementation research took place for federal systems in the 1970s and 1980s, especially in federal systems such as the USA and later in Germany. What Pressman and Wildavsky (1973) investigated in the USA, Mayntz and other authors (1983a) have researched in Germany, namely, that laws adopted at the national level are sometimes incompletely implemented or not implemented at all. The underlying reasons were expected to be based on the choice of the type of programme or policy instrument, and not only on the willingness of the implementer. In addition, implementation research theorised that the implementation would be less problematic if programmes were precise in their texts (Grunow 1983: 142). This research was based on the assumption that once policy makers agreed on a law or regulation and had specified the executive tasks, the greatest challenges were overcome (Windhoff-Héritier 1980: 1). The EU, however, had to face different challenges with its nation-states and thus implementation research developed in EU studies. It was assumed that the implementation deficit was based in overly strict requirements that were not adjustable to national circumstances, as has previously been mentioned. Although previous research in the USA and in Germany has provided some input for EU implementation research, the theoretical focus of this thesis is on the more recent theoretical approaches used in political science.

One of the most comprehensive overviews is presented by Treib (2008). He has classified implementation research dealing with the EU into three waves, which differ regarding their theoretical and empirical focus; the schools can be divided in those favouring the top-down or the bottom-up approach. The exponents of the first school consider implementation to be hierarchical and centralised, while the bottom-up school emphasises the intentions of the actors involved on the sublevels. Some scholars have tried to view implementation from both sides.

The first wave consists primarily of legal and administrative studies, generally prepared in the 1980s and to a lesser extent in the 1990s and 2000s. According to Treib (2008), these studies lacked a "'political' conceptualisation" and had a top-down view. They were mostly inspired by domestic implementation studies. Most of these studies also did not distinguish between legal and practical implementation; they argued that once the legal implementation of EU law was completed, practical implementation has the same problems as national laws, except for regulations that were difficult to adapt to national circumstances (cf. Ciavarini Azzi 1988:199, Lipsky 1980; quoted in Treib 2008). Christoph Demmke is a good example of a researcher approaching implementation from a public administration perspective. His study of the Drinking Water Directive of 1994 comes to the conclusion that the implementation of European law is more complicated than national law because of the multiple levels. He classifies the reasons for implementation deficits into the following categories: 1) technical problems due to unclear terminology, 2) time pressure, 3) lack of coordination between responsible ministries, 4) delay in federal states because of another level that participates in the implementation, 5) complex transposition procedures because of the density and complexity of already existing regulations, and 6) resistance or opposition by interest groups (Demmke 1994: 210). Although these factors are indeed of relevance, the approach has no theoretical implications. The second and third wave dealt more with theorising about implementation.

The second wave that Treib (2008) identifies resulted from research into Europeanisation. Exponents of this group are principally neo-institutionalists. They focused on the domestic impact of European policies and examined the goodness of fit. The third wave is the most diverse, as it includes all kinds of actor-centred approaches using constructivist or rational choice assumptions. The relevant approaches of the last two waves are presented in detail below, further dividing them into institution-based and actor-centred approaches. Most of the actor-centred approaches are based on the actor-centred institutionalism of Mayntz and Scharpf (Mayntz/Scharpf 1995, Scharpf 2000).

8.2.1 Institution-based implementation research

The "goodness of fit" approaches have their origin in Europeanisation studies focusing on the compatibility between European requirements and domestic traditions. Earlier studies by Héritier, Mingers, Knill, and Becka (1994), Héritier (1995), Héritier and Knill (1996), and van Waarden (1995) can be considered as having prepared the groundwork for this approach.

An example of the goodness of fit approaches from a sociological institutionalist perspective is that of Dimitrova and Rhinard (2005), who focus their research on the compatibility of EU law with domestic norms.¹²¹ I will concentrate in the following section on the works of Christoph Knill (and Andrea Lenschow) and Tanja Börzel (and Thomas Risse), whose approaches can be seen as inspired by historical institutionalism combined with sociological and rational choice institutionalism, respectively. Implementation research inspired by historical institutionalism argues that policymaking is often characterised by the persistence of legislative institutional ism recognises the importance of existing institutional templates to processes of institutional creation and reform (Hall/Taylor 1996: 21).

The underlying proposition of Knill and Lenschow's (1997, 1999a) approach to implementation effectiveness is adaptation pressure. In their first article, they focus on the embeddedness of institutions and the perception of adaptation pressure. They look at the "match or mismatch between European policy requirements and existing arrangements at the national level" (Knill/Lenschow 1997: 2), distinguishing between the regulatory approach, style, and structure (Knill/Lenschow 1997: 2-3). If the adaptation pressure is low, policy makers assume they can build on existing administrative provisions to implement a policy. Hence, implementation is likely to be smooth. Should the EU legislation contradict administrative arrangements, the adaptation pressure is high and implementation is likely to be in-

¹²¹ Dimitrova and Rhinard (2005) use sociological and constructivist explanations for transposition. They analyse the normative dimension of transposition building on the underlying proposition that norms matter. They restrict their approach to directives with a moral dimension and believe that it probably would not work for EU directives of highly technical nature (Dimitrova/Rhinard 2005: 4).

effective. A moderate adaptation pressure exists when only changes "within the core" of administrative traditions are expected. In this case, the policy can be implemented effectively when the policy context is favourable or ineffectively when the adaptation pressure is either underestimated or intentionally ignored (Knill/Lenschow 1997: 29-32). In the 1999 article, the focus is more on national administrations and their likeliness to adjust. Institutional change is constrained by institutional arrangements, resulting in implementation settings (Knill/Lenschow 1999a: 22, 27). Knill (2001) builds on these findings in later works on the Europeanisation of national administrations, distinguishing their styles and structures. Knill (2003: 193) reformulates the different adaptation pressures, leaving out the perception component: 1) a low adaptation pressure is present when European requirements fit domestic patterns of regulation and administrative traditions; 2) a medium adaptation pressure requires moderate institutional changes but does not contradict general legal and political-administrative traditions; and 3) a high adaptation pressure means that European requirements and provisions are above the country's capacity to adapt, or they contradict national legal and political-administrative traditions. In summary, adaptation is "path dependent in the sense that they build upon a vast foundation of well-established legal and institutional structures and traditions" (Knill/Liefferink 2007: 218). Institutions only change within the framework of traditional institutional arrangements; thus, administrations are able to develop a certain dynamic to adapt (Knill 2003: 191). Knill and Lenschow (1997, 1999a) as well as Knill (2001, 2003) tested this goodness of fit approach with different environmental legislations in various countries including Germany and the UK. However, it never fully explained implementation ineffectiveness. As adaptation pressure is an influential factor independent of the kind of instrument, and is also present in the case of socalled new instruments with high flexibility when they are in opposition to administrative traditions (Knill/Lenschow 1999a: 15), this approach designates a category to be checked in the case studies. As the EU ETS is a new instrument that leaves a great deal of flexibility to the Member States, the aim is to find out where the requirements demanded adaptation pressure in the Member States, and then whether or not the adaptation pressure posed a problem.

Defeating the "leader and laggard" or "Mediterranean syndrome" assumption of implementation deficits, Börzel (2003b) developed her goodness of fit approach as a criticism of those who would blame the Mediterranean Member States as responsible for implementation deficits. Börzel's goodness of fit approach is similar to Knill's, but whereas Knill focuses on the adaptation pressure on administrations, Börzel examines the compatibility of policy styles. If European provisions fit the "problemsolving approach, the policy instruments and policy standards of a member state, there is no reason why implementation and compliance should give rise to substantial problems" (Börzel 2003b: 2). Contrarily, if the EU policy misfits the domestic policy style, it is likely that the Member State will have difficulties complying with the EU law. She argues that this is because transposition, application, and enforcement carry high costs caused by adaptation requirements, which could therefore be opposed by actors. Challenging the leader-laggard explanation of the implementation deficit, she uses this approach in her comparison of the implementation of five pieces of environmental legislation in Germany and Spain. Not all misfit cases led to non- compliance. Therefore, Börzel (2003b: 36) combines her approach with an actor-centred view in her push-and-pull model. Acknowledging that the goodness of fit is not only the cause of implementation performance, Börzel (2003b) stresses that decision makers and administrators who fear the costs of adaptation are influenced by domestic civil society and business interests from below and by the European Commission from above. Domestic actors "pull" down European policies by mobilising the public, blaming the government, and pointing out the economic disadvantages of non-compliance, which would lead to higher costs. Following the adoption of the Maastricht Treaty (TEU) – when fines were introduced - the European Commission has had the possibility of opening infringement proceedings, a very effective means. Consequently, the push from above and the pull from below enable public actors to implement and comply with measures that misfitted the domestic policy style and posed high adaptation costs. Thus, Börzel combines the bottom-up

and top-down approach. The push-and-pull model will be used for the analysis examining the role of the Commission and possible infringement procedures during the implementation process, and NGOs and business interests at the domestic level. In contrast to Knill, Börzel (2003a) links implementation to policy formulation, pointing out the importance of Member States as both shapers and takers of EU policies. The shapers of EU policies have advantages in implementation because their adaptation costs are lower (Börzel 2003b: 54). Progressive Member States have the possibility to upload their policies at the EU level and thus reduce their adaptation costs. The so-called laggard countries do not have this possibility; thus, low problem-solving capacity and high compliance costs hamper their implementation records.¹²² Because most Member States had not previously used trading systems and used more regulatory approaches to address environmental problems, the fit/misfit approach by Börzel may explain the output of implementation.

Börzel and Risse (2003) go a step farther in trying to explain the reactions of Member States to adaptation pressure. Change, and hence Europeanisation, takes place when EU processes, policies, and institutions misfit or are incompatible with domestic ones. Actors and institutions respond to adaptation pressure in either a facilitating or a non-facilitating manner. Both rational choice and sociological institutionalism offer explanations for this. In the first case, a redistribution of power might enable actors to use opportunity structures to pursue their interests (Börzel/Risse 2003: 65). This could be a change in the political party in power. The sociological institutionalist explanation for change is that arguing, persuasion, and social learning takes place. Change agents or norm entrepreneurs (which can be epistemic communities or advocacy coalitions) mobilise socialisation in the case of an extreme misfit (Börzel/Risse 2003: 67). This approach corresponds with other learning theories and is examined in Chapter 11.3. The conclusion of this article is that both constructivism and rational choice offer

¹²² The "Southern Problem" reformulated combines leader-laggard dynamics with socioeconomic development and political opportunity structures (Börzel 2003a: 54).

explanations of change using two different logics: namely, the logic of appropriateness and the logic of consequentialism, respectively.

Goodness of fit approaches (referring mainly to Knill/Lenschow and Börzel) have been criticised by Treib (2003), Falkner et al. (2006), and Mastenbroek and van Keulen (2006), but even the exponents themselves have had to admit that this approach is only of limiting explanatory capacity; in one-third or more of the conducted case studies, the outcome contradicted the hypothesis. Moreover, Mastenbroek and van Keulen (2006: 20-2) find that viewing decision makers as guardians of the status quo to be too conservative and conclude that legal administrative causes are only one side of the implementation deficit. Aware of the weakness of the singular focus on institutions, the authors of the adaptation pressure approach suggest combining it with an actor-centred perspective (cf. Knill 2003: 193). A later version of this concept includes the constellation of actors and interests important in the cases of high and medium adaptation pressure. When there is actor support, the implementation can still be effective (Knill 2005: 159-61, Knill/Liefferink 2007: 194). As the operationalisation of actor support is unclear, the combination with other actor-centred approaches is helpful. Another shortcoming is that Knill takes input as given in his analyses, ignoring the positions of Member States at the time of decisionmaking. Börzel acknowledges the positions in her approach with her shaper and taker theory. Mastenbroek and van Keulen (2006: 25) complain that when taking actors into account, many exponents of the goodness of fit approach have a strong rational view because of their focus on adaption costs, which determine whether the misfit is overcome or not. As shown below, they favour a focus on non-material preferences.

8.2.2 Actor-centred implementation research

The competing interests and preferences of different actors during implementation make the whole process even more difficult. Actor-centred approaches therefore focus on relevant actors in the implementation process and attribute a determining role to them. As shown above, an actor's behaviour can be explained by at least two major schools: rational choice and constructivism. The first focuses on interests and assumes that behaviour is strategic, which requires good knowledge on the subject. For rational choice institutionalists, the strategic interaction between actors plays a role in the determination of political outcomes (Hall/Taylor 1996: 18). Constructivists put the role of ideas at the centre of their research, arguing that they determine the preferences according to which individuals or collective actors act.

One of the most prominent approaches is the veto player theory, the most prominent supporter of which is Tsebelis (2002), who developed this approach to show how political institutions work. Haverland (2000), considering the Packaging Waste Directive in the UK, the Netherlands, and Germany states that the goodness of fit approach could not explain the result. Instead veto points such as the German Bundesrat blocked successful implementation despite a low adaptation pressure. Basically, the assumption of veto player approaches¹²³ is that actors who have veto power (mostly given under unanimity decision rules) may block policies that are against their interests or contradictory to their preferences. The consequence of the existence of veto players is generally seen as negative because of possible blockades (cf. Haverland 2000), but also as enabling changes and the possibility of learning because of necessary debates (cf. Bandelow 2005). While the veto player or veto points approach has the advantage of opening up the "black box", as exponents do not take Member States as single actors (Mastenbroek/van Keulen 2006: 26), the practicability is considered difficult because it is unclear how to differentiate between power and influence (Ganghof 2003: 3). Moreover, "1) identifying the relevant veto players, 2) establishing equivalence between veto players, and 3) specifying (theoretically or empirically) veto players' policy preferences" (Ganghof 2003: 1) is challenging and probably not feasible for four case studies. In addition, Germany is the only country that actually has veto points but it was not the only Member State of the four that had difficulties in implementation. Although this approach will not be taken into account for the analysis, in

¹²³ An overview of different quantitative and qualitative studies on veto players' influence on policy outputs and outcomes can be found in Ganghof's critique of this approach (Ganghof 2003).

the case of Germany the role of the Bundesrat in the implementation is examined.

However, two approaches belonging to the so-called third wave of implementation research (e.g. Mastenbroek 2007, Treib 2008) are used in the analysis. They focus on preferences, bringing politics back into the analysis of the implementation. Treib's (2003) assumption is that "parties do matter". This hypothesis is accepted for national policy-making and, according to him, is also of relevance in the case of transposition (Treib 2004: 247). Using actor-centred institutionalism (see Mayntz/Scharpf 1995, Scharpf 2000), he argues that the political preference of the party at government is decisive when deciding on implementing policies that carry high adaptation costs. Treib's (2003) case studies show that governments act according to the party political preferences and are willing to accept changes if they are in line with these preferences. He stresses the differences between party coalitions and one-party governments, and between the party affiliation of an officeholder and that of the relevant minister (Treib 2003: 13). He acknowledges that parties do not act independently but are also influenced by private actors. He contests Börzel's pull factor, stating that these actors are not always favourable for implementation, dependant on their preferences (Treib 2004: 64). He agrees that policy learning may take place, but only if it does not contradict fundamental party political interests (Treib 2004: 275) that could be compared to belief systems. He also points out the importance of the government's position at the stage of decision-making at the EU level. If national interests were not incorporated into the final text and the decision was taken on a majority voting basis, these interests could pose problems during implementation (Treib 2004: 267-9). He agrees that historical institutionalism is correct to view institutions as working in a certain tradition, but it neglects the role of individual actors, as also shown by Steunenberg. Conflicts between ministries are likely in cross-cutting issues for which positive coordination between ministries is expected (Treib 2004: 78) and become even more complicated when ministers come from different party backgrounds.

Another preference approach was developed by Mastenbroek and van Keulen (2006). The hypothesis of their approach is that "member states will

'balk at complying' with decisions that do not fit their national preferences, but smoothly implement much wanted implementation outcomes, even when they run counter to the status quo" (Mastenbroek/van Keulen 2006: 20). Mastenbroek and van Keulen (2006) build on the approach developed by Treib. In their study, they show that despite a misfit between EU law and existing policies, the Dutch government implemented a directive that they strongly supported, and delayed another directive that was strongly opposed even though adaptation pressure was minimal. They therefore conclude that their hypothesis (that the preference of governments is a decisive factor) was confirmed. They determined national preference by voting behaviour in the Council and by reconstructing the shaping and negotiations (Mastenbroek/van Keulen 2006: 29). Because of persuasion and package deals, voting behaviour is only of limited explanatory scope; therefore, I will concentrate on the position papers and on the points that the Member States did not support. The directive is thus not seen as one item to be implemented but rather in greater detail. This acknowledges that sometimes it is only one part that poses big problems, although the policy does not generally contradict the national interests. In Germany, where coalitions generally govern, preferences must be split among the various parties. Therefore, a combination of Treib's and Mastenbroek and van Keulen's approach would make sense.

8.2.3 The worlds of compliance

Another approach that can be considered to be sociological institutionalism is the approach developed by Falkner et al. It is also the only approach that encompasses all prominent theories into one model. These researchers developed categories for three worlds of compliance resulting from a study of 91 cases in which they found that previously formulated approaches in implementation research were not sufficient to explain implementation Falkner/Hartlapp/Treib 2006, Falkner et al. 2007, success (see Falkner/Treib 2007). Later, they expanded the categories to four worlds, acknowledging the special situation of the new Member States after 2004 (see Falkner/Treib 2007). The concept is based on a culturalistic assumption, which states that countries have different "compliance cultures" (Falkner/Hartlapp/Treib 2006: 7-8). In each of these worlds, different factors influence implementation effectiveness. These factors were taken from theoretical approaches in implementation research. They focused on processes and not on outcomes, and the applications are particularly interesting for qualitative research.

The three Nordic Member States or Scandinavian countries Denmark, Finland, and Sweden form the group of the world of law observance. The aim of these countries is to comply with EU law, and this goal ranks domestic concerns as secondary. Transposition, application, and enforcement are mostly successful despite misfit in policy style or differing interests of major actors. This is a result of well-functioning and well-organised administrations, agencies, and court systems. In countries belonging to this group, non-compliance only occurs when a law fundamentally challenges domestic traditions or basic regulatory philosophies. However, these conflicts are solved quickly (Falkner, et al. 2007: 1-2).

Hypothesis 1: If a country belongs to the world of law observance, transposition will typically proceed in a dutiful manner for both administrators and politicians act according to a culture of respecting the rule of law. This cultural factor is hence crucial in explaining outcomes since it usually overrides other variables both from the political and form the administrative sphere. (Falkner/Hartlapp/Treib 2006: 11)

In the world of domestic politics, obeying EU law is challenged by domestic concerns, consisting of conflicting interests and political party preferences that influence timely and correct implementation. There is no routine in transposition; rather, each single act "tends to happen on the basis of a fresh cost-benefit analysis" (Falkner/Treib 2007: 4). Putting domestic interests before obedience of the law is widely accepted. In general, political resistance leads to non-compliance when EU requirements do not fit policy style, tradition, or administrative habits. Non-compliance can only be solved with major efforts; however, once a law is transposed, application and enforcement are less of a problem because of a well-functioning administrative and judiciary system. Thus, the main obstacle to compliance is political resistance at the transposition stage. Austria, Belgium, Germany,

the Netherlands, Spain, and the UK belong to this group¹²⁴ (Falkner/Hartlapp/Treib 2006: 7-8, Falkner, et al. 2007: 2, Falkner/Treib 2007: 4).

Countries belonging to this world are probably the most interesting to analyse because of the various influential actors and the "largest variability in outcomes, due to the varying fit between European policies and domestic political constellations" (Falkner, et al. 2007: 11). Many but not all directives are likely to be politicised, which is why neither party politics nor veto players can fully explain transposition failures. Especially if they are either too technical or only relevant at the administrative level, directives do not enjoy much political attention (Falkner, et al. 2007: 15). Since emissions trading was highly politicised, veto player and political party preference indeed played major roles.

Hypothesis 2: If a country belongs to the world of domestic politics, the transposition process will be typically characterised by political negotiations between parties and interest groups, sometimes leading to swift adaptation and sometimes leading to resistance. Veto players and political ideology are therefore the crucial variables to look at. (Falkner/Hartlapp/Treib 2006: 11)

The most problematic compliance culture exists in the countries of the world of transposition neglect, which consists of France, Greece, Luxembourg, and Portugal. As the name indicates, the first obstacle to compliance is already apparent in the transposition, which is characterised by inertia and the inaction of governments and administrations. The reasons are unwillingness and malfunctioning processes and a lack of coordination among relevant actors. Moreover, there is no active civil society demanding compliance. According to the authors, "compliance with EU law is not a goal in itself", and domestic issues and traditions are rated higher than EU requirements. Action is mostly taken only under pressure from supranational actors such as the Commission or the ECJ, but when it is started it may be quick and sometimes even over-implemented. Often EU directives are transposed into the form of ministerial decrees and legal acts that translate the requirements literally without adapting them to the national

¹²⁴ In the first categorisation in 2005, Italy and Ireland were also part of this world but never really fit into it.

situation. This again leads to problems in application and enforcement, which is why the authors call "negligence at the transposition stage [...] the crucial factor". The problem of application and enforcement also results from ineffective administrations and overload (Falkner/Hartlapp/Treib 2006: 8-9, Falkner, et al. 2007: 2, Falkner/Treib 2007: 4).

Hypothesis 3: If a country belongs to the world of neglect, the typical process pattern will be long phases of inertia as the administration does not even initiate the transposition process properly. Non-transposition will be the typical outcome, at least until the Commission intervention may serve as an external trigger. Administrative interests and traditions hence explain most problems in this cluster of countries. (Falkner/Hartlapp/Treib 2006: 11)

The three original categories were challenged when the new Member States and the Central and Eastern European Countries (CEEC) in particular were studied, as they do not really fit into the categories of the old Member States. The CEEC are not only economically transitional countries, but the institutions of their political and legal systems are also not as stable (Falkner/Treib 2007: 1) as in other Member States. This is why Falkner and Treib (Falkner/Treib 2007) suggest a fourth category: the world of dead letters. In the world of dead letters, transposition is usually not the problem. As in the world of domestic politics, compliance depends on political preferences. Often European law is transposed literally, which creates the same problem as in the world of transposition neglect when it comes to application and enforcement. Moreover, civil society and affected groups are not fully integrated into a consultation process, but also do not push for compliance from below or from the bottom up. The shortfalls in compliance in application and enforcement result from overloaded and ineffective administrations and insufficient enforcement systems. Thus, national laws face the same problems. These problems detected for new Member States are also shared by Ireland and Italy (Falkner/Treib 2007: 14).

Hypothesis 4: Countries belonging to this cluster of our typology may transpose EU Directives in a compliant manner, depending on the prevalent political constellation among domestic actors, but then there is non-compliance at the later stage of monitoring and enforcement. In this group of countries, what is written on the statute books simply does not become effective in practice. (Falkner/Treib 2007: 14)

All three old Member States selected for analysis belong to the "world of domestic politics", which makes it interesting to research them, because outcomes may still vary a great deal. The Czech Republic is counted in the

"world of dead letters". The groups are similar with regard to the politicisation of the transposition, but the Czech Republic is expected to have more problems in the practical implementation.

		I				
World of compliance	Countries	Transposition	Characteristics of political process	Application and enforcement	Characteristics of administrations	Theoretical approaches best used for analysis
World of law observance	Denmark, Finland, Sweden	Usually successful, well adjusted to national circumstances	General compliance culture	Usually successful	Well-functioning and effective	Goodness of fit
World of domestic politics	Austria, Belgium, Germany, the Netherlands, Spain, the UK	Timely, conflicted, and politicised; well adjusted to national circumstance	Long negotiation processes, strong interest groups, focus on domestic issues	Usually successful	Well-functioning and effective	Goodness of fit, Veto player, party political preferences, changes of government, interest groups pressure.
World of transposition neglect	France, Greece, Luxemburg, Portugal	Inertia, often literal but also over- implemented, pressure from supranational institutions	focus on domestic issues	problematic	Malfunctioning	Goodness of fit
World of dead letters	Italy*, Ireland*, Czech Republic, Hungary, Slovakia, Slovenia**	Often literal but compliant	Interests of parties	problematic	Institutional deficits, few resources, and lack of experience	party political preferences, changes of governments, interest groups pressure.
Source: author's o	ww illustration/compi	ilation based on Falkner et	al. (Falkner/Hartlapp/Tr	eib 2006: 8-9, Falk	cner, et al. 2007: 2, Falkn	er/Treib 2007: 4)

Table 2: Overview of the Worlds of Compliance

* Italy and Ireland do not fit these categories well. In 2005, they were still listed under the world of domestic politics, but could be a part of the world of dead letters according to Falkner and Treib (2007: 15). Malta and Cyprus are not found in any category. ** And probably other CEECs that were not part of the study that lead to this classification.

8.2.4 Intermediate conclusions and operationalisation

A weakness of most approaches is that they assume that one variable can explain the output or outcome. Positioning themselves to find one answer, many authors neglect the fact that every approach has some explanatory scope. The problem is the complexity, which makes it difficult to use a simple variable method and to generalise findings. As Mayntz puts it, implementation studies have the problem that generalising is not possible "ohne entscheidenden Substanzverlust in Sätze zu fassen, die eine Kausalbeziehung oder Kovarianz zwischen zwei oder bestenfalls drei Variablen feststellen" (Mayntz 1983b: 15)¹²⁵. Börzel and Risse (2003) have tried to combine institution-based and actor-centred approaches, uniting the rational choice and sociological variants.

As I assume that there is no single approach that will apply to all countries and all sectors, a combination of the most common approaches as suggested by the worlds of compliance approach is used to explain the implementation of the EU ETS. In the previous chapter, the relevant variables for the analysis were identified:

1) the preferences of:

a) the government during policy-making and

b) the party at government during implementation;

2) the goodness of fit of:

a) policy style and

b) administrative style and structure.

Other factors such as those suggested by the push and pull model and the shaper and taker assumptions are taken into account in the case studies as well. It is assumed that these factors influence the process at different times, whether they better explain the transposition or the practical implementation of a policy.

¹²⁵ "At least not without significant loss of substance that would determine a causal relationship or covariance between two or at most three variables" [translated VA]

The forthcoming analysis will combine institutional and actor-centred approaches for two reasons. First, according to Falkner et al., in all four Member States, administrative capacities as well as actors play a role in the implementation process. Second, emissions trading as a new instrument was expected to demand adaptation pressure and by its nature was highly politicised. For politicised issues like emissions trading or climate policy, actors' belief systems, preferences, and interests play a decisive role. For more technical issues, it is probably the adaptation pressure that is more decisive.

Party political preferences are relevant for environmental politics in general but particularly in the case of emissions trading. In the Czech Republic, Germany, and Spain a governmental and party change took place during the implementation process or between the implementation of NAP 1 and 2, and results from the evaluation show that indeed the governing party's preferences play a large role. Moreover, even the roles and interests of individual ministers and chancellors can be found to impact the implementation process.

Another important approach that is not taken into account here is the veto player approach. Veto players only matter in systems in which the second chamber or other actors have significant power to block or veto decisions. This is the case in Germany. Because the other three countries introduced the EU ETS as governmental acts or royal decrees, they had was no significant veto player, thus this variable was not tested.

The four approaches are operationalised as follows:

1. Preference approaches/variables

a) The position of the government at the time of policy formulation or adoption, respectively was viewed by Mastenbroek (2007) as an important factor that influences implementation. The assumption is that preferences based on ideas are determining factors. Moreover, it is assumed that Member States might not have an institutional adaptation pressure to implement a directive; nevertheless, the implementation might not go smoothly because of an opposition to the directive that was expressed at the time of the adoption. The criteria here are supportive, ambivalent, or opposing. The indicators for the classification are:

Supportive	The Member State was in favour of the introduction of the EU ETS Directive and encouraged the policy decision.
Ambivalent	The Member State played neither a supportive nor an opposing role.
Opposing	The Member State expressed its opposition to the instrument throughout the process.

b) The other approach based on preferences is the one developed by Treib (2003, 2004), who focuses on the preference of the party at government¹²⁶ at the time of implementation. He argues that the party's ideas influence their willingness to implement a directive. The government is seen as the decisive decision maker during implementation. The criteria are the same as for the previous variable: supportive, ambivalent, or opposing. The indicators for the classification are:

Supportive	The party at government is in favour of the directive and is willing to implement it.
Ambivalent	The party at government is not eager for the instrument but is willing to implement it.
Opposing	The party at government opposes the instrument and is therefore reluctant to implement it.

2. Goodness of fit approaches

a) Börzel's approach focuses on the fit or misfit of the policy style of the country with the policy proposed by the EU. The criteria to measure the goodness of fit of the policy style are fit, misfit, and moderate fit. The indicators are:

Fit	The policy style fits when the Member State has used the
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¹²⁶ Especially for coalition governments, it is difficult to classify this category. Moreover, single actors in a party might have a different opinion than the party and might function as norm entrepreneurs.

	same instrument before.
Moderate	The goodness of fit of the policy style is moderate when the Member State has had no previous experience with this instrument but has had experience with similar instruments.
Misfit	The policy style misfits when the Member State has had no experience with this or any similar instruments.

b) Knill (2001: 240) and Knill and Lenschow (1997: 256) developed an approach stating that the implementation effectiveness depends on the adaptation pressure of administrations to EU directives. A high adaptation pressure leads to an ineffective implementation, a low pressure to an effective implementation, and if the adaptation pressure is moderate, the result is open. The criteria are thus high, moderate, and low. The indicators are:

High	The adaptation pressure is high when the Member State has a competent authority ¹²⁷ with weak structures, few (human and financial) resources, and no prior experience with the instrument in question. Moreover, the require- ments of the directive may contradict administrative traditions.
Moderate	The adaptation pressure is moderate when the Member State has a well-functioning and competent authority with adequate human and financial resources but no prior experience with the instrument in question. However, the requirements of the directive do not contradict adminis- trative traditions.
Low	The adaptation pressure is low when the Member State has a well-functioning competent authority with adequate human and financial resources and has had prior

¹²⁷ The responsible agency is the agency in charge of the practical implementation. In most cases, these were environmental agencies.

experience with the instrument in question. Moreover, the
requirements of the directive are in line with administra-
tive traditions.

Börzel (2003b) added the push and pull model to her goodness of fit approach to explain non-compatibility of the misfit/fit categorisation with actual outcomes. Accordingly, the Commission will push from above and the civil society will pull from below in order to get the directive implemented. The push and pull model is difficult to operationalise and better used to describe the respective roles of the Commission and the stakeholders.

In the following chapter, the implementation of the EU ETS Directive is reconstructed with the help of document analysis and expert interviews. It is then analysed, utilising the previously mentioned variables as analytical categories.

9 IMPLEMENTING THE EU EMISSIONS TRADING DIRECTIVE

In the previous chapter, I described the implementation and developed the analytical framework. In the following sections, the requirements of the EU ETS Directive are presented in detail as background for the case studies. The aim of the case studies is to show how Member States dealt with the flexibility of the Directive and to identify factors influencing their decisions.

9.1 Requirements of the EU ETS Directive

The requirements for implementing the EU ETS Directive were for Member States to transpose the aims and principles of the Directive into national law, to prepare a NAP, and to adopt rules for monitoring and reporting.

The deadline for Member States to transpose the Directive into national law was 31 December 2003. The deadline to transpose the Directive for new Member States (including the Czech Republic) was the date of accession: 1 May 2004.

The details for the implementation were to be specified in a NAP according to Article 9 of the EU ETS Directive. Member States had to design these NAPs and submit them to the Commission. The NAP notification deadline for the first phase (2005-2007) was 31 March 2004 (1 May 2004 for new Member States), and the deadline for the second period (2008-2012) was 30 June 2006.

The NAP¹²⁸ can be seen as the core piece of the implementation and specifies the following aspects:

• Cap (macro plan): The cap sets the maximum amount of greenhouse gases that can be emitted and must be consistent with each country's Kyoto target. The burden is split between the different sectors¹²⁹ and

¹²⁸ The criteria for developing the NAP are found in Annex III of the EU ETS Directive. Additional information is found in Communication from the Commission on guidance to assist Member States in the implementation of the criteria listed in Annex III to Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, and on the circumstances under which *force majeure* is demonstrated, hereafter referred to as NAP guidance.

¹²⁹ In the NAPs, the measures for the non-participating sectors must also be named, and the burden between the sectors is determined.

caps are determined accordingly. For this thesis, only the cap for the EU ETS participating sectors is relevant.

- Allocation method (micro plan): The method for allocation determines the number of allowances allocated to sectors and operators of installations. It can be based on benchmarks or historical emissions (grandfathering) and up to 5 % in the first phase and 10 % in the second phase can be auctioned off. Moreover, in the case of grandfathering, the baseline years must be fixed for each period according to which operators receive allowances in the respective period. The allocation should be consistent with the technological potential of participants to reduce emissions, should not discriminate against companies or sectors, and should take into account state aid and competition rules of the EU. Thus, it is not permissible to allocate more allowances than are needed.
- Rules for new entrants: The total number of allowances and the allocation method for installations starting operation after allowances had been allocated must be determined.
- Rules for closures: Member States must determine what is done with the certificates in the case of closure of an installation, or when an older installation is replaced by a modern one.
- Exemptions: Special provisions can be made for clean technology (e.g., combined heat and power (CHP)), early actions¹³⁰, process-related emissions, international competition, etc. These optional rules take into account the specific situation of each country.
- Rules for the use of project-based mechanisms: the quantity of external credits from project-based mechanisms JI and CDM¹³¹ must be determined.

The NAP should be consistent with other EU policies. Moreover, the list of installations must be submitted to the Commission. The list of installations

¹³⁰ Early actions are modernisations realised before the start of the EU ETS that led to a decrease in greenhouse gas emissions.

¹³¹ With the adoption of the so-called Linking Directive, Member States or operators are allowed to make use of the project-based mechanisms CDM and JI.

contains the participants covered by the scheme and the number of certificates allocated to each installation. In the first period, it was possible for Member States to include (opt-in) or exclude (opt-out) certain installations temporarily under the condition that they were subject to other equal measures.

The implementation process must be accompanied by a consultation process. In the NAP, Member States have to show how the comments of stakeholders and the public were considered.

The Directive did not provide information on the legal form of the NAP (AGE 2003: 10). The Commission prepared NAP guidance as demanded by Article 9(1) and 29 of the EU ETS Directive that was meant to help the Member States. The aim was to improve the accessibility, transparency, and comparability of the different NAPs (Zapfel 2007: 21) and was also used by the Commission as criteria for their assessments.

The Commission must approve the submitted NAP within three months. In the decision, Member States are informed of the status of their NAP: the Commission can reject a NAP, approve it, accept it under conditions, or request more information. Only after the Commission has approved the plans, can the allocation to the entities begin. During the assessment of the NAP, the Commission is advised by the Climate Change Committee that was set up as an advisory Committee as requested by the EU ETS Directive. The Committee is chaired by the Commission and consists of working groups in which national experts deal with specific matters of implementation such as inventories, projections, and general issues. One of these working groups dealing with general issues met once a month to discuss problems that occurred during implementation in the Member States (Interview EU, COM, section 17). The working groups prepared recommendations, which were then decided on by the Climate Change Committee, where representatives of the Member States took decisions together with Commission staff. Generally, the committee adopted the recommendations prepared by the working groups (Interview EU, ADVISOR, section 2-4). Within the Climate Change Committee, Member States can "express their views on the content of a plan and highlight issues for the Commission to consider in its assessment. The opinion expressed by the Committee does not formally bind the Commission" (Zapfel 2007: 24). This comitology procedure introduces some deliberative elements into the implementation process at the EU level.

The Member State is responsible for administrating the scheme. For this purpose, national registries must be set up in which each operator has an account and all balances, transactions, and cancellations of allowances are registered. The Community Independent Transaction Log (CITL) connects all national registries and supervises all transactions of allowances.

In addition, Member States designate a competent authority – the regulator – to monitor the system. Pursuant to Article14 of the EU ETS Directive, the Commission adopted monitoring and reporting guidelines in January 2004¹³² that specified the annual reporting by Member States to the Commission. A questionnaire helps the Member States to prepare these reports, which contain information on the emissions of each installation and the number of allowances they obtained. All emissions must be verified by an independent and accredited verifier.

In some countries, the NAP of the first phase did not demonstrate much ambition, as will be shown in the case studies. Therefore, the Commission demanded more ambitious plans in the second phase. In the second period, the three Member States of the European Free Trade Association (EFTA) – Norway, Iceland, and Liechtenstein – were also able to participate in the EU ETS.¹³³

To sum up, the flexibility of the Directive left room for adjustments to national circumstances and corresponds to the principle of subsidiarity. Compliance criteria taken from the EU ETS Directive are 1) submitting the legislation before a certain deadline, 2) adopting appropriate laws, regulations, and administrative provisions, 3) accompanying the decision-making

¹³² Commission Decision of 29 January 2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the EP and of the Council, hereafter referred to as monitoring and reporting guidelines.

¹³³ European Economic Area Joint Committee Decision No 146/2007 linking the EU ETS with Norway, Iceland and Liechtenstein.

with a consultation process, 4) defining a responsible authority, and 5) complying with the aims and requirements of the Directive.

9.2 Outline of the case studies

The implementation process is described in detail as it took place in the four Member States: the Czech Republic, Germany, Spain, and the UK.

The case studies all follow the same design. As a first step, short country profiles introduce the reader to the specific situation in each country. These country profiles consist of information about the country's role in EU policy-making, background data on the political system, relevant national actors for environmental policy and the relationship between state and non-state actors, an overview of the economic situation, and the composition of the industry and energy sector. Moreover, already existing climate change measures are presented and it is pointed out problems that were expected to confront the EU ETS in the already existing policy mix. This background information helps to explain the different implementation processes, to show the impact of the EU ETS Directive on the participating sectors, and to interpret the results of the analysis.

In a second part, the implementation is described chronologically, including information about the share of competences, the formal compliance, the type of legal act(s) that transposed the EU ETS Directive, the authority responsible for the administration of the scheme, the process, the content of the NAP, different actors' positions and roles, and an evaluation of each phase in which the general performance is estimated, decisions are traced, and the major problems are identified. Additionally, the variables taken from implementation research are tested here.

As the NAP is the centrepiece of the implementation, the focus is on its development and content. The aspects from the NAP presented here are restricted to those that were most relevant in the political discussions. These aspects are: the cap, the allocation method, the use of the project-based mechanisms, the use of special rules and exemptions, and the new entrant reserve. The information and data are primarily drawn from the document analysis and expert interviews, but were also obtained from secondary literature and studies.

In the analysis that follows the case studies, the results are summarised and contrasted with each other and with the general implementation performance of all Member States. Moreover, other factors that seemed to determine the outcome are presented as well. In a second step, the criteria for implementation effectiveness are cross-checked, and implementation theory is applied comparatively.

The regulations adopted in some countries that include the technical details of the EU ETS are not focus of the analysis, as these mainly consist of definitions, technical information, and calculations. Despite their importance for understanding the law and functioning of the EU ETS, they were not so much the focus of the political debate.

9.3 The case of the Czech Republic

"The Czech Republic is relatively safe under the Kyoto Protocol because of the drop of emissions, so climate change policy and the reduction of greenhouse gas emissions has not been taken very seriously as a political issue." (Interview CZ, GOV2, section 14)

9.3.1 Introduction

The Czech Republic belongs to the group of medium-sized Member States with respect to its number of inhabitants, and to the weaker economies in the EU. The Czech Republic only joined the EU in May 2004. Hence, its experience with implementation of EU policies at the time of the implementation of the EU ETS Directive was restricted to the implementation of the acquis communitaire; in contrast to older member countries, it had no chance to influence the policies it needed to implement.

As a new member of the EU, the Czech Republic was at first a taker rather than a shaper of the EU's environmental policy. Environmental policy in the Czech Republic is still weak and the main drivers behind it are international agreements and EU requirements.

With the restructuring of the Czech economy after the collapse of the Eastern bloc, the Czech Republic was able to decrease its emissions by about 25 % in 2005 compared to the 1990 baseline level of the EU ETS. After a strong fall in emissions at the beginning of the 1990s, emissions have been more or less stable since the turn of the century (EEA 2007: 3). According to

the Kyoto Protocol, the Czech Republic has an emissions reduction target of -8 % and thus has already over-achieved its target without the implementation of any climate policy measures. Its potential to further reduce emissions through energy efficiency and an increase in the share of renewable energy is high. The Czech Republic is a leader with regard to the per capita CO2 emissions compared to other EU Member States (Interview CZ, NGO, section 68).

At the time of policy-making of the EU ETS, the Czech Republic was an accession country to the EU. It must nonetheless implement the EU ETS, the aim of which is to create a market for CO2 and reduce greenhouse gas emissions. Although the new Member States were not directly involved in the decision-making process, some employees from the Ministry were invited to the Commission as experts during the Directive's preparation. However, the involvement of the Czech Republic was limited to the expert level; the legislation was not dealt with on the political level and no position papers were prepared (Interview CZ, GOV2, section 28):

We followed it only in the way that we knew that something was happening but as we were not in a position to participate in the decision-making, it was taken not too seriously. Also as we were in a position of being safe under the Kyoto Protocol, everybody said "well, if they want to regulate emissions, if we're ok it's probably not going to be an issue for us", but of course this was a big mistake. So, still a lot of industry representatives at that time had an idea that this was never going to work and [that] emissions trading [would never be implemented] in life but the appetite of the EU-15 to implement a flexible mechanism was much stronger than they anticipated. (Interview CZ, GOV2, section 26)

Thus, the positions of neither the Czech government nor the Czech industrial sector were directly included in the Directive: the Czech Republic did not influence the policy-making in any way. The resulting problems will be described below.

The Czech Republic was selected as a case study because it is a new Member State characterised by an energy-intensive industry and an energy mix mainly based on fossil fuels. The share of industry contribution to the GDP is very high, and 60 % of the Czech Republic's total emissions are from industry (Interview CZ, GOV1, section 39). Thus, it was assumed that the EU ETS Directive would have a major impact on the country's industry and that the Directive would become politicised.

9.3.2 Country profile

9.3.2.1 The political system and decision-making

The Czech Republic is a unitary state consisting of the regions Bohemia, Moravia, and Southern Silesia. Because of the centralised political system, the regions have no major competences.

The Czech Republic is a parliamentary democracy with a prime minister as the head of the government and the most powerful person. The party in power changed between the preparation of the first and the second trading period. The prime minister of the Czech Republic at the time of implementation of the EU ETS Directive and during the preparation of NAP 1 was Vladimír Špidla and later Stanislav Gross¹³⁴ (both Social Democrats), who led a coalition of the Social Democrats (ČSSD), the Christian Democrats (KDU-ČSL), and the Democratic Union (US). Mirek Topolánek from the Democratic People's Party (ODS), who led a coalition of the ODS and the KDU-ČSL was prime minister when NAP 2 was designed.

The Ministerstvo životního prostředí (MŽP - Ministry for the Environment) is responsible for climate change and the Ministerstvo průmyslu a obchodu (MPO - Ministry of Industry and Trade) is responsible for energy issues and industry. Hence, both ministries were responsible for the implementation of the EU ETS Directive. During the preparation of NAP 1, the Minister for the Environment was the Christian Democrat Libor Ambrozek (KDU-ČSL); in the second period, it was Martin Bursík from the Green Party, a proponent of an ambitious climate change policy and of the promotion of renewable energy. In the MPO at the time of the preparation of NAP 1 and NAP 2 was Martin Říman (ODS) from the Democratic People's Party, who was in charge of their designs.

The parliament is divided into two chambers that make up the legislative body: the Poslanecká sněmovna (House of Deputies) and the Senát (Senate). The government consists of deputies and senators. The government is politically accountable to the House of Deputies, which is consequently

¹³⁴ The former resigned in June 2004; the latter resigned in April 2005, replaced by Jiří Paroubek.

more significant. In the legislative process, the House of Deputies can overrule the Senate and the veto of the president with an absolute majority (Vodička 2004: 259-60). The senate has more of a control function (Kipke 2002: 47-8) and does not necessarily take part in policy-making. Both chambers are divided into thematic committees. The government, the parliament, some deputies, and the senate as a whole have the right to initiate a law; however, it is usually (80 %) the government that prepares the drafts of legislation. When implementing the acquis communitaire and for the harmonisation with EU law, the process was simplified and shortened (Vodička 2004: 258-9).

Interest representation is a relatively new field, especially in a pluralist form. Tripartism describes the cooperation of social partners: government, trade unions, and employer associations. A transformation has taken place in some formerly state-controlled organisations; also, a number of new NGOs have emerged since the fall of the socialist regime (Vodička 2004: 268). There are a few environmental NGOs, the strongest ones being divisions of international NGOs such as Friends of the Earth and Greenpeace.

As in other EU Member States, each industrial sector has its own association or confederation. In addition, there are a number of sectoral trade unions. The business associations are quite strong in lobbying the government, as economic development is still based to a high degree on these industrial sectors.

9.3.2.2 The carbon intensity of the economy

The Czech Republic is an early industrialised country based on heavy industries, such as ferrous metallurgy, the chemical industry, and vehicle and machine construction (Kipke 2002: 91), but also on lime, pulp and paper, steel, and concrete production, which are still very energy intensive. The Czech industrial sector produces a high proportion of the country's GDP and a 60 % share of overall emissions, which leads to a high carbon intensity per unit of GDP (Chmelik 2007: 269).

Liberalisation and privatisation are still in progress. Thus, the energy sector and, of particular relevance here, the electricity sector is still to a large part state-owned, with the biggest company being ČEZ. The state still owns 70 % of ČEZ; the rest is owned by private investors. This hybrid situation is sometimes a problem because "on the one hand they have to behave fully commercially but on the other hand the government is in a dichotomy because if power prices are rising, it has an impact on the people but on the other hand they are making more money and the value will be higher" (Interview CZ, GOV2, section 72). The energy market is regulated and administred by the the Energetický regulační úřad/Energy Regulatory Office (ERO).¹³⁵ The ERO is responsible for the liberalisation of the market, supports competition, controls the prices, implements energy-related law, and supports renewable energies.¹³⁶

The total primary energy supply in the Czech Republic is only 5 % from non-fossil fuels, while coal and oil represent two-thirds. The remaining 30 % are almost equally divided between nuclear power and gas. Electricity generation almost doubled between 1976 and 2006 and the main energy source was always coal. Together with nuclear energy, the two fuels produce 90 % of electricity generation, followed by gas, some hydropower, and only a small share of other renewable energies.¹³⁷ The fact that coal and lignite are the only domestic fossil energy resources explains why the energy system is still based on these fuels, aside from nuclear energy (Kipke 2002: 91). As the domestic coal primarily used for power production is of a rather bad quality, the Czech economy is quite carbon intensive (Chmelik 2007: 269). Thus, despite low overall CO2 emissions compared to the other three analysed Member States, the CO2 emissions per capita in the Czech Republic are among the highest in the EU. The introduction of the EU ETS provided a chance for the country to invest in cleaner technologies and less carbon-intensive fuels.

¹³⁵ Established in 2001 by Act No. 458/2000 of 28 November 2000, on the Conditions of Business and State Administration in the Energy Industries and Changes to Certain Laws, hereafter referred to as the Czech Energy Act.

¹³⁶ For further information, see Energetický regulační úřad/ Energy Regulatory Office, www.eru.cz

¹³⁷ see International Energy Agency, www.iea.org/statist/index.htm [last accessed: 2008-07-13].

9.3.2.3 Czech climate policy

In the Czech Republic, the driving forces behind environmental policy in general and climate change policy in particular are international commitments and EU membership. Internally, the MŽP is pushing climate policy towards more ambitious targets, which is opposed by the MPO (Interview CZ, GOV2, section 34). The Czech Republic is in the comfortable position of having already over-achieved its reduction target under the Kyoto Protocol and has no domestic target. Therefore, the government does not feel any internal pressure to implement climate change measures.

Due to its obligation under Council Decision 99/296/EC,¹³⁸ the "National Programme to Abate Climate Change Impacts in the Czech Republic"¹³⁹ was adopted in 2003. The programme sets a domestic target of -20 % compared to 2000 levels, which is to be achieved by 2020 (Chmelik 2007: 270). Apart from the requirements mentioned in the Decision, there are no additional domestic measures. The reviewed Climate Change Programme was approved by the government in 2008.

The Czech Republic usually uses administrative and economic instruments and had never had experience with trading instruments. For the industry and energy sector, emissions trading is the only instrument in place in the Czech Republic that addresses the reduction of greenhouse gas emissions, and "CO2 emissions have never been subject to regulation or even direct monitoring" (Chmelik 2007: 270). Thus, the problem was not accommodating the EU ETS Directive in a mix of policies, but introducing it into an atmosphere of inertia.

¹³⁸ Decision 99/296/EC for a monitoring mechanism of Community greenhouse gas emissions COM(2003) 735.

¹³⁹ See Ministerstvo životního prostředí/Ministry of the Environment, http://iris.env.cz/AIS/web-pub2en.nsf//cz/national_program_to_abate_the_climate_change_impact [last accessed: 2008-07-13].
9.3.3 The implementation of the Emissions Trading Directive

9.3.3.1 Background

The responsible ministry for the transposition of the EU ETS Directive is the MŽP, which must cooperate with the MPO. Within the MŽP, the Climate Change Unit prepared the law and the NAP in collaboration with other units of the MŽP, with the Czech Hydro Meteorological Institute (ČHMÚ), and the Czech Environmental Institute (ČEÚ). According to Chmelik (2007: 291), the implementation was primarily managed by two people, one in the MŽP and one in the MPO.

Apart from the MŽP and MPO, other ministries involved in the final consultation were the Ministry of Financial Affairs, the Ministry of Transportation, the Ministry of Agriculture, and the Ministry of Foreign Affairs, which were part of the Inter-Sectoral Working Party on Climate Change, an advisory body of the MŽP. This working group for emission trading was set up in October 2003 also included representatives of both chambers of the Czech Parliament and of environmental NGOs (Government of the Czech Republic 2004).

One particularity of the Czech implementation was that it was supported by the Dutch Government, which financed the project "Setting up a CO2 emissions trading scheme in the Czech Republic".¹⁴⁰ The project was conducted by Pricewaterhouse Coopers s.r.o.; Seven o.p.s. assisted the Ministry staff in preparation of the legislation, implementing the monitoring and reporting guidelines, and creating the system of permit issuance. "Due to the sensitivity nature of company data, this assistance was intentionally limited in relation to the preparation of the NAP" (Chmelik 2007: 291).

9.3.3.2 Transposition of the EU ETS Directive

To transpose the EU ETS Directive, the "Draft Act on Trading in Allowances for Greenhouse Gas Emissions" ¹⁴¹ was prepared by the MŽP, discussed

¹⁴⁰ This kind of assistance is a means for the EU to help accession countries and new Member States in particular with the implementation of EU law.

¹⁴¹ Act No. 695/2004 Coll., on the conditions of greenhouse gas emission allowance trading, hereafter referred to as the Czech Emissions Trading Act 2004.

within the government, and later adopted by the parliament as legal act 695 from 2004. Various interest groups were able to lobby on all levels (Interview CZ, GOV2, section 43). The transposition was basically a literal translation of the EU ETS Directive. Comparing the draft with the final law, the main differences are the specifications for new entrants and the definition of combustion installations, two items that had not been specified in the Directive. The parliament did not make any amendments to the proposed draft in the first period (Interview CZ, GOV1, section 78). Furthermore, the monitoring and reporting had to be based on a law implementing the monitoring and reporting guidelines (Interview CZ, GOV1, section 6-7).

In the Czech Republic the responsibility for administrating the system is divided between the MZP, the MPO and various agencies. The MZP is responsible for the enforcement, inspection, and development of the registry as well as for providing information to industry; the MPO for the allocation of allowances to existing installations and new entrants. In the case of auctioning, the responsible authority would be the Czech Environmental Institute together with the ČHMÚ. Operators must apply for permits that are handed out by the Czech Inspectorate (IMPEL 2004). Operators have to organise the verification of their emissions themselves, which they must report. Their reports are verified by independent verifiers; these reports are checked and approved by the MZP and then sent to the registry, whose task it is to collect the data (Interview CZ, GOV1, section 67-9). The institution responsible for the registry is the electricity market operator of the Czech Republic. This is a state-owned company that is legally a private company but is owned 100 % by the MPO. The electricity market operator is normally in charge of electricity auctions, the stability of the grids, and balancing, registering, trading and transferring electricity. Thus, this institution already had experience similar to what the emissions registry does under the EU ETS. As the Czech Republic did not have to create a new institution, setting up the registry was relatively simple, according to an interviewee, because they just had to buy "the software and the hardware and put it alive" (Interview CZ, GOV2, section 63-65, 69-70).

9.3.3.3 Czech National Allocation Plan 2005-2007

In October 2003, when the implementation began, the MŽP was the only responsible ministry and no other ministry had expressed interest in cooperation. It was actually the industry who pushed the MPO to get involved in the implementation process. This lack of interest and late involvement led to inefficient cooperation between the two ministries, especially since the MPO supported industry proposals that were not at all in line with the Directive. Later, the cooperation became more efficient and the two ministries defended the proposal together at the EU and the national level. A governmental crisis in the summer of 2004 led to a restructuring of the government and to changes in the ministries at the political level (Chmelik 2007: 290-2).

At an early stage in the implementation, the MŽP invited industrial associations to discuss the allocation of certificates to installations. For this purpose, seminars and workshops were organised in part together with the Commission, and a conference took place in August 2004. The wider public was invited for comments on the draft NAP 1, which was made available on the public administration website for 10 days only. Another two weeks were devoted to the inter-sectoral commentary procedure, during which other ministries, the Union of Industry and Trade, and associations of environmental NGOs could comment on the draft. Negotiations were held within this group but also on a bilateral basis (Government of the Czech Republic 2004). The results of all these events were gathered and compiled for the discussions with the government.

NAP 1 was prepared in parallel to the Czech Emissions Trading Act 2004 as a governmental document. The Czech Republic submitted its first draft of NAP 1 with a delay of five months in October 2004. Additional information was requested by the Commission. After the Commission Decision and bilateral talks with the Commission, the NAP had to be changed, leading to a new methodological approach (Chmelik 2007: 272). According to an interviewee, the first draft was submitted knowing full well that the Commission would cut the cap. However, the designers thought it was easier avoiding discussions about the details with those who wanted a generous allocation. "So the allocation plan was relatively generous and [...] we have to make the experience to send a high allocation plan and have it cut by the Commission". With the new stricter limit, the discussions with the industry became much harder, and the designers needed a unique formula to avoid accusations of favouring industries. "The sectors were fighting against each other but they could not say that one sector was favoured. It was difficult to judge where is the truth who is right and who is not because of missing data" (Interview CZ, GOV2, section 47-50).

The final NAP1 was submitted in April 2005. On 12 April 2005, the Czech NAP was approved by Commission Decision C(2005)1083.¹⁴² The aspects that were criticised by the Commission referred to suggestions made by the Climate Change Committee addressing the number of allowances planned for allocation; however, the number was still in line with the Directive and thus was accepted.

The Czech Republic failed to comply with the deadline for submitting the NAP 1; as a consequence, installations started participating in the EU ETS with a delay, later than installations in other countries.

The result of the policy process was that about 435 installations participated in the EU ETS in the period between 2005 and 2007; 60 % of the total emissions were covered. The total cap was reduced from 322.98 Mt/CO2 in the draft version to 292.98 Mt/CO2 in the final version. This means that for each year, no more than 97.66 Mt/CO2 certificates could be allocated to the participating installations, including the reserves. The reduction took place at request of the European Commission (Chmelik 2007: 279).

Certificates were allocated for free, using average historical emissions over two years with the highest emissions between 1999 and 2001 as reference points and projecting for 2005-2007. Companies had to provide the data and were asked for their projections. The total number of allowances needed for each sector was compiled, together with the growth rates. The Czech Republic chose a two-step approach for allocation. First, sectors were allocated

¹⁴² Commission Decision of 12 April 2005 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the Czech Republic in accordance with Directive 2003/87/EC of the EP and of the Council C(2005)1083.

a certain number of allowances, which were divided among the installations. For the allocation of allowances to the energy sector, three groups were formed: public energy production, corporate energy production, and the chemical sector that produced energy. These sectors differed in size, consumer group, and production mode (Chmelik 2007: 281).

During the preparation of the NAP1, the MŽP prepared three possible ways of how to allocate allowances and then left it to the government to decide on the method. One of the variants was more energy-sector friendly, a second favoured the manufacturing sector, and the third (ultimately chosen by the government) was the best option for the chemical and refinery sectors. The "losers" in this option, looking at the numbers on a quantitative basis, were the metal, cement, and pulp and paper industries that under this option received a great deal less than under options one and two. For the energy sector and the coke, lime, glass, and ceramics sectors this was still the second-best option (Chmelik 2007: 288-9). This decision probably reflects the strength of the industrial associations. Moreover, this decision seems to have been influenced by the Polish minister, who lobbied for this option because a Polish investor had recently acquired a privatised chemical installation (Interview CZ, GOV2, section 77). According to an employee of the MŽP, they did not choose the best plan; rather, it was a "political decision" (Interview CZ, GOV1, section 12-18). However, under the third option, companies were still allocated allowances up to at least 2004 levels or more. Over-allocation was highest in the energy-intensive industries – up to 28 % in the paper industry – and in not the energy sector (Interview CZ, GOV2, section 75). Nevertheless, presumably the energy sector still made windfall profits. Although according to an interviewee no study on windfall profits in the Czech energy sector was prepared, everybody knows that they were made because ČEZ, the biggest electricity provider, did not deny it (Interview CZ, GOV1, section 54).

All in all, determining the cap and the allocation to the various sectors were probably the hardest tasks.

Special rules were applied to early action, CHP, and district centralised heating, reserving 3 % and 1.5 % of total allowances for early action and

CHP, respectively (Chmelik 2007: 275-6, 283-4). Additionally, corrections were included for the electricity sector and individual adjustments were possible on request if 2004 emissions were higher than the allocated amount of certificates. The MPO had also planned to introduce individual adjustments in case an operator felt discriminated against. However, this rule was ultimately not introduced because of the implications of judging individual negotiations (cf. Chmelik 2007: 285-6, Government of the Czech Republic 2004).

The new entrant reserve consisted of 1.5 M allowances for the first period, with certificates allocated for free. Installations falling under this category received allowances on the basis of emissions in the first year shortly before they had to surrender the certificates. In a way, this was an ex-post allocation (Chmelik 2007: 297) but was accepted by the Commission. Unused allowances from the new entrant reserve were auctioned off. The revenues resulting from the auctions were used to operate and administer the EU ETS and also invested into other environmental projects (Government of the Czech Republic 2004).

As companies were generously allocated allowances and the Czech Republic had already over-achieved its Kyoto target, project-based mechanisms were not an important issue in the first period.

9.3.3.4 Evaluation of the period 2005-2007

One thing that is clear is that if the EU ETS 2003 had not been in place, there would have been no other instrument that aimed at greenhouse gas emissions reductions (Interview CZ, GOV1, section 96, 99-101). As everybody knew that the Kyoto target had been achieved and people questioned the necessity of further reductions, the position of proponents like the MŽP was quite weak. The MŽP saw its role as preparing the path for other instruments that would be needed in the future (Interview CZ, GOV1, section 102-3) to contribute to European and international targets.

Regarding the process for the preparation of the NAP, the first phase of the EU ETS in the Czech Republic was definitely the most inefficient of the four Member States analysed here; the country was also probably one of the worst laggards among all Member States, but not only because of the delay.

Negotiations during the implementation were highly political and as in most other countries, in the Czech Republic the two ministries responsible for the implementation followed different preferences resulting from their distinct competences – environment and industry, respectively. A special problem of the Czech Republic was also the lack of human resources, as there were basically only two people in charge of implementation, which is miniscule compared to countries like Germany, where a number of ministry staff plus advisors were involved in the transposition. These two people had to talk to stakeholders, collect and evaluate data, and mediate between stakeholders, ministries, and the government (Interview CZ, GOV2, section 16-19). This could be one reason for the delay.

Another problem was the data collection on which the allocations should be based. Emissions data was not widely available, as before the implementation of the EU ETS, operators did not have to systematically monitor and report emissions. Moreover, no harmonised methodology of measuring emissions existed. Thus, data was provided by companies according to the classifications used in air quality legislation, from the fuel balance, and from data collected under the IPPC Act. Data was mainly provided by the MPO, the ČHMÚ and ČEÚ institutions, the Czech Statistical Office, and to some extent by the industries themselves. The industry had to provide data, seeing as data collection from state agencies was partly inconsistent and incomplete. The problem was that at this time, there was no legal basis for the data collection, thus the MŽP depended on the voluntary cooperation of the industry to provide the relevant data (Chmelik 2007: 291).

In general, the Czech approach was similar to most other countries: using grandfathering the as allocation method, designing a sectoral approach regarding differentiation, and including special rules for early action and CHP. The number of special rules probably resulted from the ambition of the decision makers to take all possible factors and situations of industry into account.

Public consultation was allowed throughout the process and can be divided in official meetings and informal lobbying. As mentioned above, a working group with representatives from industry was formed in which many details about the allocations were discussed, but later "contacts tended to be more direct with associations and companies rather than through the organised working group" (Chmelik 2007: 292). Although environmental NGOs were very active during the discussions on the cap, they were not involved in the discussions on the allocations to installations (Chmelik 2007: 292). Moreover, although they were acknowledged as experts, started early in the process, and were well organised, their influence in factual matters was weak (Interview CZ, NGO, section 70-2, GOV2, section 82). From the perspective of the MŽP, the green NGOs were "not strong enough to push forward concrete measures against the industry" but "they played their role at least in raising attention" through campaigns, distribution of materials, and their presence in the media (Interview CZ, GOV2, section 83). Despite their minimal influence, NGOs were "able both to understand the scheme and to be in contact with the development in other parts of Europe, and therefore proved to be more informed or active than some of the industrial associations" (Chmelik 2007: 298-9). Green NGOs criticised the process of the development of the NAP, as they were not involved as "stakeholders" from the very beginning (Interview CZ, NGO, section 46-51). The officials from the ministry understood "stakeholder" as only operators of installation, verifiers, and accreditation bodies (Interview CZ, GOV1, section 58).

In their comments on NAP 1, the green NGOs Centre for Transport and Energy (Centrum pro Dopravu a Energeticu - CDE) and Friends of the Earth (Hnutí Duha - FoE CZ), criticised primarily the high cap, the generous allocations, and the allocation method that did not reflect any reduction potential. In addition, they perceived the scheme as lacking transparency and as having discriminatory elements of individual agreements; they accused the government of having failed at providing a long-term vision of reductions and of failing to suggest new measures for non-covered sectors (CDE/Hnutí Duha 2004a). In a comment (see CDE/Hnutí Duha 2004b) for the inter-ministerial consultation process in June 2004, the environmental NGOs (CDE and FoE CZ) criticised the lack of ambition of the Czech NAP and the brevity (ten days) of the period of public consultation. They stated that although the Czech Republic had already achieved its Kyoto target, its potential for reduction and energy efficiency was much higher, since the

Czech Republic has one of the highest per capita emissions in Europe. The short period of consultation was justified by the MŽP, which cited the lack of preparation time for the NAP (Interview CZ, GOV1, section 20). Furthermore, green NGOs felt that the allocation method was a "purely political decision and [was] not based on any precisely calculated assessment of industry needs". They also stated that the instrument was misused for subsidising Czech industry (CDE/Hnutí Duha 2004a). An interviewee emphasised that the cap of 108 Mt CO2 in phase one was a political decision and a compromise between the two sides – those wanting a lower cap and those who thought more allowances were necessary. Numbers were based on predictions by the industry as to "how much they will grow, how much they will produce and so on" (Interview CZ, NGO, section 89, 91, 96).

The Czech industry tried to get the maximum number of allowances for Czech industry, pointing out the risk of losing competitiveness with neighbouring states such as the Ukraine, or with other countries that did not have emission regulations. They envisioned the threat of losing companies and investments to those countries if they did not receive enough allowances (Interview CZ, NGO, section 84). During the process, they had quite unrealistic demands concerning the number of certificates they should receive. When the biggest companies were individually asked how many allowances they needed, they requested the number of allowances they wanted and not the number they needed, exceeding the total number of allowances by 20 %. "If you talk to the industry in terms of needs, you get everything but the right figures" (Interview CZ, GOV2, section 47-50).

There was an acceptance gap for the instrument between the energy sector and the energy-intensive industries. Whereas the power sector usually welcomes emissions trading as an instrument because they like its flexibility, energy-intensive industries would prefer to have limits because they are used to them. "They like the stability that there is a limit on sulphate, for CO2 they would probably prefer to have a limit and rather pay charges than having the market because of course if you don't know how to behave in markets that's a problem. But you can have experts and outsourced market issues so it's a question of mentality with the industrial representatives" (Interview CZ, GOV2, section 97-8). In general, it can be said that those companies with a parent company in Western countries were better prepared in the implementation process, knowing that the instrument would have to be taken seriously, unlike the companies that thought that the instrument would have no impact on them because of the already achieved Kyoto target (Interview CZ, GOV2, section 101).

One interviewee speculated on the reason for a powerful energy-intensive and energy-producing industry resulting in a high share of emissions compared to other Member States (Interview CZ, GOV2, section 73-4). For the industry, the problem was that they had to comply with a great deal of new environmental legislation in a short time, which was quite cost-intensive (Interview CZ, GOV2, section 20); due to the new membership status, their experience was limited. This might explain the opposition towards the EU ETS, although this was also the reaction of industry in other older Member States, as will be shown later.

The fact that the energy sector was not yet fully privatised and that the government owned a large part of the biggest electricity provider was judged differently by the interviewees. A representative of the government believes that the involvement of the state in the power sector was not the reason why the biggest burden was not put on the electricity sector (Interview CZ, GOV2, section 72), as had been done in other Member States. NGO representatives feel that it was indeed a reason, as generous allocations to mainly state-owned companies increased the state budget. However, it was also because the energy sector was a strong actor (Interview CZ, NGO, section 61).

The arguments of the industry and the MPO were based on the fact that the new Member States did not have the chance to participate in the negotiations on the EU ETS Directive and the formulations were obviously addressed at achieving the Kyoto target "and did not consider the specific situation of the new Member States" (Chmelik 2007: 293). Taking account of the fact that the Czech Republic had already achieved its target, they argued that the burden to the industry resulting from the restructuring of the economy could be compensated for by allocating the surplus to industry. The formulation in the EU ETS Directive that indicates the relation to the Kyoto target was misinterpreted as a way to allow more allocations than needed; this contradicts the state aid rule also mentioned in the Directive, as well as the sentence that not more certificates than needed should be allocated. According to an interviewee, this was a never-ending discussion (Interview CZ, GOV2, section 14-15, 30). Eventually, "climate change policy in the Czech Republic is profoundly influenced by the absence of problems in fulfilling the country's quantitative Kyoto target" (Chmelik 2007: 270). This was reflected in the process.

In short, it can be said that lobbying played a big role in the Czech Republic; however, the balance between corporate and environmentalist interests was not equal. While the industries were quite influential, the environmental NGOs seemed to be included only to meet obligations, but not much attention was paid to their requests even though they were acknowledged to be experts.

The Commission played a strong role in bringing the Czech NAP on track. The final NAP was acceptable but the path to achieving this was long and complicated.

According to an interviewee, for the Czech Republic the exchange with other Member States also presented an important contribution. The first Czech NAP was inspired by the first adapters of the implementation. The Irish NAP, one of the first that was approved by the Commission, simple in its structure and following the guidelines closely, became the major source of inspiration for the Czech experts. The inclusion of special rules for CHP and early action were inspired by the German NAP (Interview CZ, GOV2, section 11).

According to an interviewee, the administrative challenges were relatively small because tasks involved in setting up a new institution were delegated to already existing institutions. The electricity market operator was chosen to administer the registry partly because of its experience "with the big players in the power market, which are also the big players in the EU ETS" (Interview CZ, GOV2, section 63) and because the staff was experienced in running a similar database. On the other hand, the sensitivity of the data made it preferable to give the task to a state agency instead of a private

bank, an alternative that had also been discussed. According to the interviewee, the registry is working well in terms of running the system (Interview CZ, GOV2, section 66).

9.3.3.5 *Czech National Allocation Plan* 2008-2012

The Czech Emissions Trading Act was revised for the second period.¹⁴³ Some changes were made by the Czech Parliament that intended to protect the Czech industry, which led to a conflict with the MŽP, as will be shown below. During the preparation for the second period, the government changed and also personnel changes occurred within the Ministry, as the official who prepared the first NAP moved to an electricity company before NAP 2 was completed.

In the second implementation period, the MŽP and the MPO were again responsible for drafting the NAP. On 8 December 2006, NAP 2 was submitted to the Commission, which was again long after the deadline.

During the preparations for the second period, a first draft of NAP 2 intended to use a similar approach as in NAP 1. A two-step approach was planned as the allocation method. However, the cut in total emissions allowances demanded that Czech Republic amend the NAP and resubmit.

In the first draft, a 15-year guarantee for new installations was included, a practice inspired by the German NAP, which freed new installations from any commitments. Environmental NGOs pointed out that this 15-year guarantee had been rejected by the Commission in the German case (see CDE/ Hnutí Duha 2006), and eventually the Commission rejected it also for the Czech NAP in its Decision.

Moreover, the Commission criticised the allocation method for new entrants as lacking transparency and complained that existing installations had been over-allocated because of bonuses for early action and co-generation. The Commission suspected hidden state aids regarding some of these practices. According to the environmental NGOs, this was the proclaimed aim of the

¹⁴³ Act 695/2004 Coll. concerning the conditions for trading in greenhouse gas emission allowances and amending other acts, hereafter referred to as amended Emissions Trading Act.

government – namely, that extra revenues gained from over-allocation would be invested in green technologies. NGOs criticised this governmental reduction strategy (see CDE/ Hnutí Duha 2006).

After having provided further information requested by the Commission, the Czech NAP 2 was finally accepted in March 2007 under conditions. In its Decision,¹⁴⁴ the Commission criticised the cap as being too high, and noted that installations received too many allowances, the rules for new entrants were not specified, and the list of installations was incomplete.

In June 2007, the Czech Republic brought a case against the Commission on the grounds of the Commission's Decision of 26 March 2007, especially because of the cut in the cap.¹⁴⁵ It thus considered the new cap as provisional until the ruling by the ECJ. The case against the Commission was led by the MPO and supported by the government. The MŽP had been against the case, and even wrote a position paper addressed to the government in which they stated their position against the case (Interview CZ, GOV1, section 36-37). NGOs also publically protested against the MPO's decision, as they considered it as presenting a bad image of the Czech Republic. The ruling of the ECJ was expected around the time of the Czech EU presidency and when the Climate and Energy package would have to be adopted (Interview CZ, NGO, section 67).

The final NAP was completely different to the draft. In the draft NAP 2, it was planned to provide 101,900,000 allowances annually; this number was reduced to 86,835,264 allowances.

Regarding the allocation in NAP 2, the Czech Republic followed a one-step approach. Installations were no longer grouped into sectors, but rather according to their annual CO2 emissions, into small installations (less than 50,000 tonnes (t)) and large installations (more than 50,000 t). Small installations received 1.07 times and large installations, 1.013 times their

¹⁴⁴ Commission Decision of 26 March 2007 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the Czech Republic in accordance with Directive 2003/87/EC of the EP and of the Council.

 ¹⁴⁵ Action brought on 4 June 2007 – Czech Republic v Commission (Case T-194/07) (2007/C 199/74), In: Official Journal of the European Union, C 199/38, 25.08.2007.

baseline emissions. The baseline for the allocation was the verified emissions data from the years 2005 and 2006.

The final NAP 2 contained no special rules or exemptions. However, in case an installation had a year-on-year deviation of 20 %, they could receive additional allowances from a reserve established for this adjustment.

The new entrant reserve contained 1.29 Mt CO2 allowances per year that are allocated free of charge. Unused allowances will be auctioned off.

The use of external credits from the project-based mechanisms was limited to up to 10 % of the total number of allowances allocated to each company.

The Czech Republic applied for approval as a host country for JI projects, as they had already over-achieved the Kyoto target. It was planned to admit the use of 99,389 allowances a year for JI projects realised in the Czech Republic. It was expected that this sell-off would provide revenues. For this purpose, the Czech Republic had already implemented rules for JI projects (Interview CZ, GOV1, section 84-5). To avoid double counting, they used the possibility to opt-out installations in the case that they were the subjects of a JI project that had already been approved.

In the end, 394 installations participated representing "61.5 % of the Czech Republic's total greenhouse gas emissions in 2010" (see NAP 2).

9.3.3.6 Evaluation of the period 2008-2012

The final NAP 2 can be seen as an improvement to the first period and to the draft. Eventually, the cut in emissions allowances by the Commission made the Czech Republic change its methodology and simplify the plan a great deal. There were no special rules under the final NAP 2 (e.g., for clean technologies or early actions), which made it a very clear and transparent plan and at only nine pages, the shortest plan submitted to the Commission (Interview CZ, GOV1, section 34).

Internally, the driving force behind a more ambitious implementation was the MŽP; externally, it was the Commission (Interview CZ, GOV1, section 12-18, CZ, GOV2, section 46). As was the case for other Member States as well, in the second period the Commission played a more active and stricter role in the approval of the Czech NAP. In the Czech Republic, the influence

of the Commission is notable in the sentence "The basic allocation is based [...] on the total amount of CO2 emissions fixed by the European Commission for the Czech Republic" (see point 7 of NAP 2). The total number of allowances for allocation was cut by the Commission, as the proposed amount far exceeded the verified emissions of 2005. Because of the high number of participating installations, the government, the parliament, and the MPO were afraid of the impact on the economy after the Commission had cut the cap and lowered the number of allowances to be allocated (Interview CZ, GOV1, section 39). Previously, the main problem had been the high cap, which was (according to an interviewee) chosen because of the MPO (Interview CZ, GOV1, section 23, 25).

Over-allocation in the first period had made the instrument a farce, and together with free allocation enabled companies, especially in the energy sector, to make windfall profits. For instance, ČEZ, the biggest electricity generator, primarily state-owned, probably made windfall profits of about € 35 M (CDE/ Hnutí Duha 2006). Nevertheless, windfall profits were not addressed in the NAP 2. Auctioning was not considered as an allocation method. The ERO should regulate the price of energy, but as it was difficult to influence the energy market or energy producers, there was no instrument to avoid windfall profits (Interview CZ, GOV1, section 55). An improvement, however, was the attempt to avoid over-allocation. The advantage in the second period was that data was available from the first period; having 2005 as the reference year guaranteed more reliable data from the monitoring and reporting required under the first period (Interview CZ, GOV1, section 12-18). Using the years of the first period as the baseline for allocation in the second period was a good way to find out who had been over-allocated. Moreover, decision makers would see who really needed allowances and which companies had experienced an increase in production compared to 1999-2001 (Interview CZ, GOV2, section 53).

The reason why the Czech Republic did not use auctioning as a method of allocation was mainly a "political decision, because the main principle had to be that we would not increase the costs for our industry, so we decided not to include auctioning but that the rest of new entrant reserve will be sold in auction" (Interview CZ, GOV1, section 80). In addition to recovering windfall profits for use in the state budget, auctioning would have had the advantage that trading would have been enhanced. However, according to an interviewee, it is questionable whether this would have had an effect on the liquidity of the market, as the effect was more in the value of certificates (Interview CZ, GOV2, section 55).

The new method of allocation – a one-step approach and no exemptions – was seen as simplified. The reason for no special rules was that under the new allocation method, only 4 M allowances were left to be divided among operators. Because 1.2 M allowances were needed for new entrants, there was actually a surplus of only 2.8 M allowances remaining for participants. Thus, the designers of the NAP 2 decided not to use bonuses or other special rules for allocation but to instead leave the surplus for adjustments of increases in production for all operators (Interview CZ, GOV1, section 12-18).

The different treatment of small and large installations acknowledges that "303 small installations produced 4.6 % of a total of 82.45 Mt of emissions in 2005 and 4.4 % of a total of 83.7 Mt in 2006. The remaining 95 installations accounted for 95.4 % (or 95.6 %) of all emissions." The rule was justified by the high administrative costs for small emitters, their limited capital reserves available for modernisation, and varying annual emissions (see NAP 2). The reason behind favouring the small companies was their limited flexibility in adjusting their production (Interview CZ, GOV1, section 75).

The option of buying credits via the flexible mechanisms JI and CDM was included by the Czech Republic. In the beginning, companies were not interested in investing in CDM or JI projects but it was expected that the lower quantity of emissions under NAP 2 would make these projects more interesting (Interview CZ, GOV1, section 86).

In general, the Czech Parliament had a weak role and was considered as incompetent (Interview CZ, GOV1, section 78, CZ, NGO, section 24-9). However, in the second period, they tried to introduce rules to the Czech Emissions Trading Act to protect industry, which would have been against the state aid rule. An interviewee said that it was difficult "to negotiate with our [Czech, VA] parliament" because "the members of the parliament are not involved in the emissions trading, they don't know how it works and that we [MŽP, VA] couldn't make the improvement they wanted" (Interview CZ, GOV1, section 78). This is supported by the impression of an NGO representative: "[I]t's really better to discuss this in a rather closed group or on the expert level than on a rather general political non-expert level because it was so difficult to explain anything to the parliament: for example, what is an allowance and what is the Kyoto Protocol and what is CDM [...]" (Interview CZ, NGO, section 24-9). Apparently, capacity building had not taken place within the parliament but only among a closed circle of experts.

Consultation for NAP 2 was more formal, and again a working group with a few meetings had been established. According to an interviewee, industry and NGO representatives criticised the way consultation was carried out in these meetings. The reason was that the participants did not get the draft versions to be discussed in the meetings early enough to really study them and prepare comments. In other cases, another version of the draft existed that was discussed between the MPO and MŽP, the prime minister, and the parliament, which was not available to stakeholders. There was basically not much to discuss in the meetings and especially those who had travelled far to participate were annoyed (Interview CZ, NGO, section 46-51).

Interestingly, many of the aspects found in the Decision of the Commission had been mentioned in comments previously published by environmental NGOs. In a paper (see CDE/ Hnutí Duha 2006), environmental organisations proposed a total cap of 78 Mt for 2008-2012, i.e., a 6 % reduction in the 2005 emissions level, pointing out that the Czech industry was already overallocated in the first trading period (15 Mt, i.e., about 18 % in 2005). Although this exact number was not used by the Commission, the large decrease in allowances could be realised. Moreover, they proposed "to abolish both the CHP and central heating reserve" and to reduce the possibility of obtaining ERUs and CERs from CDM and JI projects to 3 %, arguing that the already generous allocation would make it unnecessary to buy credits from outside. They also referred to a Commission staff working

paper¹⁴⁶ according to which this amount would still ensure that reductions were made mainly with domestic measures. Moreover, they demanded qualitative criteria for projects abroad, using the Gold Standard¹⁴⁷ certification criteria as an example. Other points the environmental groups proposed for new entrants were to provide only those projects that were using BAT with the required number of allowances for free. Instead of auctioning the remaining allowances from the new entrant reserve, environmental NGOs suggested withdrawing them (see CDE/ Hnutí Duha 2006). Thus, although NGOs had little influence on the NAP preparation, their arguments were reflected in the Commission's Decision.

The industry was opposed to the use of 2005 and 2006 as base years, arguing that this would be punishing them for having reduced their emissions within this period (Interview CZ, GOV2, section 53). The influence of the industry and their unwillingness to take more ambitious action towards climate change measures could only be confronted with the help of the Commission. According to an interviewee, one of the main difficulties in preparing an ambitious plan was that the Czech Republic has a strong industrial lobby and that the lobby is strongly connected to politicians. This made it difficult for the MŽP staff to negotiate with industries and their associations about the allocations (Interview CZ, GOV1, section 12-18).

All in all, also during the preparation of NAP 2, lobbying was a determining factor and again it was the Commission that contributed to more effective implementation.

9.3.4 Applying implementation research

Using the variables suggested by implementation research, in the case of the Czech Republic it seems that the determining factors were a mixture of institutional constraints and politics. At the time of the formulation of the

¹⁴⁶ European Commission 2003: Commission staff working paper: extended impact assessment on the Directive of the EP and of the Council amending Directive establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project based mechanisms.

¹⁴⁷ Gold Standard sets qualitative criteria for CDM projects; for further information, see www.cdmgoldstandard.org

EU ETS Directive, the Czech Republic was not yet a member of the EU. Although national experts followed the process, they thought it would not be of relevance to them because they had already over-achieved their Kyoto target. Thus, the topic did not become a political issue at the time of its formulation. Moreover, the Directive fell into the gap between the negotiation of the acquis communitaire and accession. As a result, the Czech Republic never specifically negotiated over this Directive with the EU institutions. This was the case for all other new Member States as well. If classification is to be made for the Czech Republic, it could be classified as ambivalent. To check the argument that non-participation in policy-making and scepticism about climate change policy in general played a role, other new Member States would have to be analysed and compared. First, the Czech government clearly underestimated the impact of the EU ETS Directive, and second, it also misinterpreted the Directive's intention by relating it to the "path to Kyoto"; this is directly related to problems that occurred during implementation.

In the Czech Republic, the party political preference of the government was opposition to a strict climate policy, because it was assumed that it would hinder economic growth. The parties in power did not support the EU ETS Directive in its aim to cut emissions, nor did they submit an ambitious NAP1. Moreover, Vaclav Klaus, the president at that time, is a climate change sceptic. All in all, climate policy is not a major issue for most Czech parties and elections are not fought on the basis of environmental issues. During the negotiations for NAP 2, a "green" Environmental Minister took over responsibilities and was willing to work for more ambitious implementation, but the coalition partner was reluctant and thus he ultimately could not enforce it. The argumentation of the first phase regarding international competitiveness was also used in the second period to justify the high cap. Hence, the preference of the party in power was problematic and must be ranked as opposing for NAP 1 and ambivalent for NAP 2, as the positive attitude of the Environmental Minister was cancelled out by the negative attitude of the coalition partners.

The position of the Czech Republic at the time of adoption indicates an ineffective implementation because they a) were not included in the policy formulation and b) misinterpreted the Directive. The party political preference of the government indicates an ineffective implementation in the first phase and a moderate implementation in the second phase because at least the Environmental Minister was a supporter of the instrument.

The Czech Republic's experience with economic instruments for the pursuit of environmental policy objectives was limited, since they usually favoured command and control instruments. Moreover, the Czech Republic had never had a significant climate policy before, which made it easier to implement the EU ETS Directive on the one hand because it did not have to accommodate the EU ETS Directive in an already existing policy mix. On the other hand, addressing greenhouse gas emissions had never been an issue so far, and persuasion was more complicated and profound. This, the policy style was a misfit for Czech tradition, and the country also simply lacked experience with this instrument.

The adaptation pressure was high for the Czech Republic because of its weak administration and limited number of experts and staff. Moreover, it was a new Member State and therefore had little experience with the implementation of EU directives. The administrative task was delegated to already existing agencies that had previous experience with similar tasks, which helped the practical implementation.

The misfit of the policy style of the Czech Republic, its inexperience with economic instruments, the lack of a comprehensive climate policy in general and a high adaptation pressure indicate an ineffective implementation.

The Commission was definitely one of the decisive factors influencing the effectiveness of the implementation regarding meeting deadlines and ecological effectiveness.

The Commission held many bilateral talks with the Czech Republic and informed the government about the unsuccessful rules and the overly high cap that were not in accordance with the EU ETS Directive. The early and intensive involvement of the Commission is probably the reason why the Czech NAP 1 was accepted unconditionally, but it also led to a delay in the submission. Also in phase two, the Commission needed to intervene in and positively influence the implementation process. In the Czech Republic, environmental NGOs not only had to convince the government about effective implementation but also about the acceptance of an ambitious climate policy in general. However, the government was more on the side of business interests, arguing that climate policy would threaten their economic growth or existence. This explains the very industry-friendly output.

9.3.5 Summary

As has been shown, the Czech Republic had to deal with a whole range of problems.

On the political level, the instability of the government was probably one reason for the inefficient implementation process that was characterised by delays and indecisiveness. The strong industry stakeholders that found their arguments taken up by the MPO had a negative effect on the environmental integrity of the implementation. The results of the negotiations were often called by all three interviewees "political decisions", which indicates that there was no reasonable basis for decisions on the cap and the sector allocations.

During the negotiations on NAP 1, the decision makers had difficulties estimating the amount of emissions really needed by industries. The lack of data was a problem in the first phase, as emissions had not been monitored before. The EU ETS changed the requirements for reporting emissions, demanding that operators use better measurements and have them verified by independent verifiers. In the second phase, the basis for allocation was better, as verified emissions were available (Interview CZ, GOV1, section 65).

On the administrative level, the problem was apparently the lack of human resources: only two people worked on the implementation in 2004, and they were responsible for preparing legislation, issuing all permits, approving monitoring plans, etc. (Interview CZ, GOV1, section 72). Moreover, the country's experience with implementing EU law was still limited, with environmental policies in particular.

Administrative challenges were perceived by the interviewees as less of a problem than could have been expected. The establishment of the registry and regulator went relatively smoothly, and the institution worked well, according to an interviewee. The lack of any previous instrument addressing climate change was more of a problem than the newness of the instrument was. Taking into account the strong objections of industries and industry-friendly actors, it can be assumed that the introduction of a command and control instrument or taxes would have resulted in the same opposition. However, this cannot be ultimately proven.

All these factors contributed to an ineffective implementation. Given all the problems that the Czech Republic had and judging by the compliance with the deadlines and the legal and practical implementation, the implementation in the Czech Republic can indeed be grouped as ineffective.

9.4 The case of Germany

"They introduced an instrument to give a price on coal and then they find a rule how to eliminate the pricing. That is bizarre." (Interview DE, NGO, section 23, translated VA)

9.4.1 Introduction

Germany is the biggest Member State of the EU with respect to the number of inhabitants and economic strength. Germany was one of the founding members of the EU and has had many years of experience with formulating and implementing EU policies.

As a leader in environmental politics, Germany managed to successfully shape the EU's environmental policies for many years. In the 1980s, Germany uploaded a number of policies on industrial pollution because of its forests affected by acid rain (McCormick 2001: 209). Germany's approach towards environmental problems is rather emission- and technologyoriented and based on detailed state regulation and intervention (Héritier 1995: 283). Environmental policy was and is mostly driven by intrinsic reasons, since Germany suffered greatly from pollution.

Germany has accepted a reduction target of -21 % under the burden sharing in the first Kyoto period; although it was on track to meet this target at the time of the EU ETS policy-making, the country is now slightly behind in its goal. The main reductions took place in the 1990s due to reunification and the restructuring of East Germany's economy. This phenomenon is also known as wall-fall profits. Despite its high level of reductions and already comprehensive climate policy, the potential to reduce emissions is still high, especially in the energy sector.

During the policy formulation of the EU ETS Directive at the EU level, Germany was very active. At first, Germany opposed emissions trading as an instrument per se. The German government was divided, but the common position was later in favour of a voluntary scheme (Skjærseth/Wettestad 2008b: 108-12); in fact, it insisted on a voluntary scheme although this was not the position of most other Member States (Lafeld 2007: 196). In the continuation of the process, when the establishment of the EU ETS seemed unavoidable, Germany took a strong position for industry interests because of its affected industries and their strong lobbying groups. It is assumed that the chemical sector was excluded to get Germany's support for the establishment of the EU ETS (cf. Skjærseth/Wettestad 2008b: 125). Moreover, as a concession to Germany, an opt-out option for sectors, the recognition of early action, and the pooling of allowances were included in the text; however, in the end, Germany did not make use of the opt-out rule or pooling (Braun/Santarius 2007: 117, Lafeld 2007: 196-7). The pooling was included at the request of Germany, as they had planned to manage the emissions as a trustee and to continue with voluntary agreements for industry (cf. Ptak 2008: 42, Skjærseth/Wettestad 2008b: 108-12).

Thus, it can be said that Germany's role in the policy formulation was not proactive; it was even considered to be an unconstructive player at the formulation phase of the ETS Directive by some scholars (e.g. Braun/Santarius 2007, Lafeld 2007, Steuwer 2007).

The reason Germany is considered an interesting case is its initially strong opposition towards the instrument but its relatively good performance in implementation. Germany can be seen as an example of a Member State that already had a comprehensive climate policy and thus was already on track to meet its target under the burden-sharing agreement; therefore, it had to deal with the problem of embedding the EU ETS into its policy mix.

9.4.2 Country Profile

9.4.2.1 The political system and decision-making

Germany is a federal nation consisting of 16 Länder (states) with significant autonomy. Because of the legislative power of the German states through the Bundesrat (Council of the Federal States) at the national level, the system is also called cooperative and/or executive federalism. German federalism was recently reformed, resulting in a shift toward clear organisation of competences. Although the states have the main responsibility for environmental policy and are often responsible for implementing EU law, the federal government is still accountable to the Commission for compliance.

Germany is a parliamentary democracy, with the chancellor as the head of government. The parties in power during the EU ETS policy-making and implementation were the Social Democrats (SPD) and Green (Bündnis 90/Die Grünen) Party, led by Chancellor Gerhard Schröder (SPD). During the second phase, a coalition of the Christian Democrats (CDU) and Social Democrats (SPD) under Angela Merkel (CDU) was responsible for implementation. The Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU) is responsible for climate change issues, e.g., emissions trading, energy efficiency, and renewable energy. At the time of the policy-making of the EU ETS Directive and the designing of NAP 1, Jürgen Trittin, a Green Minister was leading the BMU. NAP 2 was in the hands of the Social Democrat Minister Sigmar Gabriel (SPD). Both ministers are (at least rhetorically) proponents of an ambitious climate policy. Other energy issues are managed by the Ministry of Economy and Technology (BMWi). The minister responsible for preparation of NAP1 in the BMWi was the Independent Werner Müller, followed by the Social Democrat Wolfgang Clement (SPD) who was replaced by Michael Glos (CSU) from the Conservatives after the elections.¹⁴⁸ Müller and Clement both moved to work in the energy sector when their terms in office were over. The overlapping jurisdictions of the two ministries in the field of energy create some trouble for decision-making, as will be shown below.

The Bundestag (the national parliament) and the Bundesrat (the council of the regional governments) make up the legislative branch. The Bundestag has thematic committees, mirroring the governmental departments, which prepare proposals for legislations. Important proposals are first debated in a plenary session and usually laws are discussed in three readings (Ismayr 2003: 460). The Bundesrat has veto power, which is especially relevant when the majority in the Bundesrat differs from the majority in the Parliament. When implementing a European directive, the responsible ministry is entrusted with the implementation. The ministry decides on the adequate form of legal norms and hence on the procedure. Other ministries can express their interest in participating if they consider the directive to fall under their jurisdiction. Because the German parliament has quite a strong position, it is usually involved in the implementation process.

Germany is considered to be a weak corporist (Jahn 2006: 112; based on Siaroff 1999) or pluralistic (Ismayr 2003: 469) state. Though the plurality of actors has widened in recent decades, especially in social politics, the prominent position of labour unions as well as labour associations has not been challenged. Environmental NGOs are usually recognised as relevant stakeholders in environmental policy-making. Industrial associations are quite strong in Germany. The electricity industry and coal sector are especially powerful in Germany, and threatening the use of coal or lignite as a fuel is "a highly sensitive political matter in this country" (Matthes/Schaffhausen 2007: 72). The reason for this is that coal and lignite are the only domestic resources in any quantity. Lignite is especially relevant for the East German federal states. Moreover, in this former stateowned sector, the linkage between industrial interests and political

¹⁴⁸ Michael Glos resigned before the end of the legislative period and was replaced by Karl-Theodor Freiherr von und zu Guttenberg (CSU), but the latter was not involved in the discussions on the NAP.

ambitions is most visible, considering that many politicians hold highly paid jobs in energy companies before or after their mandates.

9.4.2.2 The carbon intensity of the economy

Germany is an early industrialised country, one of the strongest economies worldwide, and the strongest economy in the EU. Germany has a large sector of heavy industries, which play a vital role in Germany's economy, making up 25 % of the GDP in 2007 and 2008.¹⁴⁹. The main industrial sectors are the automotive industry, machine and plant constructions, the electronics industry, and the chemical industry, taking turnover and the employment rate as indicators – all industries subject to the EU ETS or other climate measures.

The energy sector has been privatised and liberalised but is still dominated by four companies (RWE, Eon, Vattenfall, and EnBW) that mostly emerged from formerly state-owned companies. The Federal Network Agency, operating under the Ministry of Economics and Technology, enhances liberalisation and deregulation and controls the electricity and gas markets, among others.

German's primary energy supply is mainly based on fossil fuels, especially oil, coal, lignite, and gas, and nuclear power, with a share of renewable energy of about 6 % (in 2006). Germany has coal and lignite resources and some natural gas proven reserves.¹⁵⁰ Nevertheless, due to the high costs of domestic mining, it is dependent on imports for all of these resources. Coal mining was subsidised in order to be competitive. Recently, the federal government and regional governments agreed to cut subsidies by 2018.¹⁵¹

¹⁴⁹ Statistisches Bundesamt,

www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/DE/Content/Statistike n/VolkswirtschaftlicheGesamtrechnungen/Inlandsprodukt/Tabellen/Content75/BWS nachBereichen,templateId=renderPrint.psml [last accessed: 2010-09-23].

¹⁵⁰ See CIA Factbook, www.cia.gov/library/publications/the-world-factbook/geos/gm.html [last accessed: 2010-12-14].

¹⁵¹ Gesetz zur Finanzierung der Beendigung des subventionierten Steinkohlenbergbaus zum Jahr 2018, SteinkohleFinG, 20. Dezember 2007 (BGBl. I S. 3086).

The electricity generation that has increased by 50 % over the last 30 years has a share of renewable energy and cogeneration of about 12.5 % and is thus also mainly based on fossil fuels. Gas and renewable energy covered the increased consumption in the last years, while the generation of coal/lignite and nuclear energy has remained relatively constant over recent years.¹⁵² Most coal-fired and nuclear power plants are already over 20 years old and therefore are not in compliance with state-of-the-art technology. In 2000, Germany decided to phase out nuclear energy under the Social Democrat/Green government and in 2002, an agreement that had been negotiated with the energy sector was formalised by amending the Atomic Energy Act.¹⁵³ Under this Act, all nuclear power plants would be phased out by 2023.¹⁵⁴

9.4.2.3 German climate policy

An integrated climate policy¹⁵⁵ started in Germany only at the end of the 1990s with the change in the government to the Social Democrat/Green coalition in 1998. One of the most prominent – although not then popular among the public and opposition – and comprehensive measures was the environmental fiscal reform that began in 1999.¹⁵⁶ Basically, the former tax on petroleum was replaced; depending on the type of fuel, a tax was imposed that increased over the years. In addition, an electricity tax was introduced. The aim of this reform was to increase the costs of energy and at the same time reduce the costs of social insurance for employers. The former offered incentives for energy saving and efficiency; the latter should

¹⁵² See International Energy Agency, www.iea.org/statist/index.htm [last accessed: 2008-05-01].

¹⁵³ Gesetz zur geordneten Beendigung der Kernenergienutzung zur gewerblichen Erzeugung von Elektrizität, 22.04.2002 (BGBl I 2002, 1351).

¹⁵⁴ At the end of 2010, the coalition of Conservatives and the Liberal party decided to extend the lifetime of nuclear power plants, as they regard them as an important alternative to CO₂-intensive coal.

¹⁵⁵ I will concentrate on measures addressed to the industry sector with a focus on the last 10 years. For more information about other measures, see: www.bmu.de/klima_energie/doc/41060.php [last accessed: 2009-05-07].

¹⁵⁶ Gesetz zum Einstieg in die ökologische Steuerreform (Stromsteuergesetz - StromStG), 24.03.1999 (BGBl. I S. 378).

shore up the social insurance network and thus improve the labour market (BMU 2005: 18). The so-called ecological tax was introduced as an absolute tax – hence, rising oil prices do not lead to increased tax income – and rose steadily until 2003. The ecological tax affects industry as well as consumers and therefore all sectors, including households, industry, commerce, and transportation, although energy-intensive industries pay reduced tax.

A national climate protection programme was first launched in 2000. It forms the framework for the German climate policy and includes measures in the fields of energy efficiency, cogeneration, and energy labelling, among others. In this programme, the government affirms the previously proclaimed domestic emissions reduction target of -25 % by 2005 compared to 1990 levels. It also includes the laws on ecological taxes mentioned above, the Renewable Energy Source Act, and voluntary agreements.

With the adaptation of the Renewable Energy Sources Act (EEG),¹⁵⁷ Germany has adopted one of the most successful laws for promoting renewable energies by feed-in tariffs. The EEG was adopted in 2000 and amended in 2004, replacing the feed-in tariffs that had been in place since 1991. Under the EEG, feed-in tariffs were improved by guaranteeing higher prices for a longer period of time (BMU 2005: 16). Looking at the share of renewable energy sources then and now shows that this law promoted the use of new renewable energies such as wind and solar power in Germany.

The sectors of energy-intensive industries and energy producers had been covered by a voluntary agreement¹⁵⁸ before the EU ETS was introduced.¹⁵⁹ The voluntary agreement to reduce GHG emissions was agreed on by the government and German industries in November 2000. The national

¹⁵⁸ Vereinbarung zwischen der Regierung der Bundesrepublik Deutschland und der deutschen Wirtschaft zur Klimavorsorge, see www.bmu.de/klimaschutz/nationale_klimapolitik/doc/2931.php [last accessed: 2009-05-07].

¹⁵⁷ Gesetz für den Vorrang Erneuerbarer Energien (Erneuerbare-Energien-Gesetz - EEG). 29.03.2000 (BGBl. I S. 305).

¹⁵⁹ There have been other previous declarations of sectors taking responsibility for emissions reductions, see www.bmu.de/wirtschaft_und_umwelt/selbstverpflichtungen/doc/36514.php [last accessed: 2009-05-07]

government agreed not to impose any command and control instrument on emissions reduction, unless the industry did not comply with their goals under the voluntary agreement. Obligations resulting from the implementation of EU law were exempted. The CHP agreement in June 2001¹⁶⁰ complemented the previous agreement with the aim of promoting cogeneration (BMU 2005: 18). The voluntary agreements between the government and industry became redundant with the introduction of the EU ETS. However, these agreements continued to exist because of their wider scope (encompassing all six GHG mentioned in the Kyoto Protocol) and because they was connected to exemptions under the ecological tax. The agreement and exemptions will end in 2012 (BMU 2005: 38).

In recent years, climate protection has risen to the top of agendas and new programmes, packages, and initiatives are continuously adopted. The second Climate Protection Programme, adopted in 2005, includes an evaluation and revision of existing measures. Of interest for the industrial sector are the inclusion of the EU ETS, the project-based mechanisms, and the plan to promote research into energy technologies like CCS. Measures named in NAP 2 complement the climate protection programme (see NAP 2).

After the elections in 2005, which led to a grand coalition between Social Democrats and Christian Democrats, the government still maintained the aims of the previous climate change policy. Having held the presidency of the EU and the G8 in 2007, the Christian Democrat Chancellor Merkel was a proponent for a strict climate policy and binding targets for renewable energy by 2020.

¹⁶⁰ Vereinbarung zwischen der Regierung der Bundesrepublik Deutschland und der deutschen Wirtschaft zur Minderung der CO₂-Emissionen und der Förderung der Kraft-Wärme-Kopplung in Ergänzung zur Klimavereinbarung vom 9.11.2000, www.bmu.de/files/pdfs/allgemein/application/pdf/klimavereinbarung.pdf [last accessed: 2010-12-14].

The integrated climate and energy programme of 2007¹⁶¹ further promotes renewable energies, energy efficiency, and energy-saving measures. The package – referring to the European Energy and Climate Change Package – includes 14 pieces of legislation and seven measures that together aim at achieving a reduction target of almost 40 % by 2020 compared to 1990 levels. New aspects were the promotion of CCS technology and the reduction of fluorinating gases.¹⁶² As part of the package, the national climate protection initiative adopted in 2008¹⁶³ was launched with the aim of using the revenues of the auctioning under ETS to promote more renewable energy, energy efficiency, and energy-saving measures.

Because of its already comprehensive climate policy, the interaction of the EU ETS and already existing instruments in Germany was of special interest. A subgroup of the AGE concluded that the EU ETS interacts with the Renewable Energy Act, the phase-out of nuclear energy, and the voluntary agreements, but that they could co-exist. Lehmann (2008) analysed the interaction of the Eco-Tax, the Renewable Energy Act, and the Energy Saving Ordinance with the EU ETS. He concludes that the Renewable Energy Act and the Energy Saving Ordinance are compatible with the ETS. Regarding the Eco-tax, it would be unnecessary to have both the Eco-tax and EU ETS. However due to the design of the Eco-tax that does not address emissions, the EU ETS complements the Eco-tax, as the tax alone does not encourage a fuel switch (cf. Lehmann 2008: 42). The AGE on the other hand, argued that both instruments would only be compatible either if non-participants were burdened more than EU ETS participants or if the EU ETS participants were exempted from the tax. In addition, the AGE also concluded that the voluntary agreement and the EU ETS could coexist because the targets and the gases included differed (AGE 2002b).

¹⁶¹ Bericht zur Umsetzung der in der Kabinettsklausur am 23./24.08.2007 in Meseberg beschlossenen Eckpunkte für ein Integriertes Energie- und Klimaprogramm; Eckpunkte für ein integriertes Energie- und Klimaprogramm,

www.bmu.de/klimaschutz/downloads/doc/39875.php [last accessed: 2011-04-10].

¹⁶² See www.bmu.de/klimaschutz/nationale_klimapolitik/doc/5698.php [last accessed: 2011-04-10].

¹⁶³ See www.bmu-klimaschutzinitiative.de [last accessed: 2011-04-10].

9.4.3 The implementation of the Emissions Trading Directive

9.4.3.1 Background

In Germany, most tasks related to the implementation were at the national level: the legal framework and the NAP, administrative tasks such as the allocation of allowances, the management of the new entrant reserve, the maintenance of the registry, and the enforcement. The respective authorities at the regional level were responsible for issuing the permits to each installation. The shared responsibilities of national and regional levels were monitoring, reporting, developing the registry, providing information to industry, and some administrative tasks. For the verification of emissions data, private actors (independent verifiers and accredited organisations) were in charge (see IMPEL 2004: 49).

For implementation, the lead ministry was the BMU but decisions had to be taken in cooperation with the BMWi.¹⁶⁴ Concerning non-participating sectors (transportation, households, etc.) the respective ministries were included in the negotiations. Most discussions took place in an interministerial group; others were conducted bilaterally.

In October 2000, after the publication of the EU ETS Green Paper on the EU ETS by the Commission, the German government established the working group Arbeitsgemeinschaft Emissionshandel zur Bekämpfung des Treibhauseffektes (AGE – Working group on emissions trading to combat the greenhouse effect) under the management of the BMU.¹⁶⁵ The working group consisted of representatives from national and some federal state ministries, agencies, companies, trade associations, environmental NGOs, and political parties, among others. The AGE can be seen as the "permanent hearing, in which the current developments on a European and national level were continually disseminated, analysed, discussed and evaluated and numerous suggestions and recommendations were gathered together"

¹⁶⁴ At the time of NAP 2, the Ministry for the Economy also included labour issues and was therefore called Bundesministerium für Wirtschaft und Arbeit (BMWA). For reasons of simplicity, only the abbreviation BMWi will be used.

¹⁶⁵ The AGE was established using the UK Emissions Trading Group as a role model (Lafeld 2007: 120, 145).

(Matthes/Schaffhausen 2007: 73). The aim of creating a working group together with stakeholders was to get industry on board from the very beginning and to avoid opposition (Lafeld 2007: 145). The working group started to work in 2002 and formed four sub-groups to deal with different issues such as the interaction with other instruments (see above), the allocation method, legal issues, and the project-based mechanisms.¹⁶⁶ The working group was financed by the BMU and to a large extent by the private sector.¹⁶⁷ The funding explains the dominance of the industrial sector and might also be the reason for scepticism among other non-state actors about the group's importance. The importance of the AGE is judged differently by different actors. While it was an important body for industry representatives, the NGOs are more critical, as will be shown below.

In addition to the formal platform for consultation, industry associations, single companies, and environmental NGOs were very active in lobbying. The whole process was intensively accompanied by research institutes and advisory groups.

9.4.3.2 Transposition of the EU ETS Directive

The European Commission started an infringement procedure against Germany for not having submitted notification of the transposition by the end of December 2003. Original intentions were to have the EU ETS Directive transposed in parallel with the revision of the Clean Air Act and the corresponding regulations (BImSchG¹⁶⁸ and BImSchV¹⁶⁹). Thus, the federal states would have been involved in the decision-making. As a consequence of the delay, it was decided in the second and third readings to

¹⁶⁶ The first group focused on the linkage or interaction of emissions trading with other already existing instruments and cross-cutting issues; the second, on the allocation method; the third, on juridical issues and sanctions; and the fourth on the inclusion of project-based mechanisms (CDM/JI). Since 2004, sub-groups 1 and 2 have been merged into one group called cross-cutting issues, sub-group 3 is now called legal questions and sub-group 4 continues to deal with the two project-based mechanisms.

¹⁶⁷ For a detailed analysis of the AGE, see Corbach (2007) and Lafeld (2007).

¹⁶⁸ Gesetz zum Schutz vor schädlichen Umwelteinwirkungen durch Luftverunreinigungen, Geräusche, Erschütterungen und ähnliche Vorgänge (Bundes-Immissionsschutzgesetz - BImSchG). 26.09.2002 (BGBl. I S. 3830).

¹⁶⁹ There are several regulations to implement the law, which will not be listed here.

exercise enforcement at the national level (Schafhausen 2005: 81). The EU ETS Directive was incorporated into national law by the Emissions Trading Act (TEHG),¹⁷⁰ which sets forth the legal basis for implementation. The TEHG includes the distribution of competences for the design of the NAP, the procedure, and the criteria for setting the cap and allocations. Some details such as closures, early actions, and banking were also included in the TEHG (AGE 2003).

The registry and administrative institution of the ETS is the newly created DEHSt (Germany Emissions Trading Authority), which is part of the German Environmental Agency (UBA). About 100 employees are employed there (Matthes/Schaffhausen 2007: 75), responsible for all kinds of tasks related to the EU ETS. Its task is mainly to issue permits, to host the accounts, to distribute allowances, and to check the annual reports that operators are obliged to submit. Moreover, CDM and JI projects need to be approved by this authority. Apart from these administrating tasks, the DEHSt also has political tasks such as preparing and submitting national reports to the EU and the UNFCCC. It also took part in the design of the NAP and the further development of the two project-based mechanisms, CDM and JI. The mandate for this authority is inscribed in the TEHG, the Allocation Act (ZuG 2007),¹⁷¹ and the Project Mechanisms Act (ProMechG).¹⁷² The DEHSt is also the contact agency for ministries, federal states, and regional agencies, and also has a coordinating function.

9.4.3.3 German National Allocation Plan 2005-2007

The negotiations on the NAP can be divided in two parts: the debate on the political issues, and the debate on the technical issues, although most

¹⁷⁰ Gesetz über den Handel mit Berechtigungen zur Emission von Treibhausgasen (Treibhausgas-Emissionshandelsgesetz - TEHG), 08.07.2004 (BGBl. I S. 1578), hereafter referred to as TEHG.

¹⁷¹ Gesetz über den nationalen Zuteilungsplan für Treibhausgas-Emissionsberechtigungen in der Zuteilungsperiode 2005 bis 2007 (Zuteilungsgesetz 2007 - ZuG 2007), 26.08.2004 (BGBl. I S. 2211), hereafter referred to as ZuG 2007.

¹⁷² Gesetz über projektbezogene Mechanismen nach dem Protokoll von Kyoto zum Rahmenübereinkommen der Vereinten Nationen über Klimaänderungen vom 11. Dezember 1997 (Projekt-Mechanismen-Gesetz - ProMechG), 22.09.2005 (BGBl. I S. 2826).

questions are interlinked. The basic questions on the design were negotiated at the political or governmental level, and the technical details that were later included in the allocation regulation (ZuV 2007)¹⁷³ were discussed at the level of civil servants in the ministries.

Between October 2003 and January 2004, a high-level negotiating group of state secretaries of BMU and BMWA and industry representatives met to discuss the cap and allocation rules but failed to reach a result because of their differing positions (Matthes/Schaffhausen 2007: 74). The first draft of the NAP was prepared by the BMU with the help of three research institutes (DIW, Oeko-Institut, ISI) at the end of 2003. The preparation of the NAP was accompanied by the AGE and a sub-group of the Bund-Länder-Arbeitskreis,¹⁷⁴ two bodies that were institutionalised to work on the design of the NAP (BMU 2004), representing the link between the government and the stakeholders and the federal states, respectively. The parties in power had some influence on the proposal, setting the framework. Some critical aspects were left open for debate in the cabinet (Interview DE, POL-3, section 36-38). The decisive meeting took place over an entire night between the Chancellor and the two Ministers of the BMU and BMWi (Interview DE, POL-3, section 36-38). Influential German industry representatives and associations were included as well. The final joint agreement was very difficult and ended in a "political compromise" (Interview DE, POL-3, section 36-38, translated VA) or a "Minister's compromise" at the end of March 2004, so that it could be adopted by the Cabinet and sent to the Commission on time (Matthes/Schaffhausen 2007: 74-5). Regarding the NAP, Germany was one of the few Member States that submitted it on time, although with deficits. In Germany, the NAP had to be implemented on a legal basis, the ZuG 2007, adopted by the parliament in July 2004 (Matthes/Schaffhausen 2007: 75) after the Commission's approval of the NAP 1. The parties in power voted on the draft before it was voted on in the

¹⁷³ Verordnung über die Zuteilung von Treibhausgas-Emissionsberechtigungen in der Zuteilungsperiode 2005 bis 2007 (Zuteilungsverordnung 2007 - ZuV 2007), 31.08.2004 (BGBl. I S. 2255), hereafter referred to as ZuV 2007.

¹⁷⁴ Sub-group "emissions trading" of the working group of the federal government and the Länder on energy and the environment.

plenary session in the Parliament (Interview DE, POL-3, section 36-38). Basically, NAP 1 was primarily negotiated between the ministers and the two coalition parties in the chancellor's office; the role of the parliament was restricted to minor changes (Interview DE, POL-3, section 78, DE, POL-4, sections 62, DE, NGO, section 23).

A few conditions demanded by the Commission had to be specified later. The list of participating installations was missing and was required for submission by January 2005. Moreover, Germany wanted to include a so-called ex-post adjustment rule that would allow a later adjustment of allocations to new entrants. However, this rule was rejected by the Commission in its Decision.¹⁷⁵ Germany appealed to the Court to rule on the Commission's Decision and lost the case.

Technical and administrative details were covered by the ZuV 2007, a regulation in which the definitions of relevant terms and technical specifications were defined, the competent authority was determined, and the requirements for participants and authorised experts (among others) were specified.

In the following sections, the details of the NAPs/ZuG are presented, as they are the key factors in the implementation.

The NAP contains a macro and a micro plan: the former sets the overall cap, the latter, the allocation of the certificates to each installation. The overall cap in the first period was 499 Mt/CO2 annually for the EU ETS participating sectors. Initially, a cap of 503 Mt/CO2 was planned. To determine the allowances distributed to each installation, data from the national inventory and data collected by the companies had to be balanced (Matthes/Schaffhausen 2007: 77).

The variables used for the allocations on the installation level were historical emissions based on the average emissions from the years 2000-2002 multiplied by a compliance factor, which differed for the energy sector

¹⁷⁵ Commission Decision of 7 July 2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Germany in accordance with Directive 2003/87/EC of the European Parliament and of the Council. C(2004) 2515/2 final.

and the industrial sector. Special rules existed for early actions, process related emissions,¹⁷⁶ CHP, phase-out of nuclear power stations, etc. (§§ 12-15). The compliance factor for the EU ETS participating sector was 0.971, meaning that the emissions had to be reduced by almost 3 % within the first period. The compliance factor for each installation was calculated taking into account all special rules. The burden to reduce emissions was put on the energy sector, while energy-intensive industries did not have to reduce their emissions resulting from processes.

New entrants were allocated certificates for free on the basis of a best available technique benchmark. If the reserve had been exploited, the BMU would have to buy additional allowances. For new installations, the compliance factor was not applied for the first 14 years, which was supposed to create investment security. Installations that were replaced by a more modern facility were guaranteed the same number of allowances that would have been needed for the old installation for four years (transfer rule). As the 14-year rule could be applied to these replacement installations as well, these installations enjoyed 14+4 years of basically no reduction obligations. In case of differing capacities of the old and new installations, the number of allowances would have to be adjusted.

Germany did not plan to use credits from the project-based mechanisms to fulfil its obligation under the Kyoto Protocol. In the end, the scheme covered 1,849 installations representing a share of 60 % of total emissions (Lafeld 2007: 132).

9.4.3.4 Evaluation of phase 2005-2007

Although Germany was one of the few Member States that met the deadline for submitting its NAP, the design was not impressive in terms of good practice, as the output was rather complex and industry-friendly. Due to a number of special rules, there were 58 different combinations for allocation provisions possible (Matthes/Schaffhausen 2007: 102). As the number of certificates was distributed according to historical emissions and varied

¹⁷⁶ Process-related emissions cannot be changed by process changes or input changes, but process changes could lead to less energy consumption and thus to less CO₂.
depending on the energy sources, companies with higher emissions in the past received more certificates. This was criticised especially by environmentalists, as the system thus privileged conventional energy-producing industries and fossil energy sources, especially coal and lignite (WI 2006). Historical emissions were preferred over benchmarks, because the industry demanded benchmarks for every single process and fuel, which would have led to 26 different benchmarks in the electricity sector alone (Matthes/Schaffhausen 2007: 83). However, a problem of grandfathering was the lack of data or the data availability, and the data (Matthes/Schaffhausen 2007: 75-7) with which decision makers made allocation decisions was based on historical emissions. The government had to estimate the quantities and depended on the voluntary provision of data by the industry for the base years 2000-2002 (Interview DE, ADVISOR, section 12), because the data gathering from the operators was not based on a legal framework (BMU 2004).

The transfer rule was a huge subsidy for coal-fired power plants, because it freed installations from any obligation for 18 years. As a consequence, in the first period the construction of 32 power plants was planned, using primarily coal and only some gas. This was seen as a contradiction to reduction targets for 2050 (WI 2006). Thus, many people wondered why "ein klimafreundliches Instrument (bzw. so gedachtes) die Nachfrage nach Klima belastenden Kohlekraftwerken ankurbelt"177 (Luhmann 2006). This obviously not only contradicted the intention of the rule but was even counterproductive to future climate policy. The problem was that certificates could only be kept when the same fuel was used afterwards. According to an interviewee, this rule was simply a misunderstanding, as originally a 10+4 rule was included to encourage the replacement of old installations with new ones (Interview DE, POL-3, section 15), but in the negotiations between the ministries the numbers were confused (Interview DE, NGO, section 23). However, it was never the intention that so many coal-fired power plants should be built. The special rules enhanced the

¹⁷⁷ "Why did a climate friendly instrument (or intended respectively) lead to an increased production of CO₂-intensive coal-fired power plants" [freely translated, VA]

complexity of the system because they had "significant consequences for the compliance factor and considerably eroded the uniformity and transparency of the allocation model" (Matthes/Schaffhausen 2007: 85).

Another point of criticism among the public was the windfall profits made by the energy industry that had priced in the opportunity costs of the certificates they had received for free, although economically this was correct. Economists call this internalising the external costs and consider it correct to price in opportunity costs, "but I personally never found it right that they let the consumer pay for certificates they actually received for free, arguing that they could also sell them but we cannot because we need them for CO2 emissions we have" (Interview DE, POL-2, sections 7, 8, 11, translated VA). Windfall profits and the increase in electricity prices had been discussed in the AGE (AGE 2004) but without any consequence for the design, as auctioning was not an option at the time of the preparation of the first NAP. According to an interviewee, during the negotiations on NAP1 hardly anyone was aware of the impact of grandfathering and windfall profits. In Germany, there had been no political debate about windfall profits at that time, although some people later said they knew about the subject but did not mention it in order to avoid having it politically exploited (Interview DE, POL-3, section 84-89). The importance of auctioning was not evident for most other actors. NGOs thought that if the cap was tight, grandfathering would be alright (Interview DE, NGO, section 21). When the verified data was published by the Commission in March 2006, it became evident that Germany's industry had been over-allocated and as a consequence, the prices for certificates on the market fell.

Initially, it was planned to have NAP1 adopted as a regulation, which would have excluded the parliament. Only at the end of 2003 did the Environmental Minister accept the demand to include the parliament.¹⁷⁸ However, as the parliament was only included after the government had submitted the NAP to the Commission, at the end of March 2004, their

¹⁷⁸ AGE 2003: Protokoll 30. Sitzung der AGE, Berlin, p. 5, quoted in Corbach 2007: 146.

influence was limited; a substantial change would have threatened the start of the EU ETS for German installations (Corbach 2007: 146-7).

Stakeholders were not only involved in the AGE (as mentioned previously) but also used the formal consultation by submitting their position papers or lobbying individually. The process was very intensive and a broad variety of stakeholders was included in the formal process in a non-discriminatory way, although there was naturally a dominance of business interests compared to environmental groups. Moreover, informal processes and individual lobbying led to a remarkable influence by individual electricity companies and the industrial sectors in general. The strong corporist policy style, the diversity of interests, and the many "starting points to influence the body of rules and regulation" (Matthes/Schaffhausen 2007: 102) led to a lack of ambition in the first phase. Corbach (2007: 145-6) considers the energy sector, energy-intensive industries, labour unions, several politicians on national and regional level, the Minister for the Economy, and Chancellor Schröder to be an issue-network against a more ambitious implementation. Ecological interests had little chance against this powerful network. Hence, it is not a surprise that the first NAP was ecologically ineffective.

Most interviewees agree that the dominance of industry interests due to strong lobbying and a strong BMWi that mirrored these interests in the political negotiations was a serious problem in phase one (Interview DE, ADVISOR, section 8, 12, DE, NGO, section 23, DE, POL-3, section 32-34, DE, POL-1, section 44, DE, POL-4, section 13, DE, POL-3, section 30, BXL, ADVISOR, section 12). Corporist structures in Germany –big industry negotiating with politicians – was still working in the first phase (Interview DE, POL-1, section 44, DE, POL-3, section 60-67). The degree of lobbying is especially evident in the high number of special rules that were included in NAP 1. Everyone seemed to have gotten the things they wanted (Interview DE, POL-3, section 60-67). Most special rules could be traced back to particular interests – such as the option rule (§ 7, 12¹⁷⁹) that was included for

¹⁷⁹ Under this paragraph, installations may opt for being allocated according to the rule for new installations.

the case of one public energy provider (Stadtwerk) and that finally blew the whole system – so that, all in all, one could detect an industry behind every special rule that was included. The special rules were not a problem of the EU ETS Directive; rather, they were made to serve or even protect particular interests (Interview DE, POL-4, section 13, DE, NGO, section 23).

Nationally, NGOs cooperated with other green NGOs, dividing the tasks among them. One NGO commissioned many studies to understand the actual impacts of the instrument; others worked more on the basis of mediating the advantages of the instrument to the public: namely, that it is the only instrument that actually addresses coal. Ecologists in particular but also the wider public had to be convinced in the beginning (Interview DE, NGO, section 5).

The role of the AGE that was established in Germany in 2000 to follow the policy-making of the EU ETS is viewed differently, depending on the actor. The AGE was used by stakeholders and other actors to get information on the newest developments of the EU ETS, to get to know the other actors and their positions, and to debate certain aspects of the scheme (Interview DE, NGO, section 3, DE, POL-5, section 3, 6, 7). In the beginning, it was a small core group of about 30 people; everybody knew each other and knew the positions of the others. It was important for the stakeholders to exchange ideas and understand the instrument. Later, it grew into a group of 200 people, of whom 100 attended frequently (Interview DE, NGO, section 3, 15-17). The ministries used the AGE also as a kind of consultation platform to hear the positions of the different actors (Interview DE, POL-5, section 24, DE, NGO, section 78). External advisors regard the AGE as less important, having some influence but pointing out that this was not the decisive group (Interview EU, ADVISOR, section 8, DE, ADVISOR, section 22). It is criticised especially for being a closed circle (Interview DE, NGO, section 64) and that the group was dominated (up to 95 %) by representatives from business associations and companies. Moreover, business associations and companies paid for their membership; they basically financed the secretariat, which was seen as critical because they also decided who was invited to the AGE. Despite their minority, NGOs played a strong role in the AGE and they were well-respected (Interview DE, POL-5, section 3, 6, 7) for their expertise.

According to Matthes and Schaffhausen (2007: 97), the formal coordination within the EU did not really influence decisions about structure or rules of the German NAP 1. Although the discussions in other Member States and decisions by the Commission on other NAPs – especially the Dutch and British NAPs – were followed carefully, no rules used in other NAPs were copied. Internal motivations such as embedding the EU ETS into a mix of already existing measures (the nuclear energy act and regulations promoting renewable energies), or domestic situations such as the oligopolistic structure of the electricity market were more relevant (Matthes/Schaffhausen 2007: 99).

Despite the technical and political issues, the administration of the system was relevant for the practical implementation. Therefore, the question of where Member States decided to locate the regulator and the registry is of importance. Germany created a completely new agency that is administratively integrated within the Environmental Agency. This has advantages and disadvantages. On the one hand, all tasks are bundled into one agency, which might lead to greater effectiveness. Moreover, the new institution might be less burdened with already existing patterns of administration, allowing more room for modernisation. On the other hand, the costs of this administration are probably higher than using already existing structures and resources. Only the regulation authority for the telecommunications market established due to liberalisation has a similar size to the DEHSt: about 50-100 people. Thus, the institutional challenge of the EU ETS Directive was huge in Germany (Interview EU, ADVISOR, section 34).

During implementation, there were discussions over where to situate the administrative tasks demanded by the EU ETS Directive. The Green Party would have preferred a new, independent, non-bureaucratic agency; the SPD wanted the agency to be attached to the UBA. The reason the Green Party preferred an independent agency was that they feared that if it were attached to the UBA, the same people would work for the emissions trading system who had previously dealt with air protection laws and that already

had the UBA mentality. They wanted to have new people in the agency with new, independent ideas (Interview DE, POL-3, section 115-122). NGOs would also have preferred to have an independent agency and not have it attached to the UBA (Interview DE, NGO, section 37). Others found it reasonable to have it linked to the UBA and hence the BMU, as they act as state agencies (Interview DE, POL-5, section 68) and because it is part of the environmental policy (Interview DE, POL-1, section 39).

Seeing how it works now, most interviewees think it is difficult to judge but that the agency works well (Interview DE, POL-3, section 122, Interview DE, POL-5, section 68) and is very transparent compared to other agencies because most relevant documents such as data, reports, background papers, and legal texts are published on its website. Moreover, they have good expertise (Interview DE, POL-1, section 39). Criticism is generally related to the software, registering CDM and JI projects (Interview DE, POL-5, section 68), and that the agency is seen by some to be too bureaucratic and partly driven by particular interests (Interview DE, NGO, section 37).

9.4.3.5 German National Allocation Plan 2008-2012

In the second phase as well, the BMU was the leading ministry, cooperating mainly with the BMWi. The Ministers had changed in the meantime because of elections that had taken place in 2005. In this period, the BMU was led by a Social Democrat and the BMWi by a Christian Democrat. Also in the second period, there was conflict between the two ministries. However, in this phase, the BMU struck a balance between ambition and protection because of a strong lobby for the coal industry within the Minister's party. The DEHSt also participated in the preparation of the NAP 2.

The draft NAP 2 was published on 13 April 2006 and was open for public consultation for six weeks. Seventy position papers were submitted by industry associations, companies, environmental groups, and research institutes during this time. These are analysed below.

Lessons learned from the first phase were supposed to influence decisions for the NAP 2. The main problems had been over-allocation, windfall profits, lack of transparency because of too many special rules, few incentives for innovation, and over-bureaucratisation. The main discussions during the preparation for NAP 2were the cap, the allocation method, and the fuelspecific benchmarks. To create a more transparent and less bureaucratic system, most exemptions were deleted (BMU 2006: 6). However, looking at the draft version of NAP 2, only a few changes were made that really demonstrate greater ambition.

Germany was again the only one of the four sampled countries that submitted its NAP on time, by 30 June 2006. This NAP version was only preliminary, as it had not yet been approved by the legislating bodies. Germany sent additional information to the Commission in September 2006. In its Decision¹⁸⁰ of 19 November 2006, the Commission demanded a decrease in the cap, a change in the allocation method for some industries, and a complete list of installations.

In its first draft, Germany had proposed to allocate 482 Mt to the EU ETS participating sectors, which was changed by the BMU to 462 Mt after the data verification in the autumn and probably because of the expected intervention of the Commission. The Commission demanded a cap of 453.1 Mt CO2 in its Decision of 29 November 2006, arguing that the participating industry had emitted 474 Mt in 2005 and that otherwise Germany's compliance with its commitment under the burden-sharing agreement was threatened. Germany had based its calculations on the period from 2000 to 2005.

The final version of NAP 2 was published in April 2007; it was again the subject of a number of position papers. The ZuG 2012,¹⁸¹ the amended ZuG 2007, was adopted after the acceptance of NAP 2 by the parliament in June 2007. It came into force in August 2007 after the Bundesrat confirmed it. Although the Bundesrat had no veto to block the law, opposition could

¹⁸⁰ Commission Decision of 29 November 2006 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Germany in accordance with Directive 2003/87/EC of the EP and of the Council, hereafter referred to as Decision of 29 November 2006.

¹⁸¹ Gesetz zur Änderung der Rechtsgrundlagen zum Emissionshandel im Hinblick auf die Zuteilungsperiode 2008-2012, (Zuteilungsgesetz 2012 - ZuG 2012) 07.08.2007 (BGBl. I S. 1788), hereafter referred to as ZuG 2012.

have delayed the process. Finally, the law was adopted without a mediation committee. In August 2007, the regulation was revised and came into force as ZuV 2012,¹⁸² defining the details for allocation for the second period.

The ZuG 2012 contains the following rules:

The final cap in the ZuG 2012 amounts to 453.1 Mt CO2 annually, as demanded by the Commission.

The industry sector receives allowances free of charge, based on average historical emissions from the baseline years 2000-2005 multiplied by a compliance factor of 0.9875 (a reduction of 1.25 %). The allocation to the energy sector is based on benchmarks, which differentiates between electricity generation with coal¹⁸³ as fuel (750gr CO2 per KWh net electricity production) and electricity generation with gas as fuel (365gr CO2 per KWh net electricity production). Energy-related emissions had a compliance factor of 0.85 (reduction of 15 %). Moreover, 40 M certificates are to be sold or auctioned annually, corresponding to approximately 9 %. This amount is at the expense of the energy sector to address the windfall profits. Revenues from auctioning are used for climate change measures under the climate protection initiative.¹⁸⁴ Climate measures primarily take place in Germany, but also in transitional and developing countries.

Special rules for the second period are only applied to CHP installations, which receive emission allowances based on "normal" activities, and small installations (with a capacity of less than 25,000 t CO2 annually), which do not have to make any reductions. This new rule covers 53 % of all instal-

¹⁸² Verordnung über die Zuteilung von Treibhausgas-Emissionsberechtigungen in der Zuteilungsperiode 2008-2012 (Zuteilungsverordnung 2012, ZuV 2012), 13.08.2007 (BGBl. I S. 1941), hereafter referred to as ZuV 2012.

¹⁸³ A separate benchmark for lignite was planned as well (950gr CO₂ per KWh net electricity production) to protect lignite as fuel (this was especially relevant for East Germany's lignite production). Although no separate benchmark was ultimately introduced, the net capacity utilisation was increased so that in the end, production based on this fuel received more certificates. Environmental groups criticised this "special rule" (BUND 2007,Greenpeace 2007), while energy distributors like Vattenfall called it discrimination and a threat to domestic energy fuel (Vattenfall 2007).

¹⁸⁴ For more information, see www.bmu-klimaschutzinitiative.de [last accessed: 2011-04-10].

lations, which amounts to 984 out of 1,849. Additionally, the monitoring requirements for installations with emissions of less than 100,000 t CO2/year were reduced as well. A hardship case is also included that allows adjustments for installations that increased their capacity by more than 10 %, that were under-allocated, and whose existence is consequently threatened. This is only applicable under certain conditions specified in §12. Annually 23 Mt CO2-certificates are reserved for new entrants and are allocated on the basis of average benchmarks of comparable activities. Unused allowances can be auctioned or deleted. Should the reserve not be sufficient, the BMU must provide certificates by purchasing them on the market.

The use of external credits is restricted to 20 % (compared to 12 % in the draft). Qualitative standards were introduced as well. Germany did not plan to purchase certificates via these instruments under the international ETS, as it was likely to achieve its target with domestic measures only.

9.4.3.6 Evaluation of phase 2008-2012

Germany was one of the first Member States to submit its NAP 2, showing its willingness to take a leading role in climate policy. However, although many improvements were made compared to NAP 1, the draft NAP 2 still lacked ambition. Only a long process of internal debates and pressure from the Commission led to a NAP 2 that really showed improvement.

According to an interviewee, the "drivers" for an improvement in phase two were the direction of the political winds in Europe, market development and the verified data of 2005, and the Commission's initial rejection of NAP 2 (Interview DE, ADVISOR, section 14). The Commission was perceived as a strong and important actor in Germany (Interviews DE, POL-2, sections 52; DE, POL-3, section 127-128; 134, DE, POL-4, sections 53; DE, POL-5, section 30; DE, ADVISOR, section 8; DE, NGO, section 35). The improvements under NAP 2 were mainly the consequence of the Commission's intervention (Interview DE, POL-5, section 30); for example, the ex-post rule was not included in NAP 2 because the Commission made clear that its inclusion would lead to a rejection of the NAP. The positive ruling of the ECJ that would have made ex-post rules possible came too late to include it again in NAP 2 (Interview DE, POL-2, section 13). Unlike other Member States like the Czech Republic, Germany did not take the Commission to Court because of the cut in the cap, probably partly because of Germany's upcoming presidency of the EU and the G8, where climate change was at the top of the agenda. Taking the Commission to Court would have meant a loss in Germany's credibility to enforce an ambitious climate policy (Brouns/Witt 2008: 73)(Interview DE, POL-2, section 11; DE, NGO, section 33).

Whether the Commission had the right to cut the cap and whether the legal basis for this was given is questioned by some interviewees, who mention that law firms had prepared statements on this case indicating that a case could be successful for Germany. A problem with the Commission Decisions was their transparency and fairness, because the formula by which the Commission decided on the NAP was not previously published (Interview DE, ADVISOR, section 14; DE, POL-2, section 11). It is assumed that the limit on the use of project-based mechanisms was increased from 12 to 22 % as a concession to those who were against the decrease in the cap (cf. Brouns/Witt 2008: 74). Whereas environmentalists wanted to have a limit for project-based credits, the BDI pointed out that the aim of the instrument was to reduce emissions where it is most cost-efficient and hence argued for no limitation (BDI 2006).

Many actors participated in the consultation process. To simplify the positions, in the following section the environmental NGOs (BUND 2006, Germanwatch 2006, Greenpeace 2006, WWF 2006) are grouped together; for the industrial sector, only the position of the BDI (BDI 2006) is used; and the energy producers E.ON (E.ON 2006) and EnBW (EnBW 2006), two of the biggest electricity providers, are presented separately. In addition, the position of the German Advisory Council on the Environment (Sachverständigenrat für Umweltfragen - SRU) (SRU 2006) is presented. A common position by most position papers was the call for Europe-wide harmonisation of allocation plans, greater transparency, less bureaucracy, and clear and simplified rules. These factors were expected to reduce market distortions.

Especially with regard to the cap but also for auctioning and benchmarks, a shift in the roles of the state actors can be detected. The BMWi was no longer so strong and BMU did not only pursue environmental interests. For NGOs, the fact that the BMU did not even try to make an ambitious proposal was difficult as they thus had to "fight" not only against the Minister for the Economy but also against the Minister for the Environment – their traditional ally (Interview DE, NGO, section 31).

An important point in the discussions was addressing of the windfall profits made by the energy sector in the first phase, as previously discussed. The energy-intensive industries, environmental NGOs, and research institutes agreed that windfall profits had to be addressed. Windfall profits had been criticised by the energy-consuming industry, consumer protection groups, environmental groups, and politicians from all parties. The topic was put on the agenda during the negotiation of NAP 2, after the experience gained in the first phase (Interview DE, POL-4, sections 61). The opponents of addressing windfall profits argued that electricity prices would increase further, even though opportunity costs had already been priced in when the certificates were allocated for free. The proponents argued that auctioning would move the profits from the companies to the overall state budget. Moreover, some argued that higher electricity prices were the logical result of the introduction of an EU ETS, the aim of which was to put a price on greenhouse gas emissions. An interviewee points out that this was more than a social issue; it was also a problem regarding false incentives. Future investment decisions also depend on prices and costs and thus whether certificates are given away for free or have to be bought is important if the aim is to get away from fossil fuels. The advantages of building a gas-fired power station compared to a coal-fired power station only becomes evident when certificates are auctioned (Interview DE, POL-5, section 20).

The irritation over the windfall profits was probably the major reason for a different approach under NAP 2 and more ambitious allocations to the energy sector. Within the AGE, there were discussions on how to address windfall profits. The options were to have price limits, voluntary agreements, or auctioning. Altogether, there were forty proposals on the table, but according to an interviewee all of them except auctioning were either

ineffective or would not have been legally feasible (Interview EU, ADVISOR, section 47). However, auctioning was not included in the first draft of NAP 2. It is suspected that the Minister for the Environment did not want to confront the energy industry with auctioning because the coal industry was an important actor in the SPD. The parliament, including members from the same party as the Minister, voted for auctioning at the last minute (Interview DE, POL-4, section 60). Later, the Minister for the Environment proclaimed that Germany was a leader in climate policy because of the auctioning (Interview EU, ADVISOR, section 47). In summary, the Minister for the Environment did not promote auctioning but waited to position himself in favour of the proposal until the parliament had included it in the law (Interview DE, POL-2, section 14). Some think that the BMU had not included auctioning to avoid conflict in the cabinet, since the BMWi considers itself to be a service agency for the energy sector (Interview DE, POL-5, sections 32, 36). Hence, the role of the parliament was very important for the improvement of the NAP 2.

That the parliament included auctioning and supported the direction advisors had favoured, even going against their party colleagues in the ministries, showed that the parliament was more sensitive to the "politische Stimmung" [political atmosphere] for a more ambitious climate policy than the government or ministry officials (Interview DE, ADVISOR, section 14).The inclusion of auctioning at the last minute and the wide acceptance of auctioning among deputies was a surprise for the advisors. At the time, they had already written an article on auctioning that was not included but should have been, and apparently many deputies had read it and many parliamentarians had talked to the advisors asking how to implement it (Interview DE, ADVISOR, section 14). This was a good example of democratic ruling, as an interviewee points out (Interview EU, ADVISOR, section 47).

Within the parliament there were naturally the two coalition parties who enforced auctioning (Interview DE, POL-2, section 14), but the question was to what extent. "I thought auctioning was right to the extent it was possible at that time namely 10 % [...] but not all in our party thought that auctioning was the right way to address the problem. And the interesting

thing was that it was often dependent on the background of the parliamentarian, where they were from, whether they favoured auctioning or not; the ones from North Rhine-Westphalia were against it because coal is important there. Deputies from Baden-Württemberg were in favour" (Interview DE, POL-2, sections 7, 8, 11, translated VA). With regard to auctioning, deputies had also looked at what other Member States had done and how they had included auctioning (Interview DE, POL-4, section 77).

The opposition also played an important role by placing topics on the agenda. While the parties in power have the chance to be involved in negotiations at an early stage, the opposition has the instrument of so-called "kleine und große Anfragen" [minor and major interpellation, translated VA]: they can initiate debates and plenary sessions and propose amendments. The interpellations to the government are a means of making the government take a position and clarifying matters, or simply of stating officially what the opposition think the government intends (Interview DE, POL-5, section 7, 15). Because of the differing cultures of the opposition parties at that time, no common position was possible, although they agreed on many aspects including the use of auctioning.

In its position statements, the Bundesrat¹⁸⁵ expressed its general support for auctioning but noted that it had to be checked to what extent the expected revenues for the federal government would cause lost revenues in the federal states. This was expressed by North Rhine-Westphalia.¹⁸⁶ The recommendation¹⁸⁷ of the environmental and economic committees was to include auctioning to address windfall profits. However, the Bundesrat

¹⁸⁵ Stellungnahme des Bundesrates: Entwurf eines Gesetzes zur Änderung der Rechtsgrundlagen zum Emissionshandel im Hinblick auf die Zuteilungsperiode 2008 bis 2012, 08.06.07, Bundesrat Drucksache 276/07 (Beschluss), hereafter referred to as "position of the Bundesrat".

¹⁸⁶ Antrag des Landes Nordrhein-Westfahlen: Entwurf eines Gesetzes zur Änderung der Rechtsgrundlagen zum Emissionshandel im Hinblick auf die Zuteilungsperiode 2008 bis 2012, 08.06.07, Bundesrat Drucksache 276/3/07 (neu).

¹⁸⁷ Empfehlungen der Ausschüsse zur 834. Sitzung des Bundesrates am 8. Juni 2007: Entwurf eines Gesetzes zur Änderung der Rechtsgrundlagen zum Emissionshandel im Hinblick auf die Zuteilungsperiode 2008 bis 2012, 29.05.07, Bundesrat Drucksache 276/1/07.

opposed the plan to finance the DEHSt with revenues from auctioning, preferring to have all costs covered by fees.

In the second phase, benchmarks were used instead of grandfathering to provide incentives for replacing old installations after the so-called transfer rule was excluded (Interview DE, POL-2, section 14). The transfer rule was not included, as it had not been approved by the Commission, who argued that it was against EU law. One interviewee doubts that the argumentation was legal, because in the first phase the Commission had accepted this rule (Interview DE, POL-2, sections 7, 8, 11). Having two benchmarks (gas and coal) instead of three (including a separate one for lignite) was already an improvement but still a clear sign that coal as a fuel was protected (cf. SRU 2006), as there is no competition between the different fuels. In its position, the Bundesrat supported a fuel-specific benchmark for coal.¹⁸⁸ In addition to auctioning and fuel-specific benchmarks, the energy sector also had a higher compliance factor than energy-intensive industries, which was justified by the potential to reduce emissions and less competition in the domestic energy market. The energy producers demanded fuel-specific benchmarks to maintain a broad energy mix and secure supply (see E.ON 2006, EnBW 2006). This was supported by the BDI and other industry associations because they feared an increase in energy prices. NGOs and SRU were against fuel-specific benchmarks, as they were seen as preventing the replacement of coal-fired power plants. After the publication of the revised NAP 2, the allocation method for the energy sector and especially the rule for fuel-specific benchmarks were the focus of the debate. The electricity companies were upset because they were heavily under-allocated and felt discriminated against compared to energy-intensive industries and electricity producers in other Member States (see RWE 2007, VDEW 2007). Environmental NGOs, on the other hand, stated that only uniform benchmarks for energy production would be consistent with the polluterpays principle and thus energy producers should receive the same number of allowances for each unit of energy.

¹⁸⁸ ibid.

Despite the use of benchmarks, for parliamentarians, the allocation to industry was also difficult in the second period, especially judging how many certificates a sector should receive. Thus, this discussion took place mostly in the ministries, where the expertise and experience were much better (Interview DE, POL-2, sections 7, 8, 11). The industry wanted to have free allocations also in the second period, arguing that they were exposed to international competition. Moreover, changed capacities and growth should be taken into account. One of the remaining special provisions still found in the last version of NAP 2 is a reduced compliance factor for CHP, as this is seen as a clean technology and thus needs to be promoted (see BMU 2006).

The exclusion of small companies had already been discussed in the AGE and was demanded by the BDI (see BDI 2006). The exclusion of small emitters was justified by the fact that 70 % of the participating installations were responsible for only 4 % of emissions under the EU ETS. Hence, the administrative effort was limited (DEHSt 2004: 6).

Another administrative change was proposed by the Bundesrat. They wanted to have the accreditation of verifiers bundled into the DEHSt because the inclusion of the federal state level would lead to more administrative costs, and experience had shown that the federal state ministries relied on the data of the UBA.¹⁸⁹

In all, the major changes between NAP1 and NAP2 are the cap, benchmarks in the energy sector, the inclusion of auctioning as an allocation method, only a few special rules, and the exclusion of small installations.

Out of the five aspects that mattered most for green NGOs regarding NAP 2, three were achieved: Auctioning was achieved through the parliament, a tight cap was achieved through the Commission, and the end to the options rule and transfer rule were achieved. Getting rid of fuel-specific benchmarks was not yet achieved, and neither were the gold standards or the tight cap for CDM and JI that had been demanded (Interview DE, NGO, section 25). This last goal may be included in the review of the EU ETS Directive for the entire EU. According to an NGO

¹⁸⁹ Bundesrat Drucksache 276/1/07.

representative, the problem of particular interests in the systems was better understood in phase two. Nevertheless, the protection of industry interests and especially the coal sector was still a problem; the difference was that in the second phase environmentalists also had the BMU against them (Interview DE, NGO, section 23).

9.4.4 Applying implementation research

The preferences of Germany at the time of policy formulation was opposing the EU ETS; Germany is even considered to be an unconstructive player at the formulation phase of the ETS Directive by some scholars (e.g. Braun/Santarius 2007, Lafeld 2007, Steuwer 2007). At the time, the Social Democrats and Green Party ruled, and they were sceptical of this instrument. Nevertheless, the government established the AGE with representatives from politics, the administration, business associations, and civil society actors quite early, in 2000. At the time of the adoption, Germany had accepted the instrument because some concessions were made during the negotiations. Hence, Germany can be classified as reluctant to opposing. As the implementation went rather smoothly for Germany - they met all deadlines and also the result was basically in line with the Commission's ruling – the opposition might not have been fundamental. Nevertheless, the scepticism about the instrument characterised the discussions during implementation at the national level and had an impact on the design that was turned out very industry-friendly. The discussions held at the national level might have helped Germany overcome its opposition. Moreover, many studies had been commissioned that influenced the process positively, because these studies led to greater acceptance among the actors.

In Germany, the same two parties that had been in power at the time of adoption were still in power when it came to the implementation of the first trading period. At the time of implementation, the EU ETS had found more and more supporters whose task it was to transfer it to the basis of their parties or target groups, respectively. The critics from both parties rejected it for different reasons: the Greens feared that the ecological effectiveness would be too weak and the Social Democrats thought that employment and energy security was threatened. In the second period, capacity-building had already taken place and a new coalition was in power, but no improvement had been made that can actually be related to the preferences of the ruling parties. The inclusion of auctioning, which can be seen as an improvement, was introduced by the parliament but did not have a general support within the parties. Rather, it reflected the general opinion of advisors and civil society at the time, a desire to address the windfall profits made by the electricity sector. The party political preferences of the government can be ranked in both phases as ambivalent, because the parties were not eager to implement the instrument but were willing to do so.

The position of Germany at policy formulation indicates reluctance and little support for this instrument and hence points toward an ineffective implementation. However, the deliberation that took place and the establishment of the AGE may have neutralised the initial scepticism. In Germany, the coalition parties in power were at first sceptical about emissions trading but eventually accepted it, therefore the likeliness of an effective implementation can be ranked as medium.

The traditional German environmental policy is characterised by command and control rather than market instruments, but Germany has an elaborated climate policy and has used economic instruments such as environmental taxes and incentives in the past. The previous climate policy was based on voluntary agreements between industry and the government. Although the policy style in particular was a misfit, the past experience with economic instruments might have helped implementation so that in the end, the goodness of fit has to be ranked somewhere between moderate and misfit.

Looking at the requirements of the EU ETS, the main elements for administrative capacity were data collection and monitoring. Germany built a new institution to administrate and regulate the EU ETS at the national level. Only the tasks falling into the jurisdictions of the regions were settled in the respective authorities in each Bundesland. The general experience with a comprehensive environmental policy might have helped to build this new institution, which was attached to the UBA, a well-functioning authority. Setting aside what was done and concentrating on what was necessary, the adaptation pressure on the administration in Germany has to be ranked as moderate to high because apart from past experience with data collection and emission monitoring, the basic elements of the trading scheme were new. All in all, looking at the result, the administrative adaptation pressure was not an issue for the implementation.

The misfit of the instrument and high adaptation pressure could have led to an ineffective implementation. However, as Germany had a comprehensive climate policy and experience with economic instruments and designated a well-functioning authority for the administration, there is potential for an effective implementation.

The role of the Commission in the first phase was not of importance for Germany because it had no real difficulties in implementing the EU ETS Directive. However, the Commission ruled against the controversial ex-post rule. In the second phase, the Commission was more important because it demanded a lower cap and influenced the ambitiousness of the NAP 2. No push was necessary regarding deadlines because Germany was one of the few countries who had met it. In Germany, NGOs were more successful than their counterparts in other countries because they are generally widely accepted and respected. In the first phase, their influence was nevertheless limited, and the government designed NAP 1 more according to the wishes of the industry. Although direct influences cannot be proven for the second phase, NGOs were more successful in placing their demands, which were in line with general opinions about the design of the EU ETS, on the agenda. Business and industry associations definitely influenced decisions in the German NAP but not towards improvement. The energy-intensive industries in particular were successful in obtaining basically no obligations under NAP 1 and NAP 2.

9.4.5 Summary

Germany's reluctance regarding emissions trading was strongest during the formulation phase, still present in the implementation of the first phase, and overcome in the second phase when experience showed that emissions trading could be a successful and adequate instrument to combat climate change. Hence, the learning phase was important.

Notwithstanding all the difficulties and imperfections, the introduction of the EU ETS in Germany remains a success story. In a very short period of time, the system for a very large number of plants was implemented, and an allocation system established that offers sufficient prerequisites for improvement and further development. The utilisation of the specified potentials, options and opportunities form the central challenges for the next steps towards stabilisation and establishment of the EU ETS in Germany and within the European Union. (Matthes/Schaffhausen 2007: 103)

Indeed, the implementation in Germany can be seen as a success story, taking into account the initial scepticism and opposition. Moreover, it becomes evident that learning processes were initiated. However, viewing the result of the implementation from an ecological perspective, the judgement would be less favourable.

Germany met the deadline in both phases but both NAPs were only approved under conditions. Hence, from the perspective of timing, Germany was in the leader group. However, the German NAP lacked ambitiousness and was ecologically ineffective because it over-allocated allowances to industry, had an overly high cap, introduced too many special rules, and made the instrument more regulatory than marketoriented. Having learned from the first period, the second NAP can be seen as an improvement, although this was not the case when the first draft was published, disappointing many environmentalists. The introduction of auctioning was one of the few important efforts included by the parliament. The decrease in the cap was only realised through pressure by the Commission.

In both phases, the response to consultation was high. The most important arguments from the industrial perspective and the BMWi were to not limit growth, or more precisely, to consider growth and to not threaten the competitiveness of German industry. BMU, DEHSt, and environmental groups favoured ambitious targets and innovation incentives. However, in the second phase, the BMU cannot really be grouped among the advocates of an ambitious plan regarding its ecological integrity. The result has to be seen as a compromise with the advantage to industrial interests. Lobbying was definitely a problem in both phases. Therefore, some interviewees argue that the flexibility of the EU ETS Directive was a problem for those Member States that had a strong lobby at home, because the provisions of the Directive were untouchable but all aspects where there was flexibility was exposed to lobbyism (Interview DE, POL-3, section 30).

The potential to reduce emissions using the EU ETS was not fully exploited. Although it is likely that Germany will achieve its Kyoto target under the burden-sharing agreement, it will have to face higher reduction targets in the future. The possibility of setting the course for these targets has not yet been used. In the long run, Germany must reduce its dependency on oil and coal.

An interviewee explains the situation of Germany thus: "Because Germany perceives itself as an industrial nation – the growth and prosperity comes from the secondary sector – emissions trading, an instrument addressing this sector, was perceived as a threat rather than a chance for ambitious climate policy, despite all efforts in climate policy" (Interview EU, COM, section 25). Moreover, the newness of the instrument and the lack of experience were seen as challenges (Interview EU, ADVISOR, section 34).

The reasons behind the better implementation than indicated by implementation research were intensive capacity-building and professional administrations.

9.5 The case of Spain

9.5.1 Introduction

Spain is one of the larger countries in the EU with respect to the number of inhabitants. Since the accession of a number of Middle and Eastern European countries, Spain is positioned in the middle regarding economic development. Spain joined the EU in 1986 and has for the most part profited from the membership, which explains the generally positive perception of the EU.

Spain does not have a long tradition of environmentalism. However, in recent years, this has slightly changed due to Europeanisation and international obligations, such as the ratification of the Kyoto Protocol. Spain is mainly a taker of EU environmental policy and because its environmental policy is mainly driven by the EU, it has no policies to upload (Börzel 2003b).

At the time of the formulation of the EU ETS Directive, Spain's attitude towards climate policy in general was indifferent. Therefore, it played a minor role in the formulation process and did not seem to be very interested, as it did not formulate a position for the EU ETS Green Paper (Skjærseth/Wettestad 2008b: 97, Steuwer 2007: 113). Since the Social Democrat government took over, climate change has become an issue in Spanish politics. Due to its geographical position and socio-economic characteristics, Spain as a country is very vulnerable to climate change. The most serious environmental issues including water scarcity, desert advance, and soil erosion are likely to worsen due to climate change (Labandeira Villotl 1998: 147). These disruptions will have an important impact on economic sectors.

Spain is arguably the black sheep in greenhouse gas reductions, and it is very likely that Spain will not achieve its burden-sharing target. Although it could increase its emissions up to 15 % compared to 1990 levels, it exceeded its target by at least 30 % in 2009. The rapid increase in emissions is due to increased energy consumption and energy intensity, especially in the electricity and transport sectors (MITYC/IDAE, 2005). This is a consequence of economic growth in recent decades (e.g., average GDP growth of 3.2 % in the last six years) (INE, 2006), but according to an interviewee it is not only due to industrial growth but also growth in population and infrastructure development. A business representative complains that the main problem of the Kyoto target is that during the negotiations for the burden-sharing agreement, economic growth was not taken into account and therefore the negotiations had been bad for Spain (Interview ES, BUS, section 3, 4). Spain is below average regarding per capita emissions (although they are increasing steadily) and therefore argued for a lower reduction target, especially in the post-2012 era (de Cendra de Larragán 2008: 163). According to an interviewee from the political sphere, Spain needs a transition and substitution strategy for sustainable transport, renewable energy, and ecological fiscal instruments (Interview ES, POL-1, section 13) in order to reduce its emissions sustainably.

Spain is considered an interesting case because it can be seen as an example of Member States whose economies have been blessed with high growth in the last decade but also as a country in which GDP and CO2 emissions are still coupled. Moreover, Spain belongs to the group of Member States that are far away from their targets under the burden-sharing agreement. However, Spain proved that it was willing to contribute to the climate target of the EU with domestic measures, although it will heavily depend on the flexible mechanisms of the international ETS.

9.5.2 Country Profile

9.5.2.1 The political system and decision-making

Spain is a unitary state that is highly decentralised not only regarding the administration but also politically. Decentralisation was initiated by the 19 autonomous regions that now enjoy a wide range of authority. The competences of these regions vary widely, depending on the negotiations of the regional governments with the national government. In recent years, the autonomous regions have been participating more and more in the decision-making process at the national level (Barrios 2003: 641-3).

Spain is a constitutional monarchy with the current head of the state being the King of Spain. The government is led by a prime minister, the head of the government (presidente del gobierno) (Barrios 2003: 612). At the time of the adoption of the EU ETS Directive and until March 2004, the prime minister was José María Aznar López from the Partido Popular (PP). He was replaced by the Social Democrat José Luis Rodríguez Zapatero (Partido Socialista y Obrero de España – PSOE), under whom NAP 1 and NAP 2 were designed.

In Spain, the Ministry of the Environment (Ministerio de Medio Ambiente – MMA, since 2008 Ministerio de Medio Ambiente y Medio Rural y Marino – MARM) is responsible for climate change issues. The Ministry of Industry, Tourism, and Trade (Ministerio de Industria, Turismo y Comercio – MITYC) has the authority for all kinds of energy issues including renewable energies. Moreover, the Ministry of Economy (Ministerio de Economía y Hacienda – MEH) also played an important role in the final design of both

NAPs.¹⁹⁰ The ministers involved in the redaction of the Spanish NAP were Cristina Narbona Ruiz (for the MMA and both NAPs), José Montilla Aguilera (for the MITYC and the first NAP), Joan Clos i Matheu (also for the MITYC, but for the second NAP), and Pedro Solbes Mira (for the MEH and both NAPs).

Spain's legislative body is a bicameral parliamentary system that consists of the Congreso de los Diputados (Congress of Deputies) and the Senado (Senate). The Congreso de los Diputados has more power in the legislative process (Barrios 2003: 613), as it can outvote a veto by the Senado with an absolute majority (Barrios 2003: 624). Each chamber has a "mesa" consisting of the respective president, vice-president, and secretaries of the chamber, which are elected by each plenum. The Congreso de los Diputados has thematic committees preparing discussions and decisions (Barrios 2003: 624). The government, both chambers, and the people have the power to initiate laws, which are then submitted via the mesas to the legislative bodies (Barrios 2003: 623) The mesa decides which initiatives are dealt with in their respective chambers and is thus quite powerful.

Spain is a pluralist country (Jahn 2006: 112; based on Siaroff 1999) that overcame authoritarian corporatism under Franco. The link between labour unions and the Spanish Social Democratic party (PSOE) was only strong until the mid-1980s (Barrios 2003: 636). There are a number of environmental groups in Spain, the most prominent being branches of internationally renowned NGOs such as Greenpeace and the WWF. The Confederation of Employers' Organizations (Confederación Española de Organizaciones Empresariales – CEOE) is the biggest and thus the most powerful business association, as it is the association for employers and producers ranging from big companies to medium-sized and small enterprises and also public organisations (Barrios 2003: 635).

9.5.2.2 The carbon intensity of the economy

Spain has experienced an extensive increase in CO2 emissions, exceeding by far its burden-sharing target, which is mainly the result of a fast-growing

¹⁹⁰ See NAP 1: (Royal Decree, RD 1866/2004); NAP 2: (Royal Decree, RD 1402/2007).

economy, especially since the mid 1990s, and the lack of consistent energy and environmental policies (Labandeira/Rodríguez 2006: 3).

Spain's energy market is officially fully liberalised and privatised, but despite liberalisation, 90 % of electricity is supplied by incumbents (Iberdrola, Endesa, Gas Natural-Unión Fenosa, Hidroeléctrica del Cantábrico) because of regulated supply tariffs that make it difficult for new entrants. The authority that regulates the energy market is the Comisión Nacional de Energía (CNE), now attached to the MITYC (European Commission 2006d: 53-4).

Spain's energy production was mainly based on imported fossil fuels when the EU ETS began, and still is today. Oil had a share of almost 50 % in the total energy supply in 2006, followed by about 21 % of gas, about 12 % coal, 10 % nuclear, and almost 7 % renewable energies and cogeneration.¹⁹¹ As coal and lignite are the only domestic resources (CIA Factbook, 2006), the Spanish government still pays subsidies to domestic coal producers, although it decreases the rate by 4 % each year (IEA, 2007).

In 2006, Spain's electricity generation was 3.5 times higher than 30 years before. The fuel mix in 2006 consisted of almost 80 % fossil fuels with up to 25 % of coal, about 20 % nuclear power, 30 % gas, and 5 % oil. Spain has a significant share of electricity generated by renewable sources and cogeneration, making up almost 20 %. Thanks to a successful feed-in tariff system, Spain has become the second largest country in the world in terms of installed wind capacity. The increase in electricity demand in recent years was primarily covered by gas and renewable energies, which experienced a rapid growth in the last decade.¹⁹² Both energy sources are important for Spain to reduce greenhouse gas emissions, to secure energy supply, and to diversify its energy sources. However, an interviewee remarks that the increasing demand for energy could not be met by renewable energies alone. Moreover, despite a switch to gas, emissions were increasing because

¹⁹¹ See International Energy Agency, www.iea.org/statist/index.htm [last accessed: 2011-04-26].

¹⁹² See International Energy Agency, www.iea.org/statist/index.htm [last accessed: 2011-04-26].

energy generation from gas also emits greenhouse gases, although less than coal (Interview ES, BUS, section 1). Hence, despite a fuel switch, more energy-saving and energy efficiency measures are needed.

9.5.2.3 Spanish climate policy

In Spain, adaptation is more of a topic than mitigation (Interview ES, POL-2, section 26) because Spain will be affected by climate change more than other central European countries, and an increase in average temperature of 4°C is likely (Interview ES, POL-2, section 13). Therefore, climate change has become a topic among the general public (Interview ES, POL-2, section 24), which should make it easier to establish a climate policy supported by the public.

Nevertheless, Spain's domestically initiated climate policy is still lagging behind compared to the UK or Germany, despite its huge problems to achieve its target of +15 % under the Kyoto burden-sharing agreement. It is quite unlikely that Spain will achieve its target by domestic measures along and it will probably make use of the flexible mechanisms.

Spain had been missing an integrated climate policy until the "Strategy towards Climate Change and Clean Energy" that was approved in 2004. Measures mentioned there focus mainly on the industrial and energy sectors and promote renewable energy, energy efficiency, and energy savings strategies (del Río 2007: 182). In order to implement its strategies, the Spanish Government has identified a number of actions to be taken. Most measures focus on climate change mitigation technologies. Other measures aim to provide information for decision makers, professional training, education and awareness-raising in the public, and R&D. Given that Spain only started its climate policy with the Social Democratic government elected in 2004, the ambitiousness in recent years has been remarkable.

The Social Democratic government has also developed a new "Strategy towards Climate Change and Clean Energy" within the framework of Spain's "Strategy towards Kyoto Protocol's Compliance". In 2007, the climate strategy was revised and contains more measures compared to the version of 2004. The Spanish Climate Change and Clean Energy Strategy (Estrategía Española Cambio Climático y Energía Limpia – EECCEL) is part of the Spanish Sustainable Development Strategy (Estrategía Española Desarollo Sostenable – EEDS). It includes mitigation as well as adaptation measures and is directed toward sustainable energy consumption. A new measure is the assessment and promotion of CCS technology. Also mentioned are planned elements of Green Taxation throughout the budget exercise of 2007. The main policy aimed at the industrial sector is the EU ETS. The most important legislation apart from the EU ETS is the promotion of renewable energy and energy efficiency.

Initially, the promotion of renewable energy was driven by the security of energy supply and diversification of energy sources, because Spain heavily depends on oil and natural gas imports. The Spanish Promotion Plan for Renewable Energy of 2000 was the first comprehensive strategy for the promotion of renewable energy. Its successor, the National Renewable Energy Plan (Plan de Energías Renovables – PER) of 2005-2010 sets a target for the year 2010 to have 12.1 % of the primary energy consumption, 29.4 % of electricity generation, and 5.75 % of fuels from renewable energy sources (MITYC/IDAE 2005).

The Action Plan on Energy Saving and Efficiency of 2005-2010 aims at reducing Spain's energy consumption and limiting its foreign energy dependence while contributing to emissions reductions. Incentives to reach this target include research, promotion programmes, and financial aid (IEA 2007). The Strategy was adopted in 2003 and is implemented by action plans that determine the amount of energy saving in total and per sector. The highest burden is put on the energy sector followed by the transport sector, as they have the highest potential for reductions.

Because of its vulnerability, Spain has already prepared a National Climate Change Adaptation Plan (NCCAP), which was approved in 2006. The strategy provides a reference framework for public administrations in the activities of impact assessment and vulnerability and adaptation studies, analysing the water situation and agriculture in Spain, for example.

Because the EU ETS does not address all polluting activities, it should be complemented with other measures, such as taxes or voluntary approaches, "allowing for a wide coverage of polluters with reasonable administrative and compliance costs" (Labandeira/Rodríguez 2006: 21).

9.5.3 The implementation of the Emissions Trading Directive

9.5.3.1 Background

According to the distribution of competences, the national government and legislature are responsible for developing the legal basis of the EU ETS, drafting and approving the NAP, managing the new entrant reserve, approving the allocation to each installation, and regulating and administrating the registry. The greenhouse gas permits are issued by the respective authorities of the Autonomous Communities. Their tasks are also to monitor and report emissions and to approve the accreditation of verifiers. The shared competences are enforcement and providing information to the public (de Cendra de Larragán 2008: 164).

At the national level, the ministry in charge of the implementation of the EU ETS was initially the MMA. When the topic became more political in the end of 2003, the lead was handed over to the MEH, as the instrument was considered to fall under its authority because of its economic implications. In the following month, both ministries formed a Commission that was responsible for preparing the NAP 1. After the change of the government in March 2004, the MMA was placed in charge of the implementation again and within the responsible unit was the Oficina Española de Cambio Climático (OECC - Climate Change Office).¹⁹³ In May 2004, a new group was set up - the Grupo Interministerial de Cambio Climático (GICC - Interministerial Group on Climate Change) - that consisted of representatives from all ministries concerned (MMA, MITYC, and MEH, among others). In the initial phase, the MMA was advised by a research institute (Klein Institute), which mainly worked on criteria to elaborate the NAP (del Río 2007: 185-6) and which provided the basis for the allocations. In general, one could say that the tasks of the MMA and MITYC were divided, in that

¹⁹³ Subordinated to the MARM's Secretaría de Estado de Cambio Clímatico (Climate Change State Secretariat), see www.mapa.es/es/ministerio/pags/organigrama/funciones/SECambioClimatico.htm.

MMA dealt more with technical and strategic questions in the fight against climate change and the MITYC was more concerned with implementation and communication with the industrial sector (Interview ES, POL-2, section 20).

In addition, the Comisión de coordinación de políticas de cambio climático (CCPCC) commission was established to coordinate collaboration between the national and regional levels regarding implementation of the EU ETS and international obligations (see Ley 1/2005). This commission consists of three representatives from the responsible ministries (MEH, MITYC, and MEH), one representative from all remaining ministries, one representative from the Office of the Prime Minister, one representative from each autonomous region and from the cities Ceuta y Melilla, and one person representing local administrations.

9.5.3.2 Transposition of the EU ETS Directive

The Commission started infringement procedures against Spain for not having notified the transposition on time (European Commission 2004b). The transposition was finally realised by the Royal Legislative Decree 5/2004 of August 2004,¹⁹⁴ which did not require a parliamentary process, in order to comply in a timely but still delayed fashion. The legislation was approved by the Parliament by the Law 1/2005 of 9 March, which became known as the Emissions Trading Act¹⁹⁵ (de Cendra de Larragán 2008: 163). This act was meant to give the legislation parliamentary legitimisation but basically no changes were made. A number of other pieces of legislation followed that regulated or changed details concerning the registry, fees, and articles.¹⁹⁶

¹⁹⁶ For a complete list, see www.mma.es/secciones/cambio_climatico/areas_tematicas/comercio_emisiones/doc umentacion/doc_nor.htm [last accessed: 2011-04-01].

¹⁹⁴ Real Decreto Ley 5/2004, de 27 de agosto, por el que se regula el régimen del comercio de derechos de emisión de gases de efecto invernadero; BOE núm 208, Sábado 28 Agosto 2004.

¹⁹⁵ Ley 1/2005, de 9 de marzo, por la que se regula el régimen del comercio de derechos de emisión de gases de efecto invernadero; BOE núm 59, Jueves 10 Marzo 2005, hereafter referred to as Spanish Emissions Trading Act.

The coordination of the different organisms involved in the EU ETS is fixed by the 1/2005 law ¹⁹⁷ and subordinated to the MMA (now MARM). The Subdirección General de Comercio, Emisiones y Mecanismos de Flexibilidad (Sub-Directorate General of Trade, Emissions, and Flexible Mechanisms), which is directly attached to the OECC, is the office in charge of regulating the trade of greenhouse gas emissions and the application of the legislative framework under the EU ETS.

The registry in Spain is the Registro Nacional de Derechos de Emisión de Gases de Efecto Invernadero (RENADE – National Registry for Greenhouse Gases Emissions Allowances¹⁹⁸) which, as stated in the royal decree RD 1264/2005,¹⁹⁹ is also attached to the Oficina Española de Cambio Climático. Iberclear,²⁰⁰ the Spanish Central Securities Depository in charge of the assets registry in the financial market, was designated to manage the registry, while control and approval of Iberclear's decisions remain within the MARM's responsibility (de Cendra de Larragán 2008: 171). The registry started operating in October 2004. The approval of CDM and JI projects is the task of the Designated National Authority (DNA) under the Kyoto Protocol, an inter-ministerial commission under the coordination of the Climate Change State Secretariat.

Because of these divided responsibilities, the functioning of regulations and the registry also depends on cooperation between the autonomous regions and the national administration.

For the implementation of the EU ETS Directive, a consultation process started only in the beginning of 2004 and was continued (or renewed, to be more precise) after the change in government in March 2004. During that time, intense lobbying activities by Spanish companies and close interactions between these companies and the public authorities took place.

¹⁹⁷ Ley 1/2005, de 9 de marzo, por la que se regula el régimen del comercio de derechos de emisión de gases de efecto invernadero.

¹⁹⁸ See www.renade.es

¹⁹⁹ Real Decreto 1264/2005, de 21 de octubre, por el que se regula la organización y funcionamiento del Registro nacional de derechos de emisión.

²⁰⁰ Depositario Central de Valores de España – Spanish Central Securities Depository.

9.5.3.3 Spanish National Allocation Plan 2005-2007

Although the previous Conservative government had already started collecting data, the deadline for the submission of NAP 1 at the end of March 2004 could not be met by the new government. Therefore, the Commission granted Spain a new deadline of 1 August 2004. After informal consultation with industry, the first draft of NAP 1 was published in July 2004 and was opened for comments for 11 days only. To complete the legal implementation, the NAP 1 was implemented by the Royal Decree 1866/2004 in September 2004 after corrections had been made. However, this was not the final version of NAP 1, as it had to be adjusted to respond to the requirements of the Commission approved the NAP 1 on 27 December (del Río 2007: 186-7) and shortly before the EU ETS started. At that time, the list of installations and the allocations to each installation was still incomplete.²⁰¹

In the end, about 1,000 installations in Spain were covered by the EU ETS, amounting to up to 44 % of total emissions. The burden to reduce emissions was divided between the EU ETS sectors and the non-participating sectors. The EU ETS participants had to achieve 40 % of the reductions necessary to comply with the Kyoto target, and the other sectors the remaining 60 % (de Cendra de Larragán 2008: 163-4). The cap was set at 523.3 Mt CO2, which included a new entrant reserve of around 9 Mt CO2. The aim was to stabilise emissions in the period 2005-2007 at 2000-2002 levels and to leave the main reductions to the second period (del Río 2007: 188).

The allocation method was realised top-down in a two-stage process, meaning that first the total amount of CO2 emissions allowances was set for each sector and then allowances were distributed to each installation. The aspects that influenced the decision on sector allocations were historical emissions, emissions projections, and reduction potential. According to de

²⁰¹ Commission Decision of 27 December 2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Spain in accordance with Directive 2003/87/EC of the European Parliament and of the Council. C(2004)5285.

Cendra de Larragán (2008: 169) the criteria are broadly in line with those in Annex III of the EU ETS Directive. Most data was collected by questionnaires sent out to companies in the beginning of 2004; negotiations about the allocation method took place in inter-ministerial groups and in meetings with sector representatives. As in most other countries, the burden to reduce was put on the electricity sector. This was justified by low marginal abatement costs, high profit margins, and the fact that the electricity market is not exposed to international competition. Moreover, the increases in electricity prices are limited to 2 % annually, which was seen as a guarantee that not all costs would be passed on to consumers and industry. The electricity sector and the ceramics, tiles, and bricks industry were the only ones that received fewer allowances than actually needed, whereas the cement sector received a little more than needed and the remaining industries received allowances according to a business-as-usual scenario. The weak lobby of the ceramics sector, which consists mainly of small firms, may explain the higher burden for this sector (cf. del Río 2007: 189-91).

Within the electricity sector, an adjustment of allocations to the installations took place, taking geographical and technological criteria into account. The islands and the two Spanish cities in Northern Africa received 100 %. Installations received different amounts of allowances depending on the fuel; coal or gas-fired power stations received certificates on the basis of benchmarks for each fuel (CO2: 0.9421 t/GWh for coal and 0.365 t/GWh for combined-cycle gas turbine units). The industrial sector also received allowances on an average benchmark basis. Special rules were introduced for cogeneration and process emissions, and adjustments were made in the case of special circumstances in the baseline years 2000-2002 (del Río 2007: 191-2).

The new entrant reserve was to be distributed on a first-come, first-served basis. New entrants would receive emissions allowances on the basis of a mix of variables: projections of an average capacity basis, best available techniques, and the reduction targets of the sector concerned (del Río 2007: 197).

Because of its high increase in emissions that had already passed the +15 % target, Spain had planned to make use of the flexible mechanisms and especially CDM projects as soon as was possible.

9.5.3.4 Evaluation of phase 2005-2007

"Initially, the development of the NAP was seen as a technical problem involving decisions on the criteria to be considered, installations covered, identification of emissions per sector and per installation etc." Sectors were invited to give their views. Because of complaints by the industry sectors, "[t]he process then became much more political" and the EU ETS became unpopular among politicians (del Río 2007: 185), which explains the inaction of the government before the elections. This is also the reason why more ministries were involved in the process.

When PSOE replaced the PP in March 2004, two objectives were driving the party in power: first, to develop quickly the emissions law and the NAP, and second, to reduce the emissions increase, which was at 4 % per year at that point (Interview ES, POL-1, section 2); the focus of the previous government had been economic growth. According to two politicians, one positive effect of the NAP (or EU ETS) in general was that it was the first time an emissions inventory was established in the registry to control greenhouse gases; this inventory had not existed before, as two interviewees from politics point out (Interview ES, POL-1, section 2, POL-2, section 28).

A group was formed in the parliament (Coalición contra el Cambio Climático) that developed a number of environmental laws (Interview ES, POL-1, section 13). In the case of the EU ETS, the parties and the deputies became very active during transposition in the different commissions that were set up to control emissions (Interview ES, POL-1, section 1).

At the level of the ministries, interests varied: the MMA was clearly in favour of emissions trading, while MITYC, FOMENTO, and MEH were rather critical and had a negative influence on the transposition (Interview ES, POL-1, section 8). Usually, policy-making for environmental strategies is coordinated by MMA and MITYC, together with the Comisión territorial. One criticism was that in the case of EU ETS, almost everything was

coordinated between the two ministries and representatives from the industry (Interview ES, POL-2, section 1). The cooperation between the parliament and the MMA in general was seen as good, and much better than with the other ministries (MITYC, FOMENTO, and MEH), which was considered not so good (Interview ES, POL-1, section 4). In the "Consejo Asesor de Medioambiente – C.A.M.A." (Environmental Advisory Council), a consultative body to the MMA, all stakeholders had the opportunity to express their opinions, and this was used by business interests, trade unions, and green NGOs, among others (Interview ES, BUS, section 13). Some of the industry's particular interests were supported by the Spanish regions that attempted to protect their specific industries (Interview ES, POL-2, section 18).

The division of authority between the national and regional levels resulted in a very complex process with many intermediate agents and bureaucratic hurdles. Each autonomous region applied the Royal Decree in a different way and thus an asymmetric competition (based mostly on political quarrels) between the autonomous regions generated different regulations regarding emission rights even within the same country. Hence, companies were confronted with a very tough and complex legislative environment involving different levels and different regulations (Interview ES, BUS, section 5).

Discussions about the allocations were mostly held between companies from the same sector. In the power sector, these discussions resulted in different benchmarks for each fuel (cf. del Río 2007: 206-7) as had been done in Germany. This rule created the problem that there was no incentive for a fuel switch, as fuels with lower emissions received fewer allowances. According to del Río (2007: 195), the decision on the new entrant reserve – for free allocations and first come, first served – was meant to grant equality between existing installations and new entrants, but also because of "rumours from other countries that would also allocate these allowances for free". This indicates that Spain, late in submitting its NAP 1, was watching what other countries did in order to not put its own industries at a competitive disadvantage. One negative aspect is the different treatment of the different producing sectors (Interview ES, POL-2, section 29). Whereas the electrical sector had the option to increase the kWh price to some degree in case of cost increases due to more expensive emission rights, the industrial sector suffered greatly and saw its competitiveness reduced by rising costs (Interview ES, BUS, section 10). However, because of regulated electricity prices in Spain, the prices did not reflect the entire abatement costs of the electricity producers and did not lead to the excessive windfall profits observed in other countries.

The use of CDM and JI is viewed in various lights. From the perspective of businesses, it is seen as the right tool to finance technology transfers, which are necessary as climate change needs to be tackled at the international level. Otherwise, Kyoto could be undermined by products coming from noncompliant countries, which would lead to market distortions. However, one criticism is that these instruments are currently hindered by regulatory restrictions (Interview ES, BUS, section 12). From a political perspective, the control is perceived as being too weak, which is problematic (Interview ES, POL-1, section 15) as it undermines the EU ETS. This is supported by NGOs, because the high quantity of CDM allowed in Spain did not take account of the existing high potential, especially in the energy sector (Interview ES, NGO, section 4).

In general, it can be stated that the inclusion of non-state actors was satisfying, but the first draft was open for consultation only for eleven days, which is a short time to deal with such a complicated instrument. According to del Río (2007: 205), the transparency of the process increased after the change in government, which is also confirmed by NGOs. The industry felt their concerns were considered by the administration, although obviously some complained that they received fewer allowances than requested (del Río 2007: 206-7).

Most interviewees agree that the most successful non-state actor in influencing the implementation was the electricity sector (Interview ES, POL-1, section 11; NGO, section 9). This was followed by other industrial sectors, including the cement industry and companies producing goods for construction. These actors all pressed for higher allocations and were not very supportive towards more ambitious implementation. The social actors like trade unions were also not supportive, as they saw Kyoto as a risk to jobs (Interview ES, POL-1, section 9-10). The influence of green NGOs was, by their own assessments, limited (Interview ES, NGO, section 7) because their work was only acknowledged in the MMA; the MITYC only spoke to industrial associations (Interview ES, POL-2, section 19). According to an interviewee, environmental NGOs (WWF, Ecologistas en Acción, and Greenpeace) were a good source of information and an allied pressure group of the MMA, and the only ones that defended the upcoming emission reductions. However, it was unfortunate that the MMA had a weak position in the negotiations with the other ministries (Interview ES, POL-1, section 10). The CEOE had productive and frequent dialogues with the Dirección General de Desarrollo Industrial (DG of Industrial Development) at the MITYC. Since CEOE represents the industrial sector, it viewed talking to the MITYC as more important than contacting the MMA (Interview ES, BUS, section 13).

Because of the delayed implementation, Skjærseth and Wettestad (2008b: 62-3) call Spain an improving laggard. However, in all, Spain did manage to implement the EU ETS in a short time once the process was started. When the first verified emissions were published by the European Commission (European Commission 2006c), it became evident that Spain was one of the few Member States that had allocated fewer allowances than needed to the installations. For this reason and as its rules were kept relatively simple, the implementation can be seen as a good practice example regarding ecological effectiveness. Because over-allocation had taken place in other countries and the Spanish cap was seen as too tight due to unsuitable projections, business interests felt that the Spanish industry was in an inferior position and subject to market distortions. Moreover, they questioned the burden-sharing agreement in general, as it did not take economic growth into account. (Interview ES, BUS, section 4). An NGO representative, on the other hand, stated that indeed the Spanish NAP was ambitious compared to other NAPs, but it could have been better if fewer CDMs had been allowed (Interview ES, NGO, section 4).

Taking the outcome into account, it must be stated that the process was relatively effective despite the unmet deadlines. The reasons for not meeting the deadline were at first the elections and the change in government. However, even the newly elected government did not manage to comply with the extension of the deadline given by the Commission. According to an interviewee, the registry and the allocation of emissions allowances is generally working well (Interview ES, POL-2, section 31).

9.5.3.5 Spanish National Allocation Plan 2008-2012

NAP 2 was again prepared by the GICC. A draft of NAP 2 was published in 12 July 2006 and was open for public consultation until 5 August 2006 (FH-ISI 2006: 11). A first version of NAP 2 was adopted by the Real Decreto 1370/2006²⁰² in November 2006 and submitted to the Commission. Thus, Spain did not comply with the deadline at the end of June, submitting its NAP 2 only after the adoption. After Spain sent two letters with additional information requested by the Commission, the Commission demanded in its Decision of 26 February 2007²⁰³ a cut in the total number of allowances and a limit of 20 % for the use of external credits from project-based mechanisms, a specification of the new entrants rule, and a complete list of installations. Through the adoption of the amendments to the Real Decreto 1370/2006 (Real Decreto 1030/2007²⁰⁴ of July 2007 and Real Decreto 1402/2007²⁰⁵ of October 2007) the final NAP 2 was approved. In the Real Decreto 1030/2007, the main change was a reduction in the limit for the use

²⁰² Real Decreto 1370/2006, de 24 de noviembre, por el que se aprueba el Plan Nacional de Asignación de derechos de emisión de gases de efecto invernadero, 2008-2012, hereafter referred to as Real Decreto 1370/2006 or draft NAP 2.

²⁰³ Commission Decision of 26 February 2007 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Spain in accordance with Directive 2003/87/EC of the EP and of the Council, hereafter referred to as Decision of 26 February 2007.

²⁰⁴ Real Decreto 1030/2007, de 20 de julio, por el que se modifica el Real Decreto 1370/2006, de 24 de noviembre, por el que se aprueba el Plan Nacional de Asignación de derechos de emisión de gases de efecto invernadero, 2008-2012.

²⁰⁵ Real Decreto 1402/2007, de 29 de octubre, por el que se modifica el Real Decreto 1370/2006, de 24 de noviembre, por el que se aprueba el Plan Nacional de Asignación de derechos de emisión de gases de efecto invernadero, 2008-2012, hereafter referred to as Real Decreto 1402/2007 or NAP 2.
of external credits; the Real Decreto 1402/2007 is the result of the public consultation. The latter relates to the allegations of participating companies – mainly from the brick- and tile-producing and combustion sectors – in which they complained that the proposed number of allowances was not sufficient. The numbers were adjusted, but the overall cap was not touched. The final version of individual assignation of emissions rights was included in the Real Decreto 1402/2007.

With the adoption of NAP 2, the Spanish government intended to contribute to the Kyoto target under the burden-sharing agreement and at the same time to preserve competition and employment in the Spanish economy.

The final NAP 2 contains the following provisions:

The cap for the EU ETS participating sectors in the period 2008-2012 was 761.25 Mio of allowances (763.365 Mio in the first version of NAP 2), meaning that annually 145.973 Mt CO2 (152,673 Mt CO2/year in first version of NAP 2) could be emitted. In 2005, the EU ETS sectors had emitted 189.85 Mt CO2; the cut in allowances is almost 20 %.

All certificates were allocated for free to operators. Auctioning was not used for the period 2008-2012. The burden of reductions was put on the electricity sector. The allocations took account of the different situations of the energy sector and the energy-intensive industries that were exposed to international competition and who had less potential to reduce emissions. For the allocation, verified emissions from 2005 and the production factor for 2008-2012 were taken as a basis. The factor was reduced by the potential to reduce emissions in each sector.

For new entrants, a reserve of 6.277 M allowances per year (7,825 Mt/year in draft NAP 2) was provided. These entrants received allowances based on a benchmark of average emissions of already existing installations with similar activities. The remaining allowances from the new entrant reserve could be auctioned to participants.

Special rules were kept for early action and clean technology.

The use of external credits was allowed for companies but restricted, depending on their activity. Installations in the energy sector could buy

external credits of up to 42 % (70 % in the first version of NAP 2) of their total emissions; the other sectors had a limit of 7.9 % (20 % in the first version of NAP 2). In order to fulfil its burden-sharing target, Spain planned to buy credits from CDM of about 289.39 Mt for the period 2008-2012. Moreover, they expected to have at least 2 % of allowances coming from sinks. With the use of these mechanisms, Spain might achieve its target.

9.5.3.6 *Evaluation of phase* 2008-2012

In the second period, Spain was again late in submitting the NAP. This time, no external reasons such as elections can be identified as an excuse. NAP 2 was adopted by a Real Decreto, thus excluding the parliament from real participation. However, the design was generally good. According to an evaluation by a German research institute commissioned by Greenpeace, Spain used the EU ETS in an effective way to reduce CO2 emissions compared to other EU Member States. The draft version of NAP 2 already presented a considerable improvement compared to NAP1 and in comparison with other draft NAPs (such as the German NAP), it showed a shortage of allowances for the electricity sector (FH-ISI 2006: 35-6). In Spain, the electricity sector had profited from pricing-in parts of the costs. Nevertheless, one criticism is that the remaining industry and some combustion plants still received too many allowances and hardly had to reduce emissions at all (FH-ISI 2006: 35-6). Green NGOs see NAP 2 as an improvement (Interview ES, NGO, section 6). However, there are still aspects that are less than ideal.

Under NAP 2, Spain allowed the purchase of credits from project-based mechanisms (CDM and JI). The Commission had demanded a decrease in the allowed use of external credits, which was welcomed by green NGOs. Although the amount was reduced compared to the draft NAP, it was still considered too generous. Moreover, it was felt that the money spent on CDM projects by the Spanish state would have been better invested in energy efficiency and renewable energies domestically (Consejo Nacional del Clima 2007).

Furthermore, Spain did not make use of auctioning in the second phase. One reason might have been the opposition from business interests (Interview ES, BUS, section 8). From the companies' point of view, the preferred option was "grandfathering" or benchmarks, which would make the allocation in all Member States comparable. Therefore, CEOE thought this was the fairest way to allocate emission rights (Interview ES, BUS, section 9). According to green NGOs, the money gained from recovering the benefits gained by the energy sector should be invested in climate change mitigation measures (Interview ES, NGO, section 5).

A special problem of Spain regarding the participants was that most operators were small and medium-sized enterprises, and 97 % of Spanish enterprises have less than 500 employees. The small companies in particular had problems with the bureaucratic requirements. Moreover, as many market players make the market too complex, CEOE found it reasonable to reduce the participants by increasing the threshold, thus making the market more transparent (Interview ES, BUS, section 5). However, this issue was not addressed in the second phase.

All in all, Spain managed to improve once more in the second phase with an ambitious NAP.

9.5.4 Applying implementation research

Spain played a minor role in the formulation process and did not seem to be very interested (Steuwer 2007: 113) at the time of the formulation (when a Conservative government was in power). Moreover, climate policy was not a priority and the government complained about overly tough targets. Thus, Spain has to be classified as ambivalent because they did not get actively involved in the process. The result of its reluctance and the unpopularity of the climate policy is that Spain did not bother to implement the Directive until a new government was elected.

The situation regarding implementation in Spain was that the deadline for NAP 1 coincided with national elections. The Conservatives were replaced by the Social Democrats, who implemented the Directive during both its first and second trading period, although with delays. The Social Democrats were eager to implement the instrument and establish a climate policy in Spain once they were in power. The position of the PP was that climate policy constrains the economic development of Spain, whereas the PSOE

pointed out the relationship between climate policy and energy security and was more aware of Spain's vulnerability to climate change. The party political preference of the government has to be ranked as ambivalent for the first phase (taking into account the opposition of the Conservatives) and supportive for the second phase.

Applying the preferences approaches indicates an ineffective implementation for the first phase and a more effective implementation after the change in government and for the second phase. Altogether, it indicates a moderate implementation.

Spain's climate policy was undeveloped at the time of implementation; for the industrial sectors concerned, no major measures to address greenhouse gases existed. Thus, the accommodation of the EU ETS was not a problem. However, the acceptance was a problem, as has been demonstrated. Moreover, the environmental instruments used in Spain were more command and control than economic instruments. Furthermore, market instruments in general were alien to Spanish policy-making. Hence, the instrument was a misfit with the policy style.

The adaptation pressure for the Spanish administration can be seen as moderate to high: although Spain has a well-functioning administration, it had no profound experience with the instrument.

The expected outcome should have been an ineffective implementation considering the misfit of the policy style and moderate to high adaptation pressure.²⁰⁶

The Commission needed to push Spain to meet its deadlines. Spanish business interests were more influential, but environmental NGOs were very active as well. However, neither of them was able to push the government to comply with the deadline. The industry was opposed to an ambitious climate policy based on savings for the same reasons as the Czech industry was: because they thought that this would constrain economic growth and threaten their competitiveness.

²⁰⁶ Skjærseth and Wettestad rank the goodness of fit for both institutions and policy rather low (Skjærseth/Wettestad 2008: 165-7).

9.5.5 Summary

European influence was important in motivating Spain to adopt a climate policy (Interview ES, POL-1, section 16), especially when Spain was governed by a Conservative government; the PP and Prime Minister Aznar personally were against the Kyoto Protocol (Interview ES, POL-2, section 21).

Spain's major challenge was to balance two opposing factors: the aim to achieve its Kyoto target and industrial competitiveness (del Río 2007: 187). The difficulty in complying with the Kyoto target lies in the fact that Spain's emissions are still rising due to an increase in energy demand (de Cendra de Larragán 2008: 176). Moreover, inaction in climate policy and a fast-growing economy were the reasons for Spain's sharp increase in emissions and problems in reaching the Kyoto target (del Río 2007: 183). Since 2006, the emissions increase has slowed down (Interview ES, POL-1, section 2), which may be a first result of the EU ETS. One of the main problem of Spanish climate policy and hence the implementation of the EU ETS is that it is not a popular issue; other topics such as economic development and unemployment are more visible on the agenda. After the government change in 2004, climate policy was at least taken more seriously at the political level.

Spain did not meet the deadline in 2004, due to upcoming elections and an eventual change in government. In the second period, Spain also did not meet the deadline, but this time there were no special excuses. Because of its delayed implementation but good results, Skjaerseth and Wettestad (2008b: 63) call Spain an improving laggard. Spain's NAP indicates ambition; however, at the same time, the high use of external credits allowed under NAP 2 proves that Spain does not necessarily plan to achieve its target through domestic action. Spain's strategy for compliance is based instead on flexible mechanisms rather than on other measures, and it is not predicted to change its consumption pattern through price signals that reflect CO2 (de Cendra de Larragán 2008: 176). The state will comply with its target only by the use of external credits amounting of up to 20 %. As Spain performed

well by not over-allocating, I will also put it in the leader group, although the ranking is not representative for Spain's general climate strategy.

Taking the variables from implementation research in account, Spain can be seen as an example that despite a misfit in policy style and high adaptation pressure, relatively good performance is possible. The willingness of the party in power was strong and enabled Spain to overcome its institutional constraints.

9.6 The case of the United Kingdom

"[B]asically it's the core instrument of Europe and the UK climate change package. [...] [W]e have the potential, the potential to deliver carbon reductions that, you know, at the most cost-effective price" (Interview UK, ADMIN, section 58)

9.6.1 Introduction

The UK belongs to the group of big Member States in the EU with regard to its number of inhabitants and economic strength. Moreover, it has been a member of the EU for over thirty years, although its relations with the EU were (and are) not always easy because of the scepticism rooted its society and among politicians. For a long time, the UK's engagement in the EU focused on the common market and the avoidance of market distortions (Bulmer 2006: 558), hence on negative integration. Under Prime Minister Tony Blair (Labour party), European affairs were moved to the Prime Minister's office (Sturm 2006b: 158), which was evidence of the rising significance of the EU for the UK. Since then, the UK's involvement in the EU has changed, becoming more constructive.

Nature conservation has a long tradition in the UK. The UK's approach towards environmental policy is quality-oriented (Héritier 1995: 289), which means that as long as the air or water quality fulfils certain standards, no measures are necessary. The rationale behind this is that a system can cope with a certain degree of pollution. In the 1990s, the UK managed to replace Germany as the main shaper of environmental policies. Europeanisation influenced British environmental politics positively and led to "greener" policies (Bulmer/Wallace 2006: 165). Nevertheless, EU and international politics is not necessarily the driver of an ambitious environmental policy. The UK has become a strong proponent of an ambitious climate change policy under the Labour government. The UK is likely to meet its Kyoto target under the burden-sharing agreement of -12.5 % compared to 1990 levels without any further measures, as it had already achieved a reduction of -14.6 % in 2004 and -17.1 % in 2007. A major part of the reductions were the result of a fuel switch from coal to gas in the 1990s (Harrison/Radov 2007: 42). In addition to the Kyoto target, the UK also had a domestic target, namely, to reduce CO2 emissions by 20 % by 2010 (DETR 2000), which was not legally binding and which the UK was not on track to meet as of 2009 (Makuch/Makuch 2009: 258). The increasing energy demand from households and problems with transportation policy were challenges identified by Sorrell, although at the time of his analysis, he still thought that the UK was on track to meet the target (Sorrell et al. 2003: 86). The UK's potential for further emissions reductions is especially linked to increasing the share of renewable energies.

The UK can be seen as one of the forerunners in climate policy and it has played a proactive role in climate policy negotiations at the EU level as well as at the international level (Sorrell, et al. 2003: 86). During the formulation and decision-making for the EU ETS Directive, the UK was one of the strongest supporters of an EU-wide ETS, although it preferred a voluntary scheme. Skjærseth and Wettestad (2009: 109) consider the support of the UK to be "politically important for the Commission, as the UK had previously contributed to blocking the adoption of the common energy/carbon tax". British industry's support for a trading system also strengthened the UK's position.²⁰⁷ National experts from the UK and British organisations such as the Emissions Trading Group (ETG) UK and FIELD were part of the working group I of the ECCP. The UK had designed a domestic ETS before the introduction of the EU ETS. It was assumed that with the early establishment of the UK ETS, Britain could better influence the decisionmaking for the EU ETS, so that the design would be similar to the UK's ETS. This would have put British industry in an advantageous position (Sarasini 2006: 2). However, in the end, the EU ETS did not have much in common

²⁰⁷ For more information, see Skjæjseth/Wettestad 2008: 87-90.

with the UK ETS (Skjærseth/Wettestad 2008b: 112-3). The fact that the UK had previous experience with the emissions trading instrument makes it an interesting case for analysis of the implementation of the EU ETS Directive. Moreover, the UK is generally open to market-oriented instruments.

9.6.2 Country Profile

9.6.2.1 The political system and decision-making

The UK is a unitary state consisting of the four countries England, Scotland, Wales, and Northern Ireland. Regionalisation has been enhanced in recent years, but devolution took place asymmetrically; all countries but England have their own parliaments or assemblies (Weber 2006: 170). In addition, they also have their own environmental agencies but with differing competences. The multiple jurisdictions between the decentralised parts of the nation lead to complexity in the application of law, which will be shown below.

The UK is a constitutional monarchy, with the Queen as the current head of state and the prime minister as head of the government. Governments often consist of only one party, the one with the absolute majority in the House of Commons, the British Parliament. The British Parliament is the sovereign and can change the law of constitutional status (Weber 2006: 167). The prime minister is the most powerful person in the government and can act fairly autonomously. The Labour party had been in power since 1997, with Gordon Brown replacing Tony Blair as prime minister in 2007. Thus, the Labour party was responsible for the policy formulation and implementation of the EU ETS Directive.

In the UK, a restructuring of responsibilities and competences has taken place in recent years. Only in October 2008 was the UK's Department of Energy and Climate Change (DECC) created, which combines the Climate Change Group that was situated in the Department for Environment, Food and Rural Affairs (DEFRA) and the Energy Group that was previously housed by the Department for Business, Enterprise and Regulatory Reform (BERR), which was previously the Department for Trade and Industry (DTI).²⁰⁸ This can be seen as a useful step to developing a more coherent policy approach. The first appointed Secretary of State for the DECC, Ed Miliband, can be considered an environmentalist.

The Government initiates 90 % of public bills and controls the agendasetting, but the Parliament as the sovereign is the most important actor in policy-making. The involvement of the Parliament regarding EU matters takes place through the Committee on European Secondary legislation, which is responsible for checking the formal issues of EU law (Sturm 2006b: 158), and through its representatives in the permanent representation of the UK to the EU, in which both houses have representatives. Europeanisation influences policy-making in the UK, in that there has been a codification of areas that were previously determined by gentlemanly style, or at least this tendency is accelerating (Müller 2006: 449).

The UK is a fairly pluralist country (Jahn 2006: 112; based on Siaroff 1999) with a strong tradition of lobbying. Traditionally, trade associations had stronger connections to the Conservatives and the labour union to the Labour party. With the Labour party becoming more liberal, this classification is no longer completely valid. Single-issue movements and new social movements are numerous in the UK (Sturm 2003: 247-8) and rooted in society. Environmental NGOs are also widely accepted and esteemed as valuable partners in policy-making. The WWF is just one example of an NGO that also played an important role in the EU ETS.

9.6.2.2 The carbon intensity of the economy

The UK is an early industrialised country and thus has older, settled industry. Today the manufacturing sector is still important for the UK's economy. Major manufacturing areas are the steel, car, and textile industries. Despite its liberalised economy, the state has always supported companies to secure sites and employment. For example, this was the case in the steel sector, which alternated between being privatised and nationalised over the last 50 years (Müller 2006: 438-443) and was recently privatised again. The UK was one of the first countries in the EU to begin

²⁰⁸ See www.decc.gov.uk [last accessed: 2010-11-23].

the privatisation of state-owned companies and the liberalisation of the service sector market. It also promoted these tendencies in the EU. Accordingly, the British energy sector has already been fully privatised. Since privatisation, the grid has been managed by the National Grid Company and separated from the production and distribution of electricity, which is done by PowerGen and twelve regional companies (Müller 2006: 447).

Hand in hand with privatisation came a more regulatory state to control the monopolies and efficiency of former state-owned companies. The regulators' tasks were to guarantee functional competition. The regulator responsible for electricity and gas is now the Office for Gas and Electricity Markets (OFGEM), a merging of the former Office of Electricity Regulation (OFFER) and the Office of Gas Regulation (OFGAS). The new office has new interests, such as incorporating social and ecological aspects in its work (Müller 2006: 446 and 449).

The UK's natural resources are coal and natural gas. In recent years it has become more dependent on exports due to a depletion of reserves and decrease in production.²⁰⁹ Its energy mix consists mainly of fossil fuels, which was until recently for a large part produced domestically. The share of renewable energy in the primary energy supply is about 2 %, whereas coal, gas, and oil provide almost 90 %, and nuclear energy about 8.5 %. The share of renewable energy and cogeneration in electricity generation is around 6 %, over two-thirds are generated by gas and coal in almost equal parts, and the remaining part is covered by nuclear power, representing almost 20 % (in 2008).²¹⁰ A shift from coal to gas has taken place since 1990 because of environmental reasons and availability, so that gas is now the principal fuel. According to Sorrell (2003: 86) the switch from coal to gas was also due to changes in the structure, governance, ownership, and operation of the gas and electricity industries that was connected to

²⁰⁹ See CIA Factbook, www.cia.gov/library/publications/the-worldfactbook/geos/uk.html [last accessed: 2010-12-14].

²¹⁰ See International Energy Agency, www.iea.org/statist/index.htm [last accessed: 2010-11-16].

liberalisation. The share of renewable energies in both electricity and energy production has increased in recent years with a focus on wind and tidal power. The share of gas is above the EU average, but with regard to the share of renewable energies, the UK is still lacking behind (European Commission 2007c).

9.6.2.3 British climate policy²¹¹

The UK initiated a comprehensive climate policy with the government change from the Conservatives to the Labour party in 1997. In his report to the government from 1998, Lord Marshall called for a policy mix to tackle climate change consisting of economic instruments alongside existing measures. He particularly recommended establishing a voluntary pilot ETS as practice for the international ETS and an energy tax to address those sectors potentially not included in a trading scheme (Lord Marshall 1998: 1-3). These points were realised and resulted in the UK ETS and the Climate Change Levy (CCL),²¹² which are presented in detail below. The policy instruments used in British climate policy include command and control instruments, market-based instruments, and negotiated agreements. The UK ETS was the first nation-wide ETS in the world (Makuch/Makuch 2009: 257).

In 2000, the UK launched the first Climate Change Programme (CCP) (DETR 2000), which consists of a strategy and measures for each sector to mitigate climate change. In addition, the Carbon Trust, an independent company whose task it is to support the switch to a low carbon economy,²¹³ was established. The activities of the Carbon Trust are financed by the revenues from the CCL (DETR 2000). The most important measures for the industrial sector included in the CCP 2000 were the CCL, the Climate

²¹¹ I will focus on the measures addressed toward the industrial sector. For more information on measures in the other sectors (housing, transportation, etc.), see Makuch and Makuch (2009).

²¹² The Climate Change Levy (Registration and Miscellaneous Provisions) Regulations 2001, No.7. A number of amendments have been made since. The latest version is The Climate Change Levy (General) (Amendment) Regulations 2010, No. 643, hereafter referred to as CCL.

 $^{^{213}\,}See\,www.carbontrust.co.uk$

Change Agreement (CCA),²¹⁴ the UK ETS, and the Renewables Obligation (RO).²¹⁵ The UK is one of the few EU Member States that has a quota model to promote renewable energy, which is part of the RO. In a quota model, electricity companies must buy a certain share of renewable energy and mix it into their fuel mix.

The CCL is a downstream energy tax on coal, gas, and electricity use that addresses the business and public sector. The levy is an absolute levy per kWh; thus, rising prices do not lead to higher revenues. Fuel for cars, renewable energies, and CHP are exempted. "The indirect treatment of electricity was chosen to avoid electricity price increases for low income households, while an energy tax was chosen over a carbon tax to protect the UK coal industry" (Sorrell, et al. 2003: 88). The burden of the revenues from the levy for the affected industry was compensated by a cut in the employer's rate for the National Insurance by 0.3 %. Moreover, companies can apply for funding for investments in energy efficiency and renewable energy projects (Makuch/Makuch 2009: 267).

Energy-intensive industries also have the option to get an 80 % discount on the CCL if they participate in the CCA. These two instruments thus form a package. Agreements had been negotiated with almost all of the eligible sectors. The CCA can be prolonged for another period for each sector that has met the targets of the agreement by a certain date.

The other important instrument of the UK's CCP 2000 is the UK ETS.²¹⁶ This was designed as a voluntary scheme and included all six greenhouse gases. In addition to the direct participants, participants of the CCA could also participate in the UK ETS. The UK ETS is a 'cap-and-tradable-permit'

²¹⁴ The Climate Change Agreements (Eligible Facilities) Regulations 2001, Statutory Instruments No. 662. A number of amendments have been made since. The latest version is The Climate Change Agreements (Eligible Facilities) (Amendment) Regulations 2009, Statutory Instruments No. 2458, hereafter referred to as CCA.

²¹⁵ Renewables Obligation (Amendment) Order 2010, hereafter referred to as RO.

²¹⁶ For more information on the UK ETS, see: on the development of the UK ETS Sarasini (2006), on juridical issues Makuch and Makuch (2009), and on the role of the companies Nye (2010).

scheme for the direct participants and a 'baseline-and-credit'²¹⁷ scheme for CCA participants (Sarasini 2006: 53). The scheme started in 2002 and ended at the end of 2006; thus, it coincided with the EU ETS for two years. CCA companies that participated in the UK ETS had the chance to further trade and sell their emissions.²¹⁸

In 2006, a new version of the Climate Change Programme (HM Government 2006) was launched. The UK CCP 2006 mentions continuation of programmes with the CCL, CCA and the RO. New aspects are the support for the EU ETS and the promotion of CCS technologies. The aim is to further enhance energy efficiency and to increase use of renewable energy.

In November 2008, the Climate Change Act 2008 was adopted. The particularity of this Act is not only that it is the first binding and most comprehensive commitment to substantially cut greenhouse gas emissions in the world but also that it was initiated by the NGO Friends of the Earth (FoE) UK. This NGO drafted a Climate Change Bill in 2005 and submitted it to the Parliament via a group of deputies from different parties. The policy-making process was accompanied by a big campaign by FoE UK (Friends of the Earth UK 2008). The Climate Change Act 2008²¹⁹ includes the prolongation and extension of existing mitigation measures, carbon emissions budgeting, inclusion of transportation issues such as shipping and aviation, a new waste policy, and demands for adaptation programmes. Moreover, a committee on climate change was established with the task of advising the government on climate actions and reporting to the parliament on the progress being made.²²⁰

Sorrell et al. (2003: 95) have investigated the compatibility of the EU ETS and existing UK climate measures. They find that the UK ETS and the EU ETS are competing and that the UK ETS should cease in 2006. Moreover, the

²¹⁷ Baseline and credit means that non-participating operators can sell credits if they fall under a certain baseline of emissions. This is also called offsets.

²¹⁸ For further information, see:

www.defra.gov.uk/environment/climatechange/trading/uk/ [last accessed: 2008-09-13]

²¹⁹ Climate Change Act 2008, c. 27.

²²⁰ See www.theccc.org.uk

industries covered by the EU ETS should be exempted from the CCL and no trading should be allowed between CCA participants and EU ETS participants, since the CCA has relative targets. It is expected that "[t]he net result is that introducing the EU ETS into the existing policy mix will entail administrative difficulties and raise complex issues of differential treatment and double regulation" (Sorrell, et al. 2003: 89). Makuch and Makuch (2009: 295) note that "that there may be too many climate change-related initiatives in operation throughout the UK, which may result in confusion or over-burdening some sectors".

9.6.3 The implementation of the Emissions Trading Directive

9.6.3.1 Background

As mentioned above (see Chapter 9.6.2.1), some tasks in the UK are decentralised. Therefore, the devolved administrations of Scotland, Northern Ireland, and Wales are also part of the implementation process.²²¹

In the UK, the leading ministry for the implementation of the EU ETS was the DEFRA, which also manages the scheme, working in close partnership with the DTI and (after the departmental reform) with the BERR. The DTI (now BERR) was responsible for providing energy forecasts and later took the lead in determining the allocation method, the new entrant reserve, and closures. Departments that were also involved in one way or another were Her Majesty's (HM) Treasury, the Cabinet Office, the Foreign and Common Wealth Office, and the Department for Transport. An inter-departmental working group was set up to coordinate the work of these departments and a group of senior officials reviewed the process.

Consultants prepared studies on the implications for the electricity market, developed growth projections, reviewed CCA targets, and evaluated consultation process (Harrison/Radov 2007: 45).

The ETG was the first public hearing group to be established as an organ of industry. It was initiated by the Confederation of Business Industries (CBI) and the Advisory Committee on the Environment when emissions trading

²²¹ See www.scotland.gov.uk, www.ni-environment.gov.uk

appeared on the agenda. This group negotiated the UK ETS with the government as a business advocacy group (Nye 2010: 236) and played a role in the development of the EU ETS. The majority (95 %) of EU ETS participants are represented in the ETG, whose task is both to negotiate with the government on details of the ETS and to support and inform the participating industries (Sarasini 2006: 46, 77).²²²

9.6.3.2 Transposition of the EU ETS Directive

Among the EU-15, the UK was the only Member State that notified the transposition to the Commission on time. The EU ETS Directive was incorporated into national law by the "Greenhouse Gas Emissions Trading Scheme Regulations 2003".²²³ The Emissions Trading Regulation 2003 was amended in 2004 and replaced by the "Greenhouse Gas Emissions Trading Scheme Regulations 2005"²²⁴ in April 2005. Under these regulations, installations are required to hold a permit if they are eligible for this scheme. The permit sets down a number of mandatory conditions involving things like surrendering the right number of allowances. Everything one could expect from the Directive has been incorporated into the permit (Interview UK, ADMIN, section 7).

In the UK, the administration of the EU ETS is spread out over different authorities. Although the Welsh Assembly took part in decision-making for the formal implementation, the practical implementation is carried out only by the EA. The EA is the administrator and registry for the entire UK but regulator only for installations in England and Wales. The Scottish Environmental Protection Agency issues the permits for installations in Scotland and the Northern Ireland Environmental Health Department looks after installations in Northern Ireland. Offshore installations like refineries are dealt with in the BERR. To maintain a consistent approach, all regulators meet once a month to discuss all sorts of issues (Interview UK, ADMIN,

²²² For more information on the ETG, see www.uketg.com, [last accessed: 2010-11-23].

²²³ The Greenhouse Gas ETS Regulations 2003, Statutory Instrument 2003 No. 3311 (SI 2003/3311), hereafter referred to as Emissions Trading Regulation 2003.

²²⁴ The Greenhouse Gas ETS Regulations 2005, Statutory Instrument 2005 No 925 (SI 2005/925), hereafter referred to as Emissions Trading Regulation 2005.

section 9-11). Operators must apply for a permit through their responsible regulator. Regulators recover their costs by charges be paid by operators, through application fees, annual subsistence charges, and other charges. Thus, it is almost a cost-neutral system (Interview UK, ADMIN, section 86). Moreover, the regulators are responsible for monitoring, reporting, and verifying emissions.

The functions of the registry are to manage the accounts, allocation, transactions, and surrendering of allowances and to prepare reports on compliance to the EU Commission and the UNFCCC secretariat. In addition, the EA coordinates all authorities that are involved in administrating the EU ETS (Harrison/Radov 2007: 44-5). An interviewee explains that it was decided from the very beginning by DEFRA, in accordance with the Scottish and Northern Irish government, that the administration and registry would be located in the EA because it was clear that these tasks had to rest in one place and the EA is the biggest agency in the UK (Interview UK, ADMIN, section 19). Altogether there are about 17 people working in the administration of the EU ETS (Interview UK, ADMIN, section 50).

To support companies, the EA set up help desks. They also meet once a month with the ETG, they send out information in case of changes, and they run workshops for operators to learn about new requirements (Interview UK, ADMIN, section 20-1).

9.6.3.3 British National Allocation Plan 2005-2007

For the preparation of the NAP, stakeholder workshops and meetings were held before the NAP 1 was published in January 2004 for official consultation – one of the first EU-wide. The UK sent its, according to the UK, 'provisional' [emphasis, VA] NAP (Harrison/Radov 2007: 46) in May 2004, two weeks after the deadline, and sent additional information in June. In May, the NAP was open to public comments again after some changes were included due to updated data and comments received on the draft NAP

(DEFRA 2006). In its Decision of 7 July 2004,225 the Commission decided for the NAP 1, accepting it under conditions and requesting that the UK send additional information by the end of September 2004. The UK was to specify the allocation to new entrants and to send a complete list of installations with the missing installations in Gibraltar. Moreover, adjustments to the cap had to be made because of accepted opt-outs. A requested extension to the deadline was accepted by the Commission, and the UK finally sent the missing information and amendments to the NAP in November 2004 and February 2005. The new version included an increase in the cap by 19.8 Mt CO2. The increased cap was rejected by the Commission in its Decision of 12 April 2005,²²⁶ arguing that the UK was not allowed to make changes to the cap after the end of September 2004. However, the UK argued that the previous NAP was only provisional and that "consultants had been working on a better method for sector projections" (Harrison/Radov 2007: 54). Because of the denial of the cap increase, the UK took the Commission to court (Zapfel 2007: 28).

In November 2005, the case (T-178/05) was decided by the court of first instance, annulling the Decision of the Commission and criticising the argumentation on which the Commission had based its Decision. Therefore, the Commission adopted a new Decision of 22 February 2006,²²⁷ in which it repeated its ruling to not allow a higher cap.

In the final and approved NAP 1 (Government of the UK 2005), the cap for the first year came to 736.3 MtCO2, which was about 245 MtCO2 per year.

²²⁵ Commission Decision of 07/VII/2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the United Kingdom in accordance with Directive 2003/87/EC of the EP and of the Council, hereafter referred to as Decision of 7 July 2004.

²²⁶ Commission Decision of 12/IV/2005 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the United Kingdom in accordance with Directive 2003/87/EC of the EP and of the Council, hereafter referred to as Decision of 12 April 2005.

²²⁷ Commission Decision of 22/II/2006 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the United Kingdom in accordance with Directive 2003/87/EC of the EP and of the Council, hereafter referred to as Decision of 12 April 2005.

The UK followed a two-stage approach for allocation based on two principles: First, the allocation to sectors was made on the basis of business-asusual scenarios to sectors based on projections for the period between 2005 and 2007. For the allocation, 52 sectors were categorised on the basis of their economic activity and whether or not they participated in the CCA (Harrison/Radov 2007: 46). The energy sector received fewer allowances, but the remaining sectors were allocated emissions according to the scenario. Second, the allocation to individual sectors was based on historic emissions over a six-year period (1998-2003) with the option to exclude one year (Harrison/Radov 2007: 67). For those installations that started after 1998, the remaining years were used, leaving out the year with the lowest emissions. Plants that started operation only in 2003 were allocated certificates according to the rules for new entrants. Special rules in the allocations at the installation level were possible for installations a) undergoing commissioning during the baseline period and b) where rationalisation of production had taken place during the baseline period (Government of the UK 2005). Thus, adjustments were possible for installations that had changed the scale of production capacity and as a consequence had either more or less emissions. Apart from the power sector, companies were allowed under certain conditions to transfer allocations from a closed site. The biggest burden was placed on the power sector, which was allocated the allowances that remained after the nonelectricity sector had been distributed allowances based on historic emissions (Government of the UK 2005). As in other countries, this was justified by the fact that the power sector could pass on costs to consumers and because of the international competition the others sectors were exposed to (cf. Harrison/Radov 2007: 50, 61).

For the new entrant reserve, about 6.3 % (46.8M allowances) was reserved and allocated for free (Government of the UK 2005). Only new installations in the electricity sector received allowances on the basis of a benchmark, which was based on gas regardless of the actual fuel being used (Harrison/Radov 2007: 62). Remaining allowances from the new entrant reserve were to be auctioned or sold. The UK applied for and was ultimately allowed to exclude certain installations subject to other climate change measures (like the CCA or the UK ETS) for the entire period or until the UK ETS ceased at the end of 2006.²²⁸ The direct participants from the UK ETS received "temporary exclusion certificates", which are not allocated and thus lead to a reduction in the total quantity of allowances. At the time of the start of the EU ETS, the decision of the Commission for the CCA installations was still pending, thus a further adjustment of the allowances was expected (Government of the UK 2005).

As a result, the EU ETS covered about 46 % of the UK's total CO2 emissions. Of the 1,069 installations falling under the scope of the Directive, 389 of the installations were excluded by the opt-out rule, 35 were new or late entrants, and 25 did not participate because of closure or because they fell below the threshold for participating. Thus, in 2005, the EU ETS started with 690 UK-based installations, a number that increased throughout the period because of installations that had been excluded by the opt-out rule entering the scheme when the UK ETS ceased. A small number of installations that had failed to apply for a permit and allowances on time received fewer allowances as a penalty (DEFRA 2006: 3).

9.6.3.4 Evaluation of the phase 2005-2007

The British NAP 1 was certainly one of the most ambitious because of its strict allocation of allowances. When the verified emissions were published in May 2006, it turned out that the UK was one of the few countries that had under-allocated its EU ETS participants.

The development of the NAP was probably not influenced by need, as the UK was not under too much pressure from its reduction targets. Therefore, Skjærseth and Wettestad attribute the country's actions to its ambition, as

²²⁸ Commission Decision of 29 October 2004 concerning the temporary exclusion of certain installations by the United Kingdom from the Community ETS pursuant to Article 27 of Directive 2003/87/EC of the EP and of the Council, Commission Decision of 11/X/2006 concerning the temporary exclusion of two installations by the United Kingdom from the Community ETS pursuant to Article 27 of Directive 2003/87/EC of the EP and of the Council.

"[p]olicy drive emerges as a more important explanatory factor than the need to implement the EU ETS" (Skjærseth/Wettestad 2008b: 163). Despite the achievement of its Kyoto target and early involvement with the EU ETS, Harrison and Radov do not think that the development of the NAP was "any easier" nor could decisions "be made sooner, because in practice it meant that more options could be considered" (Harrison/Radov 2007: 66). Nevertheless, despite the short delay, the process can be considered effective.

One interviewee finds the reason for the ambitiousness to be the fact that the UK's economy is perceived to be based on the tertiary (service) sector, and emissions trading is considered to be a new branch within this service sector. Within the first few years, a number of services had already been established. This fact influenced how the NAP1 developed. Moreover, it seemed that the UK supported the instrument and wanted to send a positive signal to other countries by setting tough targets (Interview EU, COM, section 25).

Like Germany, the UK already had a comprehensive climate policy before the EU ETS was introduced. Hence, handling the interaction of already existing policy instruments and the EU ETS was a problem as well. The problem of the incompatibility of some policies (see Chapter 9.6.2.3) was solved by using the opt-out rule and by not prolonging the UK ETS. Harrison and Radov consider the CCA and the UK ETS to be the most relevant measures for the development of the NAP. "Much of the institutional and stakeholder knowledge that was accumulated over the course of the development of the UK ETS has subsequently been applied to the UK's implementation of the EU ETS, including registries and approaches to verification of data" (Harrison/Radov 2007: 43-4).

When asked whether it was an advantage to have the UK ETS running before the EU ETS started, interviewees agree up to a certain point, as the two schemes are slightly different. For companies, it was a good way to gain experience (Interview UK, BUS, section 16-7). Another interviewee thinks that generally it was good to get to know the structure. Although the UK scheme did not deliver any reductions, people within the government gained experience and learned how emissions trading worked, and thus it probably helped the development of the EU ETS (Interview UK, NGO, section 51-2).

Regarding the policy mix, an interviewee from the business sector complains that the mix of instruments in the UK has become quite complicated and that taxes duplicate the trading scheme. There is a problem when companies are addressed by multiple instruments on the same issue at the same time. Nevertheless, the interviewee thinks that "it is right to have a mix of some voluntary measures, some market instruments like emissions trading, plus some regulations where you need, but I think it's quite a mess in the UK and it needs to be made some rationalisation on it" (Interview UK, BUS, section 44-5). Another interviewee from an NGO complains that the EU ETS is seen as "the kind of bullet, the only thing you need" and that it basically justifies coal-fired power plants, the expansion of airports, and investments in carbon-intensive industries; it is argued that if the price for carbon emissions allowed new investments, it would be all right. Moreover, because of the EU ETS, other instruments such as renewables directives are not put into place because such directives would undermine the EU ETS and cause a carbon price drop. However, as the interviewee points out, a tough renewables policy would have to go hand-in-hand with a tough cap (Interview UK, NGO, section 23-4). Aside from this general criticism, specific criticism on the design of the NAP 1 is mentioned below.

All in all, the process of stakeholder involvement and the cooperation between different actors worked quite well. As the EA is there to ensure that the policy decided by the government works on a practical level, they have a very close relationship with DEFRA and are also engaged with industry and other stakeholders. DEFRA consulted with the EA when drafting the regulation in which they appointed the EA to be the regulatory body. The EA basically advises the Ministry on the technical side and supports interpretation of the law; for example, the EA led discussions regarding the natural rubber content in tyres to determine whether to consider them as biomass (Interview UK, ADMIN, section 13-7). The inclusion of stakeholders was quite transparent, as consultation reports were published on the Internet. The ETG was a major non-state actor influencing the implementation of the EU ETS. It is said that the ETG supported the ETS since it was considered "much more rewarding than the punitive CCL" (Makuch/Makuch 2009: 262). In addition to the official consultation periods during the various steps of NAP development, there had also been meetings and seminars held for stakeholders where they could comment on the NAP. Stakeholders were included early in the process and took part in an extensive and intensive consultation process. According to Harrison and Radow (2007: 70), the long and extensive consultation process was good to "educate/motivate stakeholders, to gather necessary data and to obtain political legitimacy for the final UK NAP". This might explain the success of the UK's first period. The balance between interests was also relatively good.

Lobbying activities by business interests took place by writing letters to ministries, formal or informal meetings, and by media press releases. The connections to both responsible ministries (DTI and DEFRA) were good, but as an interviewee points out, obviously DTI is keener on business issues and DEFRA takes more of an environmental point of view (Interview UK, BUS, section 29-31). The position of the business association was influenced by the opinions of their members, but they also looked at the positions and arguments of other actors and talked to all kinds of actors including NGOs and academic experts (Interview UK, BUS, section 24-7).

The formal consultation process in the UK offers quite a lot of possibilities for participation, and the green NGOs responded to many questions posed by the government. However, the interviewee mentions that it was not clear how the government was taking suggestions into account (Interview UK, NGO, section 59). Green NGOs also participated in formal consultations at several meetings within DEFRA where industry was represented as well. According to an interview, for green NGOs it was much easier to get meetings with DEFRA than with DTI, which confirms the statement of the business representative. The interviewee had the impression that sometimes they were invited to a meeting with DEFRA where DTI was present as well to support the internal positions of DEFRA (Interview UK, NGO, section 434). The involvement of stakeholders is thus not only an obligatory process but also benefits both sides. The big green NGOs that had offices in various countries worked closely together to organise lobbying at the national level and also the EU level. Furthermore, they also worked together with developmental NGOs and wrote a joint position paper (Interview UK, NGO, section 14-22).

Specific criticism from stakeholders included the overall cap that was considered too tight and the sector definitions; many were against auctioning (cf. Harrison/Radov 2007: 51). Auctioning was not considered because of the opposition of the stakeholders and the expected costs for them. However, the auctioning of unused allowances from the new entrant reserve was included (Harrison/Radov 2007: 68). This could even help companies, because it put more certificates on the market, which lowered their price.

Having separate benchmarks for different fuels was criticised by NGOs, as this would protect coal-fired power stations (Interview UK, NGO, section 55-8). This had been the practice in other countries as well and jeopardised the ecological effectiveness of the system.

In general, business associations supported the concept of the EU ETS from the very beginning. During implementation, they focused on overall issues such as the size of the cap, leaving it up to the companies to discuss details like baselines with the government. Regarding the allocations, they tried to get the right balance between having an environmentally effective scheme and not putting UK businesses in a disadvantageous situation compared to other countries who allocated more generously. They ultimately felt that the government took the right decisions about the balance, although the overall cap was tough. Moreover, the government's intention was to make the scheme efficient and as easy to use for the companies as possible. "I'm not sure if we succeeded because in some sense it's a pretty complicated scheme but I guess it has to be, say we wanted to make it straight forward" (Interview UK, BUS, section 8-15).

As in the other countries, a problem during implementation in the UK was the availability of data, which limited the designer's decisions on allocations. Benchmarks were not an option because input and output data was not available. The energy sector received fewer allowances than under the business-as-usual scenario, as it was assumed that they could pass on the abatement costs since they were not exposed to international competition. The long baseline period was considered a fair procedure to avoid unrepresentative years and to take account of early actions (Harrison/Radov 2007: 68-9).

The major problem that occurred in implementation was the clash between the Commission and the UK resulting from the cap. According to Harrison and Radov, at the time of submitting, the Government made "clear that the government still considered the NAP to be a draft subject to revision – both to the overall cap and to installation-level allocations – because of the ongoing updating of the UK energy projections and growth rates, review of emissions factors, treatment of CHP projections, review of CCA targets and the potential for changes to the underlying bottom-up data submitted by operators" (Harrison/Radov 2007: 52). In a way, the UK was punished for having submitted its NAP 1 early and trying to comply with the deadline.

The practical implementation in the UK was rather effective. In a report, the House of Commons stated that the EU ETS in the UK was an administrative success, given that 99 % of installations reported their verified emissions and surrendered the correct amount of certificates by the deadline or shortly thereafter (House of Commons 2007: 21). However, with respect to delivering CO2 reduction, the result was less impressive in the first phase across the EU (House of Commons 2007: 25-6).

According to an interviewee, one problem of the practical implementation in the UK was that the government officials had difficulties working out and informing companies about their individual allocations, and sometimes mistakes occurred in the spreadsheets that were sent out to companies. Some companies received certificates only for one plant although they had more than one. There was a "lot of frustration about the detail but I think the overall balance on the NAP they got it right" (Interview UK, BUS, section 13). From the administration point of view, some problems that occurred during the practical implementation concerned the incorrect use of reporting sheets. Therefore, the EA planned to simplify the procedure and install programmes by which operators could upload their information directly. This would save time for operators and administration staff (Interview UK, ADMIN, section 22-3).

Despite these problems, there were only five civil penalties issued in the first year and since then the UK has always had full compliance among companies, according to an interviewee. However, the reason for the full compliance is connected to the high costs. The responsible authorities send reminders to operators until they upload information to the registry or surrender the required number of allowances. The week before the due date, they even start telephoning the operators that have outstanding paperwork. According to the interviewee, the reason for delays is "sort of human nature" as companies "tend to leave it to the very last moment" or get lost with all the other business they have to do. This is especially the case for some smaller installations such as hospitals and universities that have difficulties when a person in charge is missing. There is often no intention to delay (Interview UK, ADMIN, section 29-37) because "it's actually not the aim for the companies to pay penalties but to comply with the law" (Interview UK, ADMIN, section 42).

9.6.3.5 British National Allocation Plan 2008-2012

The decision makers for NAP 2 were again DEFRA and DTI/BERR, in close cooperation with the devolved administrations of Scotland, Wales, and Northern Ireland. Other departments and offices including HM Treasury, the Department for Transport, the Cabinet Office, the Foreign and Commonwealth Office, the Office of Fair Trading, the Small Business Service, and the UK Permanent Representation in Brussels were consulted regularly.

The consultation process with stakeholders and the public started in March 2005 with informal consultation on issues such as the inclusion of non-CO2 gases, the use of auctioning, and the use of external credits. The first formal consultation took place in July 2005 and was accessible through the ETG or the websites of DEFRA and DTI. With the publication of a draft NAP 2 in March 2006, official consultation of the wider public was possible. Moreover, throughout the preparation period, workshops took place to explain

the allocation methodology and stakeholders were involved through participation in the ETG. Stakeholder consultation focused on the general allocation method and rules for specific sectors; additionally, questions on benchmarks and new entrants were addressed. The government also met frequently with environmental NGOs and other public groups and commissioned research studies. The external reports commissioned by the government included implications of allocation methods, evaluations of consultation responses, and reviews of the CCA targets. These opinions, practices and views from other Member States, and information from the implementation guidelines were considered for the preparation of NAP 2 (cf. DEFRA 2007: 6-7, Harrison/Radov 2007: 45).

As a result of this process, the UK submitted its NAP in late August and sent two letters with additional information in October and November 2006; late again, as the deadline had been at the end of June. The only request made by the Commission concerned the missing installations in Gibraltar again. Otherwise, the NAP was accepted without changes.

The final NAP 2 set the cap for the EU ETS participating sectors in the period 2008-2012 at 246.2 Mt CO2 allowances per year, which amounts to 1,230.9 Mt CO2 for the whole period. The total cap includes 219.3 Mt CO2 allowances for activities that had been covered under NAP 1 as well and 9.6 Mt CO2 allowances that resulted from an expansion of the scope of the scheme. 17.2 Mt CO2 allowances were sold or auctioned. For this period, no opt-out was possible and the scheme was extended to include the chemical and aluminium industry, therefore the allowances per year might be higher than under NAP 1.

Under NAP 2, allocation took place in a two-stage process as under NAP 1, which means that allowances were allocated first to sectors and then to installations. Installations received their allowances on the basis of average historic emissions. As a baseline period for determining allocations, the years between 2000 and 2003 were used, excluding the year with the lowest emissions. New entrants or installations that started operating after this period received their allowances on the basis of benchmarks. If useable emissions data was available for later years, their allocation could be based

on 2003 and 2004 emissions data. An adjustment could be made for installations that had experienced significant changes in capacity within this period or afterwards.

Large electricity producers received allowances on the basis of benchmarks. Gas-fired power stations and coal-fired power stations had different benchmarks; within the coal-fired generation sector, a differentiation was made between those plants that fell under the LCP Directive and those that opted out. CHP also had a separate benchmark.

For new entrants, a reserve of 81.6 M allowances, representing 6.6 % of the total number of allowances was provided. CHP plants received all allowances for free according to a benchmark. Other electricity or energy-generating plants received only 90 % of the benchmark and large electricity producers received 30.3 % less. The remaining sectors received 95 % of the benchmark as new entrants.

As has been previously mentioned, in the second period, 7 % of allowances (about 85 M certificates in total) were auctioned or sold. All reductions that had to be made compared to a business-as-usual scenario had to be borne again by the electricity sector. The UK Debt Management Office (DMO)²²⁹ was responsible for the auctions in the second phase.

Between 2008 and 2010, a number of auctions conducted by the DMO took place in which 18.4 M allowances were auctioned off. Clearing prices ranged between \in 10.98 (£ 10.12) and \in 16.15 (£ 13.60). In the first auctions, the demand was four times higher than the available allowances (four times oversubscribed). The revenues from the auctions went to the overall budget.

Unused allowances from the new entrant reserve and surplus allowances from closures were supposed to be auctioned off or sold if their number did not exceed 3 %. Any additional surpluses would be cancelled.

The use of external credits from project-based mechanisms was limited to 8 % (9.3 % for large electricity producers) of the allocated emissions per

²²⁹ The Debt Management Office (DMO) is an agency of HM Treasury that was established in 1998 for the management of the gilt market. For more information on the DMO, see www.dmo.gov.uk

year. For the energy sector, this number referred to the allocations without taking into account the auctioned certificates. Banking of project credits from one year to the next within the entire period was allowed.

9.6.3.6 Evaluation of phase 2008-2012

The negative experience of being among the first to publish the NAP1 might be the reason the UK took its time in the second round. Despite the delay, the British NAP2 was again one of the most ambitious and was among the few plans whose cap was not cut. When the Stern review was published at the end of 2006, the UK government came out with a supporting statement on emissions trading, laying out the principles they would comply with (Interview UK, NGO, section 42). In their report, the House of Commons points out that the UK was one of the few countries that had made efforts to contribute to a more ambitious second phase. The UK was the first Member State to have its NAP 2 accepted without a cut in the cap (House of Commons 2007: 28).

Although the British NAP1 was already good (compared to others), improvements could be made. In the administration, the people in charge were aware of the weaknesses of the system. "Of course, there is this issue with the trading scheme itself and whether it's actually delivering carbon reduction and of course we know all the problems of phase one, phase two hopefully will be very different because by the accounts there is a scarcity of allowances across Europe" (Interview UK, ADMIN, section 20-1). Being one of the few countries that had a tight cap in the first phase seems to have left a mark on the actors and explains the interest of the UK for increased centralisation and a stronger role for the Commission; the House of Commons highlighted the vital role of the Commission as a guarantee for an ambitious EU ETS (House of Commons 2007: 29).²³⁰ Major changes between NAP 1 and NAP 2 were the use of benchmarks and auctioning for allocation. In the second period, opt-outs were no longer possible. The

²³⁰ The British administration supported a centralised cap for the third phase "because otherwise countries will in some instances look for their own interests and not to the wider implications" (INTERVIEW UK, ADMIN, section 26-7) and also was in favour of 100 % auctioning (INTERVIEW UK, ADMIN, section 79).

intention to use benchmarks was already present in the first phase but could not be realised because of unavailable data (Harrison/Radov 2007: 69). With the verified emissions from the first period, it was possible to have realistic benchmarks for the second period. The rules and benchmarking for the new entrant reserve was considered to be an improvement (Interview UK, NGO, section 29-30).

Interviewees welcomed auctioning to recover the windfall profits being made (Interview UK, ADMIN, section 79, UK, NGO, section 30). As one representative of a NGO points out, one of the weaknesses of the first phase was that auctioning was only allowed up to 5 % and even this small amount was hardly used. Although the UK's use of auctioning in the second phase was welcomed, critics complained that only 7 % were auctioned although 10 % would have been allowed (Interview UK, NGO, section 29-30).

Whether auctioning would simplify the scheme and allocations and thus whether it would be any easier for the authorities to handle depends on the auctioning process. "[L]ike all these things it's coming down to the design and if the design is accordingly it should be pretty painless. If you get the design well then you will not induce problems" (Interview UK, ADMIN, section 78-80). The auctions have so far been successful.

Unlike other countries, the UK did not choose 2005 and 2006 as baseline years, the years for which verified emissions existed. The verified emissions were only used to develop benchmarks for the energy sector. This rule relieved the British industry, which had had a tougher first period than their counterparts in other countries. An interviewee complains that in the first phase, a shortage of 2 M certificates put the British industry in a weak position in Europe. For the second phase, verified emissions could be used as a basis to make better projections (Interview UK, ADMIN, section 67-9). Business representatives also confirm that regarding allocations and the cap, improvements were made in the second phase because companies had to face a tough cap in the first phase (Interview UK, BUS, section 14-5) and that the UK had taken a tougher approach in the first phase than some other countries did (Interview UK, BUS, section 32-3).

As was done in the first phase, all groups of stakeholders were included adequately. According to an interviewee, in the first phase the energy-intensive industry was still arguing that the EU ETS would drive the industry out of Europe, but in the second phase they became more supportive. In the end, bad effects on industry had not emerged (Interview UK, NGO, section 32).

In the second phase, the parliament and particularly the environmental audit committee was very active and came out with good recommendations on auctioning, caps, and access to CDM (Interview UK, NGO, section 36, 40). The driving forces behind the ambitious plan were Prime Minister Tony Blair and Ed Miliband, the Minister for the Environment (Interview UK, NGO, section 42).

9.6.4 Applying implementation research

The UK was governed by the Labour party when the UK ETS was established, when the EU ETS Directive was being formulated, and at the time of implementation in the first as well as in the second phase; the Labour party has always been in favour of emissions trading as an instrument. In addition, the UK was arguably one of the driving forces behind establishing an EU-wide ETS. Hence, the UK can be ranked as supportive, which means that the situation for implementation should have been favourable.

The preference of the UK's government was always supportive towards the EU ETS, which would support an effective implementation.

The UK was one of the few Member States that had already gained experience with the emissions trading instrument, as they had launched a domestic scheme in 2002. Moreover, financial, economic, and market instruments are widely accepted and used in the UK.

The UK has well-functioning environmental agencies that are the administrators responsible for both the UK and the EU ETS. Although the systems differed in design and were not fully compatible, the general aspects were similar, and the employees of the respective administrations were prepared. Hence, the instrument fits the policy style and the adaptation pressure can be ranked as low.

The fit of the policy style and the low adaptation pressure indicate an effective implementation.

As the UK's major problems regarding compliance with the requirements was meeting the deadlines, the Commission needed to push the UK to comply. Moreover, the UK and the Commission had a conflict regarding the provisional NAP1 of the UK and the final version, which the UK had wanted to submit after the Commission had taken the "provisional" NAP1 as the final version. In the second phase, the only major problem was again the delay, but in both phases it was relatively short. In the UK, both environmental interests and business interests were acknowledged and all actors were quite supportive and also cooperative. Hence, it could be said that they also pulled the Directive.

9.6.5 Summary

The UK is one of the few Member States that has already achieved its Kyoto targets with domestic measures and that will not need to have further reductions through the EU ETS. However, it also has a domestic target and it is likely that it will need to make a stricter target for the post-2012 period. As most of the achievements in emission reduction to date were due to a fuel switch, in the long run the UK will have to exploit other efficiency and renewable energy potentials as well.

The UK "plays a very strong role in Europe and at the global climate change negotiations and is quite progressive, sometimes they try to push things forward, however there is slight difference about how they implement climate change measures at home" (Interview UK, NGO, section 34). The UK considered itself a forerunner, showed ambition in the implementation, and supported the Commission by being progressive (Interview EU, ADVISOR, section 10-12). The UK already had a comprehensive climate policy; thus, the accommodation of the EU ETS in the already existing policy mix was an issue. Having established its own ETS before the EU ETS was adopted was seen as a tactical step by the UK. However, the UK was unable to upload its national system to the EU. Although the final EU ETS was in some ways different from the UK ETS, it was certainly an advantage for the industries and the administration that they had already gained experience. Whether the previous experience was the reason the UK performed so well in the implementation cannot be ultimately proven. From the perspective of implementation research, its support for the instrument at the time of policy formulation and implementation indicates an effective implementation. Regarding policy traditions and the fitness of the administration, there were also indications for good performance by the UK in both phases. Indeed, the UK performed well and despite a short delay in submitting the NAP, it basically complied with the requirements. In both phases, the lists of installations were incomplete; however, more importantly, the cap was in both cases unchanged. Especially in the first phase, the British industry had to deal with an under-allocation of allowances. One of the improvements made from the first to the second period was the inclusion of auctioning, although the UK did not make use of its full potential.

Compared to other Member States, the role of the Commission was less important in the British implementation process, but most actors pointed out the importance of the Commission for general compliance and ambition across the EU. Stakeholders were active in both phases and their positions were taken into account by decision makers, although it is unclear to what extent. It cannot be stated that either industrial or environmental interests were preferably included. Skjærseth and Wettestad (2008b: 62-3) consider the UK as a frontrunner in implementation. Taking all factors and both phases into account, their view can be supported by this analysis.

9.7 Overview of the implementation

9.7.1 General compliance under NAP 1

The deadline for Member States to transpose the Directive into national law was 31 December 2003. Among the EU-15, the UK was the only Member State that notified the transposition to the Commission by the deadline. The Commission started infringement procedures against a number of Member States (among them Germany, Spain, and the UK) for not having transposed the Directive at all or only incompletely by the deadline. The UK had failed to send information on installations in Gibraltar; Germany and Spain had not notified the transposition on time, but the cases were closed after they had done so (European Commission 2004b). In July 2004, the Commission sent final written warnings to eleven EU-15 Member States (all except Austria, Germany, France, and Sweden) as they had not fully transposed the EU ETS Directive 2003 by that time (EU Rapid 2004). All in all, the transposition did not go smoothly, but the short time schedule was a great challenge for Member States.

NAP1 had to be submitted to the Commission by 31 March 2004 (1 May 2004 for new Member States). On 1 October 2004, the lists of installationlevel allocations were due. The Commission published three sets of Decisions over the NAP1: eight on 7 July 2004 (Austria, Denmark, Germany, Ireland, the Netherlands, Slovenia, Sweden, and the UK), eight on 20 October 2004 (Belgium, Estonia, Finland, France, Latvia, Luxembourg, Portugal, and the Slovak Republic), and five on 27 December 2004 (Cyprus, Hungary, Lithuania, Malta, and Spain). The decision on the Polish NAP1 was published 8 March 2005, on the Czech NAP 1 on 12 April 2005, on the Italian NAP1 on 25 May 2005, and on the Greek NAP1 only on 20 June 2005.²³¹ According to Article 9.3 of the EU ETS Directive, the Commission was to assess the NAP within three month, which was only possible in the cases of eight plans, because most other plans did not comply with the requirements and additional information that had been demanded by the Commission. The revision led to a second notification by Member States and hence to a later assessment by the Commission (Zapfel 2007: 23-4).

All countries but Poland, the Czech Republic, Italy, and Greece had handed in their NAP1 early enough to be approved by the Commission before 1 March, the official starting date of the EU ETS. Hence, the majority of

²³¹ For an overview see: Decisions adopted by the Commission pursuant to Article 9 of Directive 2003/87/EC of the EP and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, (2005/C 226/02), Official Journal of the European Union.

Member States could start participating in the EU ETS on time. Slovenia was the only country among the new Member States to meet the deadline.

With regard to meeting deadlines, the UK and Germany were more in the leader group, Spain and Czech Republic rather in the laggard group.

The national registries had to be based on a standardised electronic database and had to be established by 31 December 2004 under the Regulation No. 2216/2004.²³² The Commission sent first warning letters to Cyprus, Greece, Luxemburg, Malta, and Poland for not having done so on time (European Commission 2006a).

Seventeen of twenty-five NAP 1s were accepted unconditionally. It should be noted that this does not indicate that these Member States implemented the EU ETS Directive effectively, because NAP 1s were only submitted after long and intensive bilateral discussions with the Commission, as in the case of the Czech Republic. These bilateral talks were intended to avoid negative decisions on the NAP 1 and consequently negative press (Zapfel 2007: 28). Therefore, most draft NAP 1s needed changes and eight NAP 1s were approved only on conditions.

²³² Commission Regulation (EC) No 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council.

	Notification of NAP 1 ²³³	Commission Decision			
		Accepted unconditionally	approved on condition that technical changes are made		
March 2004 - deadline EU-15 -	Austria, Denmark, Germany, Ireland, Luxemburg				
April 2004	The Netherlands, Slovenia , Sweden				
May 2004 - deadline EU-10 -	Estonia, Latvia, Lithuania, UK				
June 2004	Belgium, Portugal				
Commission Decisions of 7 July 2004	France, Italy, Slovak Republic	Denmark, Netherlands, Ireland, Slovenia, Sweden ²³⁴	Austria, Germany and UK ²³⁵		
August 2004	Spain				
September 2004	Poland				
Commission Decisions of 20 October 2004	Cyprus, Czech Republic, Hungary, Malta	Belgium, Estonia, Latvia, Luxembourg, the Slovak Republic and Portugal ²³⁶	Finland and France ²³⁷		
Commission Decisions of end of December 2004		Cyprus, Hungary, Lithuania and Malta ²³⁸	Spain ²³⁹		
Remaining Commission Decisions of 2005		Czech Republic, Greece ²⁴⁰	Italy, Poland ²⁴¹		

Table 3: Overview of compliance according to the Commission Decisions

²³³ Only the first notification is found in the table; some Member States revised their NAP 1 after this date or had to send additional information.

²³⁴ C(2004) 2515/6 final, C(2004) 2515/1 final, C(2004) 2515/8 final, C(2004) 2515/7 final.

²³⁵ C(2004) 2515/3 final, C(2004) 2515/2 final, C(2004)2515/4 final.

²³⁶ C (2004) 3982 final, C(2004) 3982/8 final, C(2004) 3982/5 final, C(2004) 3982/3 final, C(2004) 3982/6 final, C(2004) 3982/4 final.

²³⁷ C(2004) 3982/2 final, C(2004) 3982/7 final.

²³⁸ C(2004)5295 final, C(2004)5298 final, C(2004)5292 final, C(2004)5287 final.

²³⁹ C(2004)5285 final.

²⁴⁰ C(2005)1083 final, C(2005)1788 final.

²⁴¹ C(2005) 1527 final, C(2005) 549 final.

In general, changes had to be made because the cap was set too high. This was the case for 14 Member States, among them the Czech Republic. Intended ex-post adjustment rules were not allowed in 14 cases, among them the Czech Republic and Germany.²⁴²

	Amendments to be made according to the Commission's Decision		
Czech Republic ²⁴³	None		
Germany ²⁴⁴	Ex-post adjustment not allowed		
Spain ²⁴⁵	List of installations: specification of all combustion installations		
UK	List of installation: installations in Gibraltar missing		
	New entrant reserve ²⁴⁶		
	Raising the cap not allowed ²⁴⁷		

Table 4: Overview of	amendments	required by	y the (Commission	Decision
		1 /			

Although the Czech NAP was finally accepted unconditionally, the process of designing the NAP was one of the most problematic, as was shown in the case study.

During the implementation process, discussions focused mostly on the national cap and the allocation method, designing special rules, and deciding how to deal with new entrants and installation closures. The problem here was that many of these points were left to the Member States and were neither specified in the Directive nor in the implementation guidelines.

²⁴² See Zapfel 2007, table 2.2, p 26 and Commission Decisions of each Member State.

²⁴³ Commission Decision of 12/IV/2005 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the Czech Republic in accordance with Directive 2003/87/EC of the EP and of the Council.

²⁴⁴ Commission Decision of 7 July 2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Germany in accordance with Directive 2003/87/EC of the EP and of the Council.

²⁴⁵ Commission Decision of 27 December 2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Spain in accordance with Directive 2003/87/EC of the EP and of the Council.

²⁴⁶ Commission Decision of 07/VII/2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the United Kingdom in accordance with Directive 2003/87/EC of the EP and of the Council, hereafter referred to as Decision of 7 July 2004.

²⁴⁷ Commission Decision of 12/IV/2005 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the United Kingdom in accordance with Directive 2003/87/EC of the EP and of the Council, hereafter referred to as Decision of 12 April 2005.
According to del Río, the EU guidelines were helpful but still left too much room for national interpretation and "were sometimes 'imprecise'" (del Río 2007: 198).

The unclear tasks were combined with general problems such as the lack of experience and knowledge about the instrument, getting stakeholders and decision makers on board, and dealing with a very tight time schedule. According to Zapfel (2007: 16) and as has been shown in the case studies, for most Member States, one of the biggest obstacles regarding implementation was to identify installations and provide relevant data on emissions.²⁴⁸ Other problems concerned definitions of terms that had varying meanings in different Member States, such as "combustion installations" or the definition of "permit" in German (see AGE 2002a).

Chmelík's criticism was that the NAPs "were not written in a unified structure" and "often first published in the mother tongue or non-English language", which made it difficult for Member States to compare NAPs during preparation. Because of the sometimes long period between the submission of the NAP and the assessment, it was difficult to learn from other Member States, so most countries went their own ways (Chmelik 2007: 294). Nevertheless, according to Zapfel (a Commission staff member), Member States were sometimes inspired by rules used in other Member States but also waited to see how the Commission decided on other NAPs to possibly change their own NAP, which also delayed the process (Zapfel 2007: 25).

Regarding the allocation method, some Member States like Germany used a one-step approach as the allocation method, whereby allowances were allocated directly to participants. The other option was a two-step approach, meaning that first the total number of allowances for each sector was determined and then allowances were allocated to operators. The latter was considered to be more complicated (cf. Zapfel 2007: 18) but was used by the Czech Republic, Spain, and the UK. All four Member States analysed

²⁴⁸ Zapfel (2007: 16) mentions that the problem in data gathering was due to a missing legal basis because the transposition of the Directive and the drafting of the NAPs were done in parallel. See also Chmelik 2007.

allocated certificates on the basis of historical emissions for already operating installations and in the case of the UK, BAT for electricity. Auctioning was used only in four Member States: Denmark (5 %), Hungary (2.5 %), Lithuania (at least 1.5 %), and Ireland (0.75 %). The four Member States analysed here only used auctioning for the leftover allowances of the new entrant reserve when applicable.

In the first period, it was possible for Member States to include (opt-in) or exclude (opt-out) certain installations under the ETS. The possibility to include installations that were not subject to the EU ETS, as mentioned under Article 24 of EU ETS Directive, was used by Austria, Finland, Latvia, Slovenia, and Sweden.²⁴⁹ The condition was that all included installations would be monitored and reported according to the standards. The option to exclude installations from the ETS under Article 27(1) of the EU ETS Directive was used by Belgium, the Netherlands, and the United Kingdom.²⁵⁰ Here, the condition for exclusion was to ensure that these installations would not increase within the period of exclusion.²⁵¹

When the EU ETS started in 2005, 11,428 installations participated in the scheme (not including opt-ins and opt-outs). The number of installations covered ranged between two in Malta and 1,849 in Germany (European

²⁴⁹ Austria asked for permission to include a hospital. Finland and Sweden requested inclusion of about 200 and 250 installations, respectively, representing district heating plants or thermal heating installations with less than 20 MW that operated in a district heating network where either one or more installations already fell under the EU ETS or where total thermal input was above 20 MW. Latvia was allowed to include 27 installations, among them combustion installations that were at first subject to the EU ETS Directive because they exceeded 20 MW earlier but later would have been excluded because their capacity had fallen below the threshold.

²⁵⁰ Belgium had excluded 22 installations, the Netherlands around 150 installations, and the UK around 400 installations. In the Netherlands, these installations were excluded by arguing that they were covered by other long-term agreements on energy efficiency, benchmarking covenants, or other obligations, altogether emitting less than 25,000 tons of CO₂. The UK applied to exclude installations that were already participating in the UK ETS and combined-heat-and-power plants.

²⁵¹ Commission Decisions C(2004)4240-3, C(2004)4240-1, C(2004)4240-2, C(2005) 481 final, C(2005) 866 final, C(2006) 4765 final, C(2006) 3169 final, C (2006) 107, C(2006)584 final, C(2005) 481 final.

Commission 2004a, Zapfel 2007: 26, table 2.2). The emissions by the sectors covered under the EU ETS had a share of 20 % to 60 % in the Member States, depending mainly on the fuel mix. The more carbon-intensive the energy sector was, the higher the share of emissions (see footnote 6, Zapfel 2007: 17). The scope of the EU ETS in the Member States analysed here is summarised in Table 5.

Member State	CO2 allowances in M t**	Share in EU allowances**	Installations covered*, **	Emission reductions 2004***	Emission reductions 2007***	Kyoto target**
Czech Republic	292.8	4.4 %	435	-25.2 %	-24.4 %	-8 %
Germany	1,497.0	22.8 %	1,849	-18.8 %	-22.3 %	-21 %*
Spain	523.3	8.0 %	819	47.5 %	53.9 %	+15 %
UK	736.0	11.2 %	1,078	-14.6 %	-17.1 %	- 12.5 %*
Total, EU all	6,572.0	100.0 %	11,428	-7.5 % (EU-25) -1.7 %	-9.5 % (EU-25) -4.7 %	-8 % (EU-15)
				(EU-15)	(EU-15)	

 Table 5: Overview of the scope of the EU ETS in the selected Member States

* without opt-ins and opt-outs of installations

Source: **European Commission (2005), ***Eurostat (Eurostat n.d.)

When the first verified emissions²⁵² were published in May 2006, it became evident that most countries had over-allocated their industries. Only four Member States (out of 25) had allocated fewer certificates than needed, among them the UK and Spain. 21 Member States had a surplus of allowances allocated in the first year of the EU ETS, among them Germany and the Czech Republic, who were among those countries that had overallocated the most. The industrial sector with the highest surplus was the metal industry, followed by cement, lime, and refineries (DEFRA 2006: 1). Consequently, many installations did not have to make any efforts to reduce emissions or to buy emissions on the market. According to the Commission, the result was only slight environmental effectiveness in the first phase, but considering the experience of the US's sulphur dioxide scheme, quite normal (European Commission 2006g: 3). The over-allocation

²⁵² For verified emissions, see European Commission 15 May 2006 IP/06/612.

can be slightly mirrored in the trading activity. The Commission found out that power companies and refineries were trading more than other industries, which may be related to their experience with trading in commodity markets. With the publication of data verification in May 2006 and the identified over-allocation, prices for certificates fell enormously. All in all, critics complained that the market was too volatile (European Commission 2006g: 4) and hence unpredictable.

Moreover, energy producers were the focus for criticism due to the windfall profits they made by having priced in the opportunity costs in electricity prices. As a result, electricity prices rose enormously and discussions about social justice and the affordability of energy started, which gave rise to general criticism of emissions trading and the design in particular. Although from an economic perspective, the pricing-in was rational or even a good price signal and a step towards "low carbon production and consumption choices" (European Commission 2006g: 4), it can be argued that if the energy sector had to pay for the certificates, the prices would have increased as well but at least the money could have been used for climate change measures or to compensate consumers.

Multinational companies pointed out that because of non-harmonised allocation, sometimes installations of the same type or even from the same company received different amounts of certificates as a consequence of the different rules applied for allocation (Chmelik 2007: 297). This led to market distortions.

In short, most NAP 1s lacked ambition, partly because of a lack of experience but also because of domestic interests. The major problems were that caps were set too high and hence more certificates were allocated than were actually needed. The free allocation led to windfall profits for the energy sector and special rules gave incorrect incentives, hindering a fuelswitch to less carbon-intensive fuels. These weaknesses were related to nonharmonisation and decentralisation and a consequence were market distortions. All this led to negative perceptions of the EU ETS and would have to be addressed in the review.

9.7.2 Institutional competences

The administration of the scheme and the registry were handled very differently in the Member States and took into account the competences related to decentralised or federal systems. Most Member States transferred the authority to administrate the system to already existing institutions such as environmental agencies or ministries. Regarding the registries, the option that was often discussed was whether to have a bank or state agencies handling the accounts. Germany created a new agency within the Environmental Agency to be in charge of all administrative tasks related to the EU ETS.

	Permits	Allocation and issuance of allowances	Registry	Verification	Monitoring and reporting
Czech Republic	MoE	MoE	Electricity market operator	MoE	Czech Environmental Inspection
Germany	Local authorities	BMU, DEHSt	DEHSt	Independent accredited verifiers, DEHSt	Local authorities, DEHSt
Spain	Local adminis- trations	General adminis- tration of the state	General adminis- tration of the state	Local adminis- trations	Local adminis- trations
UK	Regional competent authorities (environmental agencies of England and Wales, Scotland, and Chief Inspector in Northern Ireland)	Regional competent authorities	EA (of England and Wales)	Regional competent authorities	Regional competent authorities

 Table 6: Overview of administrative competences

Source: author's compilation on the basis of European Environmental Agency (EEA 2006) and case studies (Chapter 8)

Whether the effectiveness of the practical implementation depends on the competent authority cannot be judged from the analysis. Having all tasks coordinated by one authority might enhance the effectiveness of coordination. A newly established authority is additionally free from institutional traditions. However, institutions begin to produce their own interests and are eager to keep already gained authorities. Thus, Member States like Germany that have established new institutions might be tempted to keep the status quo and vote against changes that would threaten the existence of this institution. As historical institutionalism suggests that it is easier to establish a new institution than to change one, institutional choices are more important than it appears. Therefore, it is surprising that decisions about the administration of the EU ETS were decided only by governments and not discussed more broadly. The interviews confirmed that indeed the administration of the system was not debated and also scarcely questioned.

9.7.3 The specific situation of new Member States

The Czech case study revealed particular problems of new Member States (EU-10) and especially the Middle and Eastern European countries. These countries faced a specific situation in implementing the EU ETS. On the one hand, they did not take part in the decision-making of the EU ETS Directive, nor was the Directive part of the accession negotiations in the environmental chapter of the acquis communitaire. The EU ETS Directive was decided upon in the gap of one year to 18 months between the end of negotiations and accession. According to an interviewee, this had a psychological effect because the EU ETS Directive was considered to be a substantial new instrument and new Member States felt that they did not have the chance to negotiate it (Interview EU, COM, section 39).

On the other hand, except for Slovenia, the new Member States had already achieved or over-achieved their Kyoto targets and thus did not see the necessity of reducing emissions any further. The instrument was perceived by some industrial representatives and ministry officials as an instrument for the old Member States (EU-15) (Interview CZ, GOV2, section 14). Another problem was the wording of the recitals of the EU ETS Directive:

The Community and its Member States have agreed to fulfil their commitments to reduce anthropogenic greenhouse gas emissions under the Kyoto Protocol jointly, in accordance with Decision 2002/358/EC. This Directive aims to contribute to fulfilling the commitments of the European Community and its Member States more effectively,

through an efficient European market in greenhouse gas emission allowances, with the least possible diminution of economic development and employment.²⁵³

According to an interviewee, this problem could have been avoided because "if the new Member States would have been taken into account probably the wording of some parts would have been different [...] because sometimes the wording of the articles really looks like that it fits the situation in the EU-15. And if you implement it word by word in the situation of a new Member State or as a country that is below the Kyoto Protocol it loses sense a little bit." (Interview CZ, GOV2, section 30). However, as over-allocation was against the state aid rule (ibid.) and recitals do not belong to the operative text, this argument for a higher cap is not grounded on a legal basis and may be seen as purely interest-driven.

Another problem for new Member States, as mentioned in the case study on the Czech Republic, was that they had little experience with the implementation of EU policies. Chmelík assumed that old Member States might have had more experience dealing with European institutions and processes, and as new Member States "their chance to make the most of the negotiation potential was probably partially limited" because "it was clearly visible that experience in negotiations and negotiating tactics lies on the side of the Commission" (Chmelik 2007: 296). However, the lack of experience in negotiating with the Commission was probably not the reason for the harsh ruling on NAP1s of new Member States; the Commission followed the criteria mentioned in the Directive and the implementation guidelines. The lack of environmental legislation, essentially starting from scratch with all the associated political tensions, can be seen as more relevant. In the case study of the Czech Republic, it was demonstrated that ordinary ministry staff, politicians, and companies were not familiar with climate policy in general or with market instruments in particular.

²⁵³ See EU ETS Directive 2003, Fifth Recital.

9.7.4 General compliance under NAP 2

Having gained experience with the preparation of NAP 1 and aware of the outcome of the first phase, it could be expected that the implementation performance of NAP 2 would be better.

The deadline for NAP 2 was 30 June 2006. Germany and Poland were the only countries that had submitted their NAP by then, followed by Estonia, Ireland, Lithuania, and Luxemburg that were only some weeks late. Bulgaria and Romania only joined the EU 1 January 2007 and thus had to comply with the Directive only by then. Romania had managed to notify a preliminary version of NAP 2 in due time but submitted the final NAP 2 only in August 2007.

Negotiations on NAP 2 were held under less time pressure than for NAP 1. Moreover, Member States had already gained experience from the previous period and did not have to start from scratch. Still, looking at Table 7 below, it becomes evident that compliance in phase two regarding meeting deadlines was not much better than under NAP 1. The last EU-15 Member State to submit NAP 2 was Denmark, with a delay of almost nine months followed only by the newly joined Bulgaria. On 29 November 2006, the Commission decided on the first ten NAP 2s and in the following months more sets were approved, until the last NAP 2s were accepted in October 2007 (only three months before the start of the second phase in 2008).

In October 2006, the Commission sent first warning letters (Letters of Formal Notice) to Austria, the Czech Republic, Denmark, Hungary, Italy, Portugal, Slovenia, and Spain for not having submitted their NAP 2s. At the end of 2006, NAP 2s from Austria, Denmark, Hungary, and Italy were still missing and the Commission sent final written warnings to the Member States concerned. France had withdrawn its NAP 2 to revise it at that time. It had been the aim of the Commission to have all NAP 2s decided at the end of the year in order for the operators to know the rules long in advance (European Commission 2006e, 2006f) but because of delayed submissions and requests for additional information, this aim could not be met.

Already in the first round of Decisions, it became clear that the Commission would take a stricter path in the second period: no NAP 2 was accepted

unconditionally. One of the most delicate points was the cap. After having published the verified emissions in March 2006, the Commission increased pressure on the Member States to avoid over-allocating industries again. Out of 27 NAP 2s, only four proposed caps (Denmark, France, Slovenia, and the UK) were approved. The Member States whose caps were cut by more than 10 % were mostly new Member States, apart from Luxemburg. The countries with the highest cuts were the Baltic States, who were only allowed about 50 % of their proposed total number of allowances (European Commission 2007). Other points of criticism from the Commission concerned bonuses, special rules, the amount of external credits used, incomplete lists of installations, details on the new entrant reserve, and some ex-post adjustments. In the case of the four Member States analysed here, the Commission requested the changes mentioned in Table 8.

	Notification of	Commission Decision			
	NAP 2 ²⁵⁴	Accepted unconditionally	approved on condition that technical changes are made		
June 2006	Germany, Poland				
July 2006	Estonia, Ireland, Lithuania, Luxemburg				
August 2006	Latvia, Slovakia, United Kingdom				
September 2006	Belgium, France, Greece, Malta, Sweden, the Netherlands				
October 2006	Cyprus, Finland, Portugal				
November 2006	Slovenia, Spain		Germany, Greece, Ireland, Latvia, Lithuania, Luxembourg, Malta, Slovakia, Sweden, UK (European Commission 2006b)		
December 2006	Czech Republic, Italy, Romania				
January 2007	Austria, Hungary		Belgium, Netherlands (European Commission 2007a)		
February 2007			Slovenia, Spain (European Commission 2007h, 2007n)		
March 2007	Denmark		Czech Republic, France, Poland (European Commission 2007g, 2007i)		
April 2007	Bulgaria		Austria, Hungary (European Commission 2007d, 2007l)		
May 2007			Estonia, Italy (European Commission 2007e, 2007j)		
June 2007			Finland (European Commission 2007f)		
July 2007			Cyprus (European Commission 2007k)		
August 2007			Denmark (European Commission 2007m)		
October			Bulgaria, Portugal, Romania		

 Table 7: Overview of compliance according to the Commission Decisions

²⁵⁴ Only the first notification is found in the table; some Member States revised their NAP 2 after this date or had to send additional information.

2007	(European Commission 2007b, 2007o, 2007p)

Only the Netherlands and Austria applied for the inclusion of the additional greenhouse gases N2O and HNO3. The inclusion was approved by the Commission in December 2008,²⁵⁵ retroactive to January 2008.

Table 8: Overview	of amendments rec	uired by the	Commission Decision
	of amendments ice	funca by the	

	Amendments to be made according to the Commission's Decision				
Czech	Cap: too high				
Republic ²⁵⁶	Allocation to installations: exceeds needs because of application of special rules				
	New entrants: specification on participation				
	List of installation: incomplete				
Germany ²⁵⁷	ermany ²⁵⁷ Cap: too high				
	Transfer rule: allocation guarantees are incompatible				
	List of installations: incomplete, combustion installations				
Spain ²⁵⁸	Cap: too high				
	New entrants: information on participation				
	List of installations: complete list missing				
	External credits: allowed percentage too high				
UK ²⁵⁹	List of installations: installations in Gibraltar missing				

²⁵⁵ Commission Decision of 17.12.2008 concerning the unilateral inclusion of additional greenhouse gases and activities by the Netherlands in the Community ETS pursuant to Article 24 of Directive 2003/87/EC of the EP and of the Council. C(2008) 7867, and Draft Commission Decision of [...] concerning the unilateral inclusion of additional greenhouse gases and activities by Austria in the Community emissions trading scheme pursuant to Article 24 of Directive 2003/87/EC of the European Parliament and of the Council. D004163/03, confirmed by Council in Item Note 12918/09.

²⁵⁶ Commission Decision of 26 March 2007 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the Czech Republic in accordance with Directive 2003/87/EC of the EP and of the Council.

²⁵⁷ Commission Decision of 29 November 2006 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Germany in accordance with Directive 2003/87/EC of the EP and of the Council; Commission Decision of 26 October 2007 concerning the amendment to the national allocation plan for the allocation of greenhouse gas emission allowances notified by Germany in accordance with Article 3(3) of Commission Decision C/2006/5609final of 29 November 2006 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Germany in accordance with Directive 2003/87/EC of the EP and of the Council.

²⁵⁸ Commission Decision of 26 February 2007 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Spain in accordance with Directive 2003/87/EC of the EP and of the Council.

Most Member States addressed windfall profits made by the energy sector by putting the burden of reducing emissions mainly on them. The use of benchmarks instead of historic emissions and fewer special rules represent an improvement compared to NAP 1. The use of auctioning or selling allowances, respectively, was more widespread under NAP 2 than in the previous phase. The highest relative number of certificates and absolute numbers were auctioned in Germany with 9 % of total allowances, followed by the UK with 7 % and Italy with 5.7 %. Hungary had planned to sell 4.2 %, the Netherlands 4 %, Lithuania 2.8 %, and Austria 1.2 %. Poland, Ireland, and Belgium only allocated 1 %, 0.5 %, and 0.3 %, respectively, with costs for the installations.

In addition to the legal actions of the Commission against Member States, eight Member States (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, and Slovakia) also took the Commission to Court because of the cuts in their total cap in its Decisions. They argued that first, they had already achieved their Kyoto targets and second, that the cut in emissions would threaten their economies (Euractiv 2007).

All in all, with regard to meeting the deadlines, phase two was in no way better than the first phase. However, taking into account the designs of NAP 2, especially the caps, an improvement regarding the ecological effectiveness of the instrument could be expected. This improvement was mainly the result of the strict rulings of the Commission. With the verified emissions from the EU ETS available in the second phase, the basis for deciding on caps was better. Surprisingly, the experience from the first phase and the already existing institutions did not influence the implementation overwhelmingly positively. It seems that the Commission was the actor that had learned the most. Member States' learning can be detected in the use of fewer special rules, the increased application of benchmarks, and an increased use of auctioning. Nevertheless, the

²⁵⁹ Commission Decision of 29 November 2006 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by United Kingdom in accordance with Directive 2003/87/EC of the EP and of the Council.

protection of domestic industries was still a key factor in the designs of NAP 2s.

9.7.5 Summary

Table 9 gives an overview of the performances of the Member States following the in-depth analysed. The criterion for deadline/notification is the number of months delayed; categorisation is relatively simple for this criterion. The legal and practical implementations are divided into the criteria conform, with deficits, and with major deficits. The indicator for conform is that the Commission did not have to intervene at all. The category with deficits connotes minor changes that had to be made (such as complete the list of installations or exclude a special rule) that did not change the design completely; with major deficits is appropriate when the cap had to be tightened or the entire NAP had to be resubmitted. If industries could not participate in the EU ETS from the start, or if the registry was not yet functioning, the practical implementation is ranked as with deficits or major deficits, depending on the degree of the delay.

	Deadline/ notification*	Legal implementation**	Practical implementation*** 260	Result ²⁶¹
CZ				
NAP 1	delayed	conform	with deficits	ineffective
NAP 2	delayed	with major deficits	conform	ineffective
DE				
NAP 1	on time	with deficits	conform	effective
NAP 2	on time	with major deficits	conform	ineffective
ES				
NAP 1	delayed	with deficits	conform	ineffective
NAP 2	delayed	with major deficits	conform	ineffective
UK				
NAP 1	slightly delayed	with deficits	conform	effective
NAP 2	slightly delayed	with deficits	conform	effective

Table 9: Implementation effectiveness

* on time = 0 month, slightly delayed < 3 months, delayed < 6 months, very late > 6 months ** conform = no changes requested by the Commission, with deficits = no essential changes necessary, with major deficits = major changes required by Commission

*** conform = no complaints from EU institutions, with deficits = delay mentioned by institutions, major deficits = infringement procedure

It is important to note that the implementation effectiveness does not correlate with the ecological effectiveness of the instrument. In the following section, the implementation results are analysed against the premises of the already existing theoretical approaches of implementation research, summarising the results of the case studies.

9.8 Discussing the implementation of the EU ETS Directive

Comparing the implementation in the four Member States (the Czech Republic, Germany, Spain, and the UK), the following conclusions can be drawn: a) the output varied in all four Member States and b) the implementation was characterised by delays and deficits. When trying to explain the different outputs, the variables identified from implementation research (see Chapter 8.2) were applied to the case studies (see Chapter 9.3-9.6). At this point, a synopsis of the results is presented. In addition, different

²⁶⁰ As the practical implementation is difficult to measure, the categorisation relies on evaluations by the European institutions and agencies and infringement procedures.

²⁶¹ Result according to the criteria developed for implementation effectiveness, see Chapter 8.1.

context variables are presented and their influence on the implementation is estimated.

9.8.1 Synopsis of institutional and actor-centred factors

The tested variables are expected to influence the implementation at different stages, to be responsible for different infringements, and also to interact. Some factors are more relevant for the legal implementation; others, for the practical implementation. Some variables might be responsible for delays, others for non-conformity, and again other variables for incorrect application; moreover, some might influence two or all three of these infringement cases. An unfavourable condition in one variable might be solved by the influence of another variable. As an attempt to capture the complexity of influences, four variables have been tested. In the analysis, both implementation phases were considered.

Having tested the key variables of implementation research individually in the case studies, the plausibility of each variable and their interaction in explaining the implementation effectiveness is tested here. Contrasting the expected result indicated by each variable with the actual result should offer insight into the plausibility of the different approaches. The constellation regarding each factor might be supportive, ambivalent, or opposing. Intermediate steps were included for cases that are not assigned decisively. Taken together, they should indicate the likelihood of an effective implementation, ranging from very unlikely to open and very likely. The push and pull model by Börzel (2003b: 36) is only used as an additional determinant that might be responsible for explaining an unexpected result (see Chapter 8.2). Hence, if the institutional factors indicated an ineffective implementation but the implementation was indeed effective, it would be likely that either the Commission pushed or civil society pulled to make the government implement the Directive.

Member State	Adaptation pressure (Knill)	Policy style (Börzel)	Government's preference at time of implementa- tion (Treib)	National preferences at time of formulation (Mastenbroek)	Expected outcome Phase 1/ Phase 2
CZ					
NAP 1	opposing	opposing	opposing	ambivalent	ineffective
NAP 2	supportive	ambivalent	opposing		open
DE					
NAP 1	ambivalent	ambivalent	ambivalent	ambivalent	open
NAP 2	supportive	supportive	supportive		effective
ES					
NAP 1	ambivalent	opposing	ambivalent	ambivalent	open
NAP 2	supportive	ambivalent	supportive		effective
UK					
NAP 1	supportive	supportive	supportive	supportive	effective
NAP 2	supportive	supportive	supportive		effective

 Table 10: Synopsis of implementation research

The table shows that in the Czech Republic, an ineffective implementation was likely in the first phase because the constellation of factors was negative. In the second phase, the constellation of factors was a bit better, as the institutional factors were weaker. Germany and Spain are quite similar regarding constellations of factors. No variable is really dominant, leading in one direction or the other. Thus, for both countries it was open whether the implementation would be effective or ineffective in the first phase but in the second an effective implementation was more likely. In the UK, all factors indicated an effective implementation in both phases and apparently there were actually no obstacles to overcome.

Comparing Table 10 with the actual outcomes, it becomes evident that only in a few cases were the theories able to explain the outcome.

	Deadline/ notification*	Legal implementation**	Practical implementation*** ²⁶²	Result
CZ				
NAP 1	delayed	conform	with deficits	as expected
NAP 2	delayed	with major deficits	conform	worse
DE				
NAP 1	on time	with deficits	conform	better
NAP 2	on time	with major deficits	conform	worse
ES				
NAP 1	delayed	with deficits	conform	better
NAP 2	delayed	with major deficits	conform	worse
UK				
NAP 1	slightly delayed	with deficits	conform	worse
NAP 2	slightly delayed	with deficits	conform	worse

 Table 11: Overview implementation effectiveness

For the Czech Republic, all variables checked indicated an ineffective implementation. In the first phase, the Czech Republic performed as expected, namely, with delays and non-compliance. The result was only in accordance with the requirements of the EU ETS Directive after the intervention of the Commission. The delay and poor performance in the first phase would hence support the arguments of the institutional as well as the actor-centred approaches. However, what contradicts the institutional-oriented approaches is that in the second phase, the institutional obstacles should have been overcome, but nevertheless the formulation of NAP 2 was not smooth. This allows us to presume that the influence of actors and politics was stronger than that of polity. The only variable that changed was the party in power, but apart from a Green Environmental Minister, the general support for climate change policy was still limited. The Commission played a very important role in the case of the Czech Republic to arrive at compliance.

Germany and Spain performed relatively well, Germany a bit better in meeting the deadlines and Spain better in the ambitiousness of the design. In Germany, according to the tested variables, the result of the implementation was open. None of the factors indicated strong support or big obstacles. Despite the initial scepticism and extensive debates, the transposition was

²⁶² As the practical implementation is difficult to measure, the categorisation relies on evaluations by the European institutions and agencies and infringement procedures.

timely although with deficits. Hence, the problem was the design, because Germany included a number of special rules mostly as concessions to the different industrial sectors. Although not all were against the provisions of the EU ETS Directive, they still led to ecological ineffectiveness. The good performance in meeting the deadline might be the result of the intensive debates that started early in an expert group accompanying the process established in 2000. Moreover, many studies had been commissioned by the BMU. Also in the case of Germany, the second NAP had deficits, which are clearly linked to interests rather than institutional obstacles. Moreover, Germany's position changed from a very sceptical position on the EU ETS to a supportive one. Capacity-building apparently took place throughout the process at all levels. The Commission's only interference was to make NAP 2 more ambitious by cutting the cap.

The constellation of factors for the Spanish case also did not indicate a clear direction towards either an effective or ineffective implementation. The fact that Spain did not meet the deadline in the first phase can be traced back to the party political preference of the government at the time. However, also in the second phase, despite the government's willingness to implement the policy, they did not succeed in meeting the deadline. The institutional factors and the inexperience of the government with the emissions trading instrument might explain failures in the first phase but not in the second. The design was quite good and only minor changes were demanded by the Commission in the first phase. In the second phase, the Commission had more to criticise, as was the case for other countries as well; this corresponds to the general approach of the Commission in the second phase.

The implementation in the UK should have been effective, as indicated by all variables; however, the UK did not succeed in complying completely. The delay in meeting the deadline was minor but nevertheless present. The design was relatively good but still had some deficits. Thus, in the first phase the UK performed worse than expected, because no variable indicated delay or non-compliance. Therefore, the question is why the actual performance was not as good as it should have been. One supposition could be that the UK ETS challenged the implementation in the UK because the designs of the two schemes were different. Moreover, the EU ETS Directive needed to be accommodated in a set of numerous policies. Another reason could be that in the UK, problems are generally found in procedural issues where decisions by the government are taken collectively with little departmental autonomy (Knill 2001: 94, 146), which would explain the delay. Nevertheless, the result cannot be explained by tested implementation research approaches.

In the Czech Republic, Spain, and the UK, the Commission had to push the country to meet the deadline. In the Czech Republic, Germany, and the UK, the Commission had to cut the cap in order to increase ecological effectiveness. The Commission also successfully ruled against special rules introduced in the NAP, such as the ex-post rule in the case of Germany. Hence, the push factor was necessary in one way or another in all four Member States. The Commission played a relatively strong role in the implementation of the EU ETS, especially in the second phase. In all cases but the UK, the misfit made the Commission necessary to push towards compliance, which it actually did.

Regarding the pull, only environmental NGOs contributed positively towards more ecological effectiveness, but they were unsuccessful at decisively influencing the process or output. Business interests were strong and they tried in all countries to water down the policies. Thus, this variable was not a decisive factor.

Now, examining the performance of the predictability of the individual variables:

The variable testing the preferences of the governments at the time of the adoption of the Directive does not predict the outcome sufficiently, at least in the case of Germany and the UK. The German government apparently changed its opinion on the trading scheme within this short time, which would allow us to presume that opposition did not lie in the core belief and probably not in the policy core, either. The UK had always supported the EU ETS, but nevertheless failed to fully comply. For the Spanish case, this variable might explain the delay, as it might in the case of the Czech Republic, which did not participate in the policy-making process. The party political preferences of governments during implementation explain the

case of the Czech Republic and Spain and partly Germany but fails for the UK. The policy style factor might explain the outcome in the Czech Republic, Germany, and Spain but definitely not in the UK. Moreover, if taking the push and pull model, the delay and the deficits in the two phases cannot be explained. Adaptation pressure is most relevant for the practical implementation but did not seem to have influenced it negatively; despite moderate to high adaptation pressures, the practical implementation was in accordance with the EU ETS. The adaptation costs do not seem to have influenced the willingness to implement the Directive.

Although the adaptation pressure was rather high in most Member States, most countries managed to fulfil the monitoring, reporting, and other requirements. Hence, one could assume that the challenge was eventually greater for the industry than for the administration: companies ultimately had to decide whether it was better to buy certificates or to invest in new technologies. The reporting might have actually been a challenge for small and medium-sized enterprises but less for big companies that had all the equipment. It can be assumed that for energy producers, the market instrument was easier to handle, as they are much more accustomed to markets and trading (because electricity is also traded on the stock market). Hence, more economists work in the industries that are open to market instruments. In the industrial sector, environmental specialists are usually responsible for emissions trading; they are used to technical solutions, not market solutions, thus their challenge was probably greater. Emissions trading is dealt with best in a financial department that is accustomed to dealing with assets (Interview CZ, GOV2, section 98-9). At any rate, what probably helped the practical implementation was that within a short time, a number of consultancies and platforms emerged to which the companies could outsource trading activities. The administration's basic task is monitoring and reporting, a task already known from other policies. Depending on where the registry was placed, the adaptation pressure was higher or lower. However, as has been shown in preparations for the NAP, one of the most difficult challenges was to allocate the emissions allowances, because of missing data. On the other hand, this problem had been overcome by the second phase and yet Member State compliance still did not improve. Once the political discussions ended for the adoption of the NAP and the law, the practical implementation went smoothly and without major problems. Indeed, it is fair to state that the administrative systems worked well.

What we can see from the testing is that all theories indicate tendencies but cannot predict or ultimately explain outcomes. None of the variables withstood testing in all four cases or helped to explain the outcome of the implementation. Using the goodness of fit approaches, it could have been expected that the second phase would be better, since institutional constraints should have been overcome. Moreover, the adaptation pressure should also have been overcome by then. The preferences of the governments might have still been against the instrument, but compliance should have been in the interests of the governments, as starting late would leave its industries in a disadvantageous position. These findings cannot mean that institutional concerns are not relevant; it just confirms the hypotheses of the actor-centred approaches that actors are more relevant. Looking at the compliance culture approach by Falkner et al. (Falkner/Hartlapp/Treib 2006, Falkner/Treib 2007), the argument that in the countries belonging to the world of domestic politics the institutional fitness is less of a problem than the actors can be supported. The implementation in the Czech Republic also fits the category of world of dead letters because the Directive was literally translated and problems occurred in the development of the NAP. As the variables did not explain the result of the implementation satisfactorily, other factors must be investigated.

9.8.2 Different contexts for the implementation

Implementation research is generally interested in finding factors influenceing implementation more generally. In addition to these factors that should work independently of the policy field, there are also variables that might influence the implementation and that are context-specific. Héritier (1995: 280) has developed external context variables for the analysis of the clean air policy in Europe. These variables might also influence the implementation but are directive-specific and focus on the macro level. The following section intends to describe what the external context variables were in the case of the EU ETS. The external context variables were the same in all four cases, but nevertheless they might have had different characteristics and impacts:

- 1. the analysed Member States all signed the Kyoto Protocol and have a reduction target,
- 2. they are all members of the EU and hence have to implement the EU ETS Directive,
- 3. scientific evidence has proved that greenhouse gas reductions must be made in order to tackle climate change and has showed that investments today are less costly than in the future because of the impact of climate change,
- 4. at the time of the implementation (2004-2005), the European economy was rather prosperous and growing.

How might these variables influence the implementation? Although they are the same, they matter in different ways to each Member State.

- 1. The Kyoto target (or burden-sharing target, respectively) may matter because it is a determining factor as to whether emissions trading is an important instrument to support reduction efforts. The UK and the Czech Republic were the two countries that have already (over)achieved their targets and hence do not need the instrument to comply with their target. Nevertheless, the UK was very ambitious regarding implementation of this instrument, whereas the Czech Republic was not, arguing that it had already over-achieved its target. Germany is close to meeting its target but has been a few percentage points away for a couple of years, which indicates that the existing measures are not sufficient. Its implementation was reluctant in the first phase but more ambitious in the second regarding environmental effectiveness. Spain is far from achieving its target and will have to make use of flexible mechanisms, especially CDM to get on a reduction track.
- 2. As members of the EU, they have to implement the Directive regardless of whether they need to further reduce emissions to achieve their target or not. As the Czech Republic only joined the EU in 2004, it might be at a

slight disadvantage because first, it did not have the chance to negotiate the EU ETS Directive, and second, it has less experience with implementing EU law in general.

- 3. As most climate policy is based on the information provided by the IPCC, the perception of this scientific information matters as well, as does the relevance of topics compared to other topics. According to an Eurobarometer survey (European Commission 2009), global warming or climate change had been considered as the second most urgent issue (62 %) the world faces today by Europeans in 2008 – before the economic crisis at the end of 2008. In 2009, this rate fell to 50 % (January-February) and 47 % (August-September), giving up second place to the threat of an economic downturn. "Poverty, the lack of food and drinking water" was in first place in all polls. The fact that more people in Spain (72 % in 2009) consider climate change as a very serious issue, compared to Germany (66 % in 2009), the UK (51 % in 2009), and the Czech Republic (58 % in 2009), may indicate that the expected impact of climate change has an influence on the perception of importance. The number of people who think that climate change is not a serious problem is the lowest in Spain (5 %), followed by Germany (10 %), the Czech Republic (13 %), and the UK (15 %). This criterion supports the implementation research done by Versluis (2004), who argued that issue salience influences the implementation, because a policy that is highly visible and considered important is more likely to be implemented. The Stern review (Stern 2006), commissioned by the British government, is the most popular report underlying the necessity to act against global warming; it calculates the economic losses involved with inaction. In Germany as well, the DIW (Kemfert/Schumacher 2005) and others have proven that actions today are less expensive than having to deal with the consequences. Nevertheless, costs today seem to count more than costs in the future.
- 4. In all four countries, the economy was growing in the last decade until 2008, which is often seen as a determining factor for emissions increase. While this is the case for the Czech Republic and Spain, Germany and the UK managed to decouple growth and emissions increase, as shown

by the last decade. This is partly a result of improved energy efficiency and less energy-intensive production, but also because the growth mainly took place in the service sector, where emissions are lower and energy-intensive production is often outsourced. Moreover, lifestyle has also changed in Spain and the Czech Republic; usually, welfare leads to higher emissions because of more electronic devices, cars, and in the case of Spain, the installation of heating and air conditioners. The global financial crisis of 2008-2009 led to a decrease in emissions again and present a favourable condition regarding achieving the targets. However, these reductions would be the same "hot air" as already produced after the restructuring of the economy in Middle and Eastern European countries.

Apart from the external context variables that are the same for the four Member States, the countries differ in country-specific context variables (Héritier 1995: 280) that also might influence the implementation. The following factors can be seen as country-specific:

- 5. the geographic situation means a higher degree of vulnerability to climate change for Spain (see case studies),
- 6. high economic growth rates in Spain and the Czech Republic have led to an increase in emissions in the last decade,
- 7. Germany and the Czech Republic have benefitted from the restructuring of their economies after 1990 (see case studies),
- 8. the UK benefitted from restructuring its energy system from coal to gas and thus reduced emissions (see case studies),
- 9. All four Member States have a high share of EU ETS participants and all four countries have an energy mix mainly based on fossil fuels.

These variables might have influenced the implementation as follows:

5. Apart from the first factor, these country-specific variables influenced the emission trend. The first point could be seen as an incentive for Spain to achieve an ambitious climate policy, but because of the globally diffuse sources of climate change, Spain's effort alone would not halt climate change. However, it could be expected that Spain would at least play a strong role in promoting European and international climate policy efforts. Indeed, the official attitude towards climate policy has been more positive since the change in government put the Social Democrats in power.

- 6. The basis for a sustainable economy is the decoupling of economic growth and greenhouse gas emissions. However, not all countries that now have decoupled growth rates managed to do so because of efficiency, as it also depends on the kind of sectors in which the growth takes place. Naturally, the service sector has lower emissions than the industrial sector. Moreover, it depends on the kind of energy a country relies on. Sweden and Austria, for example, have low-carbon energy productions because of a high share of hydro power. Whereas the per capita emissions in the Czech Republic are very high, in Spain, they are still lower than the average EU Member State. However, in their arguments for a less ambitious climate policy, the Czech Republic and Spain always state that economic growth is necessary to catch up with other Member States, ultimately leading to higher emissions.
- 7. The Czech Republic and Germany profited from the restructuring of their economies after the fall of the Iron Curtain. The breakdown of a number of installations led to a reduction in emissions. Hence, the Czech Republic in particular (like most other Middle and Eastern European Member States) is in a quite comfortable position to achieve its Kyoto target without any climate change measures. About half of the necessary reductions in Germany were also achieved thanks to the breakdown of East Germany's economy. As most Member States only do what is necessary and not what is possible, "good" performance in emissions cuts might lead to a less ambitious use of the EU ETS.
- 8. The UK did not necessarily manage the cuts in emissions by efficiency, but rather by a substitution of carbon-intensive energy fuels. Although in balance this leads to a cut in emissions, the potential is not being exploited. Despite being in a comfortable position to meet its Kyoto target, the UK aims at further cuts in emissions. Hence, it could not have been

the case that the achievements made led to a less effective implementation.

9. The national context variables that are similar are the high number of participating installations in the EU ETS and the energy mix that still consists of fossil fuels to a great extent. The fact that the number of participants and the energy mix are determining factors for implementation (due to enhanced engagement of stakeholders and a politicisation of the topic) led to the decision to compare these countries. Indeed, in all four countries, the implementation of the EU ETS Directive was politicised and involved an intense engagement by stakeholders. In all four countries, the energy sector made windfall profits by pricing in the opportunity costs of unsold certificates even though they received them for free. This was not an issue during the implementation of the first phase, as it was assumed that they would not fully price-in freely received allowances, but was more of an issue during the implementation of the second phase and during the revision of the Directive to absorb profits, which were then going to national budgets.

In sum, context variables seem to influence the decisions of policy makers. A high vulnerability for Spain raises the issue of climate change on the Spanish political agenda and enables a fairly good implementation performance despite the high costs and the threat to economic growth. Germany and the UK have a good basis because their economic growth has been decoupled from greenhouse gas emissions and they had raised climate change on the political agenda prior to the start of the EU ETS. In the Czech Republic, the context variables that matter most are probably that it had already achieved its Kyoto target and was focused on economic growth.

10 RECENT DEVELOPMENTS IN EU CLIMATE POLICY

10.1 EU energy and climate change package

In its communication to the EP and the Council from 23 January 2008, which became known as the "Energy and Climate Change Package", the Commission states that

2007 marked a turning point for the European Union's climate and energy policy. Europe showed itself ready to give global leadership: to tackle climate change, to face up to the challenge of secure, sustainable and competitive energy, and to make the European economy a model for sustainable development in the 21st century. Public opinion has shifted decisively towards the imperative of addressing climate change, to adapting Europe to the new realities of cutting greenhouse gas emissions and developing our renewable, sustainable energy resources. A political consensus has crystallised to put this issue at the heart of the European Union's political programme: a guiding theme for the Union, central to the Lisbon strategy for growth and jobs, and of primary importance in Europe's relations with partners worldwide. (European Commission 2008c: 2)

Why was the Commission so optimistic? In January 2007, the Commission had already proposed an earlier version of the Energy and Climate Change Package. It sought to establish an energy policy that would combat climate change but also secure energy supplies and competitiveness. The strategy to achieve this aim was to build a truly internal energy market (enhancing liberalisation), to shift to low-carbon energy, and to emphasise energy efficiency. The Commission announced that it was working on energy and climate change legislation that were to be agreed on at the Spring summit of the European Council in 2007 (EU Rapid 2007). The reason for the Commission's optimism was that at this summit, the European Council agreed on the 20-20-20 target to be reached by 2020, which was later supported by the EP. The 20-20-20 target entails a cut in greenhouse gas emissions in the EU to 20 %²⁶³ below 1990 levels, increasing the share of renewable energy

²⁶³ The EU is even willing to increase this number to 30 % if the international community decides on a new protocol and other industrialised countries also adopt ambitious targets. The 20 % target was criticised for being not ambitious enough because of the new Member States that had already over-achieved their targets. Even the 30 % target would be feasible, but the EU would only reduce its emissions by 30 % under the condition that other countries also agreed to similar reduction targets (Luhmann/Streeck 2007: 20).

sources in overall energy consumption to 20 %,²⁶⁴ and 20 % reductions in primary energy use compared to projected levels by improving energy efficiency. The aim is to have a "low-emission economy" (European Commission 2008c: 3), which is to be reached by emission reductions, a sustainable energy system, and energy efficiency. The key elements were specified in the Energy and Climate Change Package. The measures of achieving emission reductions are emissions trading and emission cuts in non-trading sectors (transportation, buildings, agricultures, and plants not falling under the scope of the EU ETS Directive), which are not specified but amount to 10 %. The transformation of the energy sector is fulfilled by the promotion of CCS, renewable energy, and biofuel. According to the Commission, CCS is important because of the ongoing dependency on fossil fuels in the coming decades. Renewable energy will have a share of 20 % of overall energy consumption, and the target for biofuel is 10 % of the overall petrol and diesel consumption. Moreover, the aim is for a 20 % increase in energy efficiency, which requires "a major commitment at all levels from public authorities, economic operators and citizens alike" (European Commission 2008c: 9).

The "Energy and Climate Change Package" includes the following pieces of legislation, which are not presented in detail here, aside from the review of the EU ETS Directive that is addressed later:

- Proposal for a decision of the European Parliament and of the Council on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020, COM(2008) 17 final
- Proposal for a directive of the European Parliament and of the Council on the geological storage of carbon dioxide, COM(2008) 18 final

²⁶⁴ The targets differ for each country according to their ability and potential, similar to the burden-sharing agreement. Moreover, the targets are flexibilised and the market should drive as much as possible, which means that efforts in other countries can be counted.

- Proposal for a directive of the European Parliament and of the Council on the improvement and extension of the emissions trading system of the Community COM(2008) 16 final
- Proposal for a directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources, COM(2008) 19 final.

In December 2008, the heads of governments and states agreed on the final version of the Energy and Climate Change Package, which had also been passed by the EP. Most changes demanded by the Council and the EP referred to the EU ETS Directive.

10.2 EU ETS Directive 2009

"Failure was important, the system needed to fail because if it didn't fail, they would be stuck with NAPs: Member States doing their own things." (Interview EU, NGO, section 53)

According to Article 30 of the EU ETS Directive 2003,²⁶⁵ the Commission was required to evaluate the instrument and present a report in 2006. The evaluation of the EU ETS was accompanied by internal studies and studies commissioned by the Commission. For example, the DG Environment together with the consultancies Ecofys and McKinsey (DG Environment/McKinsey & Company/Ecofys 2005) prepared a survey in which relevant actors were asked about their experience with the EU ETS and their opinions about the future of the EU ETS. From the answers, they concluded that the EU ETS had already had an impact on companies' longterm decisions and to some extent on the development of innovative technologies. About 70 % of respondents (the majority being power generation, steel, cement, and chemicals industries) already included the value of CO2 allowances in marginal pricing decisions (DG Environment/McKinsey & Company/Ecofys 2005: 5), which indicates an awareness of an advancing climate policy.

The survey participants criticised the time pressure under which the implementation of the first phase of the EU ETS took place. Moreover, companies in particular did not feel that their feedback was reflected in the NAP of the first phase. Especially industry and governments demanded more harmonisation of allocation rules in the next period, new entrants, and closures. It was assumed that more time, harmonisation of the rules, and transparency would reduce uncertainty (DG Environment/McKinsey & Company/Ecofys 2005: 8, 21). As this survey reflects the opinions of actors all over the EU, it does not necessarily hold true for the analysed case studies. In the Czech Republic and Germany, for example, the case studies have shown that industry interests were included to a large extent. In

²⁶⁵ From here on, the EU ETS Directive of 2003 will be referred to EU ETS Directive 2003 in order to better differentiate between this and the reviewed Directive that was adopted in 2009.

addition, the dissatisfaction of companies might also be the result of unrealistic demands.

The review process of the EU ETS Directive 2003 was initiated by the publication of the report²⁶⁶ by the Commission concerning the construction of a global carbon market in November 2006. The report summarised the development of the EU ETS and the experience gained in the first period and outlines the intended review process. A new working group under the ECCP II was established that focused on the review of the EU ETS.

The Commission (2008a) summarised the following "lessons learned" from the first and second periods in a memo:

- The EU ETS has put a price on carbon, and proved that trading in greenhouse gas emissions works;
- the necessary infrastructure and a European carbon market were created;
- the environmental benefit of the first phase was limited because of over-allocation;
- over-allocation took place because of the lack of verified data;
- verified emissions data are now available;
- the carbon market is very sensitive, and so are carbon prices;
- different methods for allocations threaten fair competition in the internal market;
- harmonisation of the cap and allocation method is necessary to avoid market distortions;
- greater harmonisation, clarification, and refinement is needed with respect to the scope of the system, the access to credits from emissionreduction projects outside the EU, and the monitoring, verification, and reporting requirements.

According to the Commission, the review process should focus on:

²⁶⁶ Communication from the Commission to the Council, the EP, the European Economic and Social Committee and the Committee of the Regions, Building a global carbon market – Report pursuant to Article 30 of Directive 2003/87/EC, the following referred to as "the report".

- the scope of the Directive. This includes a common definition of combustion plants and rules for the treatment of small installations. Moreover, one question would be which other sectors and greenhouse gases to include in the EU ETS.
- greater harmonisation and increased predictability. This especially concerns the cap and the allocation of allowances. The question is whether to have an EU-wide cap or whether it should still be set at the national level and also whether longer time periods would make the system more predictable for operators. The allocation of allowances is relevant to market distortions, auctioning and benchmarking systems, and also the treatment of new entrants.
- compliance and enforcement. In order to enhance compliance and enforcement, greater harmonisation and stricter regulation of monitoring and reporting, as well as the verification of allowances is needed.
- linking the EU ETS to third countries. The linking of the EU ETS to other countries is relevant because of the start of the international ETS and the establishment of additional regional trading schemes. Furthermore, criteria for the use of external credits from the project-based mechanisms needs to be further developed (European Commission 2006g: 6-8).

Having designated the period of 2005-2007 as a learning period, the Commission points out that this learning period was not only important for the design of NAP 2, "but also to inform the review of the scheme" (European Commission 2006g: 10). There are a number of aspects that result from the experience, as will be shown below.

The Commission's proposal to amend the EU ETS Directive (2003/87/EC) was presented in January 2008 as part of the Energy and Climate Change Package; its intention was to improve and extend the EU ETS. The revised

Directive (2009/29/EC)²⁶⁷ was surprisingly passed in its first reading by the Parliament on 17 December 2008. The adoption by the Council on 6 April 2009 was more of a formal act, as the heads of states and governments as well as the respective ministers had already agreed on the version accepted by the Parliament at the Summit of the European Council on 12 December 2008. Compared to the Commission proposal, only minor changes were made. MEPs from the German Conservatives of Baden-Württemberg complained that the EP resolution resembled the Council paper too much and that not enough discussions had been held. They called the process undemocratic and unacceptable because the Council paper was only available a few days beforehand.

Legislating in a great hurry – for that is exactly the point – is unacceptable and undemocratic, and the extremely fast legislative procedure and the fact that the Council documents were presented only a few days ago meant that, in our opinion, a professional examination and a study of the documents, and thus proper legislation, was impossible. (Daniel Caspary (PPE-DE))²⁶⁸

Wettestad (2009: 321) considers the continuation and adoption of the post-2012 scheme before the important CoP 15 in Copenhagen as a way of underlining the EU's leadership on the global stage. However, the EU did not manage to influence the CoP decisively.

In the presentation of the design I will focus on the cap, the allocation method, the scope of the Directive, exemptions, the connections to the project-based mechanisms, and monitoring and verification.

Cap:

After 2013, the total number of allowances (the cap) will be decided at the EU level, and will no longer be set at the national level. Thereafter, the cap will decrease by a linear factor of 1.74 % annually, which adds up to a reduction in greenhouse gas emissions of 21 % by 2020 (compared to 2005)

²⁶⁷ Directive 2009/29/EC of the EP and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, hereafter referred to as EU ETS Directive 2009.

²⁶⁸ Daniel Caspary (PPE-DE) explaining his vote on Doyle's report (A6-0406/2008) on the revised EU ETS, www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+CRE+20081217+ITEM-008+DOC+XML+V0//EN [last accessed: 2010-12-15].

levels). Member States will no longer have to prepare NAPs, because all the issues addressed in the NAPs will be handled at the EU level.

Allocation method:

Auctioning will be the main method of allocation post-2012. Energy producers will then have to buy 100 % of their needs; industrial plants will receive 80 % of allowances for free in the first year, and the amount to be auctioned will increase up to 70 % in 2020. Full auctioning is planned for 2027. The Commission had envisaged full auctioning by 2020 in its proposal. The rules for auctioning will be determined through comitology, and auctioning will start in 2011. Member States can decide whether to take part in a common auctioning platform and infrastructure or whether they prefer to develop their own auctioning system. Concerning the free allocation, rules will be set up taking BAT standards into account. The allocation method is more harmonised to stop transnational companies from receiving different numbers of allowances in different countries.

Although the cap is now set at the EU level and the method of allocation is harmonised, the system is still a bit complicated because of exemptions and concessions made to Member States. Hence, auctioning will vary in each country. 88 % of allowances to be auctioned are distributed equally to all Member States. 10 % of the allowances to be auctioned are "distributed amongst certain Member States for the purpose of solidarity and growth within the Community". This is meant for economies that are below the average EU Member State level and for countries that have a lower per capita income than average. The EP added another 2 % to the Commission proposal that is to be distributed among Member States that in 2005 had a cut in greenhouse gas emissions of at least 20 % below their baseline level under the Kyoto Protocol (European Parliament 2008). Whereas the first exemption favours old and new Member States with weaker economies, the latter is almost exclusively applicable to the new Member States who had already decreased their emissions due to the restructuring of their economies after transition. Both shares are again distributed, resulting in different percentages for each Member State concerned.

Out of the 10 %, the Czech Republic receives 31 % and Spain 13 %. Germany and the UK, two of the strongest economies, do not receive any share. Of the 2 % exemption, the Czech Republic receives another 4 %. The Baltic countries, Bulgaria, Romania, and Poland are the Member States that profit from these rules the most.

Other exemptions are the option to exclude district heating and cooling or highly efficient cogeneration in Member States when fulfilling conditions regarding the interconnectivity of their electricity grids, the share of a single fossil fuel in electricity production, and GDP per capita in relation to the EU-27 average. Only power plants that were operating or under construction starting no later than the end of 2008 could receive free allocations. The derogation is only optional and temporary. The auctioning rate in 2013 is to be at least 30 % relative to emissions in the first period and will increase progressively up to 100 % by no later than 2020.

Moreover, sectors or installations heavily at risk for carbon leakage because of increasing energy prices due to emissions trading can be compensated. Additionally, industries exposed to carbon leakage may obtain free allocations if they meet certain criteria. This exemption is assessed frequently. Free allocation is based on BAT benchmarks.

The windfall profits made by the energy sector are addressed by full auctioning of their certificates. In addition to the private consumers, energyintensive industries were also burdened by higher electricity prices, which led to criticism from all sides.

The revenues from the auctions should be invested to at least 50 % (the Commission had proposed 20 %) in climate change measures: in mitigation or adaptation measures, including the promotion of renewable energies, afforestation, reforestation, and the avoidance of deforestation, among other possibilities. It is also possible to use them for the administrative costs of the scheme or social aspects such as energy efficiency and insulation or financial support for lower and middle-income households. The latter point would address the problem that households with lower incomes suffer disproportionately from increased energy prices. Social issues were discussed in Member States when the price of oil rose and the pricing-in of
allowances by energy producers led to an enormous increase in energy costs for consumers. The use of the remaining revenues can be determined by the Member States.

Scope:

Sectors:

As of 2012, aviation is part of emissions trading according to Directive 2008/101/EC,²⁶⁹ which amends the EU ETS Directive so as to include aviation activities in the EU ETS. From 2013 on, the aluminium sector and the chemical sector, exempted under the 2003 Directive, are included as well. Small emitters with less than 25,000 t/CO2 per year (the Commission had proposed 10,000 t) can be excluded, as can combustion activities with a thermal input below 35 MW (the Commission had proposed 25 MW), if Member states decide on other equivalent measures for these installations. The exclusion of small emitters was demanded by industry and Member States because of the high administrative costs in comparison to limited emission reductions.

Gases:

In addition to CO2, N2O and perfluorocarbons are now included in the scope of the application of the Directive, but only for some sectors.

Links to CDM and JI

The project-based mechanisms CDM and JI are still linked to the EU ETS.

Concerning CDM, the EP included qualitative aspects:

It is important that credits from projects used by operators represent real, verifiable, additional and permanent emission reductions and have clear sustainable development benefits and no significant negative environmental or social impacts. A procedure should be established which allows for the exclusion of certain project types. (European Parliament 2008)

By adding this, the EP pointed out the importance of additionality270 and sustainability. Moreover, MEPs added that most revenues should go to the least-developed countries and that CDM projects should take place there if

²⁶⁹ Directive 2008/101/EC of the EP and of the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community.

²⁷⁰ A project is additional if it would not have taken place without the CDM mechanism.

the criteria are met (e.g., if they have ratified the Kyoto Protocol). The use of external credits is quantitatively limited to up to half of the additional reduction taking place in the Community scheme between 2008 and 2020.

Monitoring, reporting, and verification

The rule for monitoring, reporting, and verification will also be harmonised and centralised. From 1 January 2013 onwards, all allowances will be registered in the Community registry instead of the national registries.

10.2.1 Positions and roles of different actors

Looking at the positions of the Member States, it becomes evident that lessons have been learned by most actors.²⁷¹

According to their position paper (Czech Ministry for the Environment 2008), the Czech Republic supported most changes of the Commission proposal for achieving a simple and more efficient system. They accept the introduction of an EU-wide cap, the annual linear reduction, the proposed base year, the inclusion of other sectors and other gases, and the exclusion of small emitters, as well as auctioning. However, they demand a transition period also for the electricity sector, starting with 20 % auctioning and increasing it up to 100 % by 2020. Moreover, they call for addressing carbon leakage and state that the use of revenues should be a matter for the Member States.

Germany supports auctioning as the main method of allocation from 2013 onwards. While they welcome 100 % auctioning for the electricity industry, they demand free allowances for energy-intensive industries facing international competition, especially for companies that do not emit much greenhouse gases themselves, such as aluminium production and electric steel plants. The free allocation should be based on BAT benchmarks (BMU 2008a). Although a press release from September 2008 stated that the German cabinet was against exemptions or subsidies for new power plants, the BMU apparently changed its position; in a press release from November

²⁷¹ As there were no press releases available and no response was received from requests to the Spanish government for information, the position of Spain cannot be reconstructed.

2008, it mentions that it wants subsidies for new power plants that replace old power stations if they are highly efficient plants or use cogeneration (BMU 2008b). Eventually, Germany welcomed the final version of the EU energy and climate package, since it shows that the EU is willing to remain a leader in climate change policy (BMU 2008c).

The UK supports the Commission's proposal, especially the EU-wide cap and expanded auctioning. However, they would like to have higher minimum levels of auctioning, with the freedom for Member States to set higher levels unilaterally (DEFRA 2008). According to an interviewee, the British administration supports a central cap because otherwise countries could look out for their own interests and not consider wider implications (Interview UK, ADMIN, section 26-7). They are also in favour of excluding small emitters to reduce administrative costs and efforts and want carbon leakage to be taken into account. Moreover, they raise the proposal of a tougher time schedule so that businesses can better plan their investments (Wicks 2008).

The environmental NGOs (CAN Europe, FoE Europe, Greenpeace, WWF) who acted together to keep the focus on the ecological and economic effectiveness and integrity of the process call for a simple allocation method, clear carbon price signals, harmonisation, public participation, and transparency in policy-making, implementation, and enforcement to ensure compliance. They demanded that the cap should be set at the EU level, that reductions be at least 30 % compared to 1990 levels, and 100 % auctioning after 2012, because this would lead to harmonisation, transparency, and efficiency of allocation. The revenues from auctioning should be used for climate change measures (CAN Europe et al. 2007), with 50 % of the revenues going to mitigation and adaptation measures in developing countries (WWF 2008). The four green NGOs proposed the additional inclusion of N2O and CH4 in the EU ETS and aviation as a new industry. They were against the inclusion of surface transport and against the exclusion of small emitters. All four demanded that CDM and JI should be quantitatively limited and restricted to projects that are in line with qualitative standards (CDM gold standard) if included. JI projects should not be applicable for EU countries and EU ETS participating industries.

Moreover, LULUCF or so-called sinks should also be excluded (CAN Europe, et al. 2007).

According to an interviewee, environmental NGOs were surprised by the proposal having the cap set at the EU level and that there was no outcry about that, because they thought that this was the bottom line they would have to fight for. It seems that NGOs could have been more ambitious in their demands (Interview EU, NGO, section 59).

The union of the electricity industry, Eurelectric (2007, 2008), was also in favour of an EU-wide cap and open to auctioning for all participating industries with all sectors to be treated in a fair manner. Eurelectric was opposed to discrimination against the electricity sector, despite acknowledging that some other sectors are exposed to international competition. Moreover, Eurelectric demanded a transition period for the electricity sector. Allowance auctioning should be defined and specified in a regulation for which Eurelectric has prepared a position paper (Eurelectric 2008b). The project-based mechanisms were seen as guaranteeing costeffectiveness and should be available to participants without quantitative or qualitative restrictions. The linking to other similar ETSs should be carefully assessed to avoid market distortions. Eurelectric stressed the importance of harmonising benchmarking, the treatment of new entrants, and closures. To ensure transparency, data should be published simultaneously and according to the same rules. All NAPs or at least summaries should be available in English (Eurelectric 2007, 2008a) to facilitate comparisons.

The positions of energy-intensive industries were quite diverse but can be summarised for the following aspects: Cembureau (the cement association), CEFIC (the representatives of the chemical industry), and CEPI (the confederation of European paper industries) point out the exposure of their industries to the international market. Therefore, they strongly opposed auctioning unless other countries outside the EU were exposed to similar measures, in order to avoid market distortions and competitive disadvantages. They also demanded that the windfall profits of the energyproducing industries be addressed but also point out that auctioning is not the solution (Cefic 2007, Cembureau 2007, CEPI 2008). All these industries are potential sources of carbon leakage. The allocation method preferred by most industries is grandfathering, recognising early actions and in some cases benchmarks (e.g. CEFIC). With respect to the Linking Directive, they were against restrictions on CDM and JI. However, every industry has its own preference: CEFIC would like to have small emitters excluded, and Cembureau demands ex-post adjustments and taking process emissions into account. Cembureau is still critical of emissions trading and would prefer a sectoral approach and market instruments without caps. The aluminium industry (EEA), which was exempt from the EU ETS in the first phase, was also against its inclusion in the future, as there are only a few producers, which allegedly have good performance regarding greenhouse gas reduction (EAA 2005). Basically, the position of energy-intensive industries has not changed much since negotiations on the first Directive. They still evidence scepticism regarding emissions trading and preference for other instruments.

10.3 Discussing the review of the EU ETS

The proposal to maintain and modify the EU ETS can be considered progressive, keeping in mind the scepticism about emissions trading in general when it was first discussed at the EU level almost ten years ago. During the discussions for the review, the instrument itself was no longer questioned; rather, the aim was to make it more ecologically effective and economically efficient without putting European industry at an international competitive disadvantage. Moreover, greater harmonisation of the cap and allocation method was a major focus of Member States and also the participating companies and industries. Wettestad (2009: 313, 318) assumes that Member States became aware of the costs of a decentralised scheme. Moreover, the Commission had self-interest in the centralisation, as they wanted to see their "flagship project back on track and succeeding" (Wettestad 2009: 322). Other discussions concerned the scope of the Directive regarding the inclusion of other sectors and other greenhouse gases. Inclusion of the chemical and aluminium industries and aviation reflected the wishes of stakeholders (cf. DG Environment/McKinsey & Company/Ecofys 2005: 11). The task of the policy makers was thus to revise the Directive in a way that

greenhouse gas emissions were decreased but at the same time carbon leakage²⁷² was curtailed, which again led to special rules and exemptions. Carbon leakage is especially relevant for industries that 1) are sensitive to international competition and 2) are not regionally bounded in their production. As the transportation of electricity is exposed to high losses, carbon leakage is not expected in the energy-producing sector. Another important point for the review was the linking of the EU ETS to other schemes and especially to the international ETS.

Although the EU ETS Directive 2009 still has exemptions and special rules (e.g., in the allocation method for energy-intensive industries), it is an enormous step forward in comparison to the EU ETS Directive 2003. The experience gained from implementation hence influenced the review of the Directive, as has been shown. In short, the major changes to be implemented from 2013 onwards compared to the EU ETS Directive 2003 are:

- a more efficient, more harmonised and fairer EU ETS in the third period;
- longer trading period of eight years, compared to 3 and 5 years in the first and second phase, respectively;
- an EU-wide cap that decreases annually and will lead to 21 % reductions in 2020 compared to 2005 levels;
- auctioning as the main method of allocation that increases annually (up to more than half of the allowances in phase three);
- harmonised rules for transitional free allocation;
- harmonised rules for monitoring, verification, and reporting.

Most of these aspects have been the focus of criticism before. More harmonisation was generally accepted and even demanded by all participants in the policy network. Looking at the different positions, it becomes evident that neither the energy-intensive nor the energy-producing industries could really achieve their desire to have no auctioning or only partial auctioning

²⁷² Carbon leakage describes the outsourcing of production to countries with lower climate protection standards, which in the end does not lead to an overall reduction of greenhouse gas emissions.

(respectively). However, the energy-intensive industries received more concessions in form of exemptions because of possible carbon leakage. In general, the activity in the formal policy-making process (i.e., writing position papers) seemed to come less from energy-intensive industries then it had before 2003. The environmental NGOs had demanded 100 % auctioning, which will be achieved only in 2027. Regarding the use of CDM and JI, both opponent actors scored points: qualitative standards were inserted (NGOs), but the quantity was relatively high (industry).

The EP and the Council added some important features to the Directive, such as changing the auctioning rules for the benefit of countries that had achieved a large part of their reductions. However, the Commission proposal was also weakened by delaying full auctioning and by making it possible to exclude more small emitters than had been planned. One advantage of this Directive compared to the previous one is that in the future, all details and processes will be specified in regulations through comitology before and not during the process. The EP was unsuccessful in including tougher targets concerning the EU-wide reductions by 2020, which remained as they were in the proposal (at least 20 %) and will be adjusted when an international agreement is reached. In general, the EU ETS Directive 2009 represents an extreme improvement, but only the start of the next period will prove whether the system will become ecologically and economically more effective.

The process of adopting the EU ETS Directive 2009 might seem very fast compared to the development of other directives in environmental politics that take years. The EU ETS Directive 2003 was finalised in a very short time, as has been shown. Obviously, the preparation has taken place over the past few years, but the question remains of whether the "unproblematic" review can be really seen as unity, or if it is rather the lack of alternatives and the necessity to act that has made all Member States eager to reach consensus. The EU ETS is now the primary instrument for reducing greenhouse gas emissions in general and especially in the industrial sector. No similar instrument has been developed for other sectors yet.

10.3.1 Implications of the implementation for the review of the EU ETS

Having observed sizable changes after the EU ETS Directive's review, the question now is: how was it possible that in only five years Member States agreed on a Directive that was not thinkable in 2003? The answer might be found in the implementation of the Directive.

As has been shown, the decision-making of the EU ETS Directive 2003 was very controversial but nonetheless adopted in a very short time. Hence, many aspects were still open at the time the implementation began; other aspects had not been defined by the Directive, leaving the decisions to the Member States. The latter group includes the definition of combustion installations, the determination of the cap, and the allocation rules for existing and new entrants. During implementation, it became clear that these were essential aspects for fairness and transparency and that a lack of harmonisation led to market distortions. Discussions about distribution thus started only when Member States had to draw up their NAP 1s and took place on the national level. Additionally, the windfall profits made by the energy sector could have been expected but were only addressed in the review process.

The Commission as "the coordinator" seemed to have been overwhelmed by its task in the first phase. There was no clear basis on which to assess the NAPs and reliable data was poor. A methodology for assessing the NAPs was only developed during implementation, as were the monitoring and reporting guidelines and the implementation guidance. Although a guidance or guidelines are not binding rules, they were (more or less) followed. As the first phase was a learning period, these conditions were apparently accepted in order to launch the EU ETS. To deepen its base, in the EU ETS 2009 all these elements are adopted as regulations.

Although the criticism of the instrument in general was fuelled by its failure to seriously reduce emissions in the first phase and by high windfall profits made by the energy sector, the Commission and Member States were more eager than ever before to continue using this new instrument. The dilemma was that on the one hand, they wanted a learning period before international emissions trading started; on the other hand, the time to prepare this learning period was very short. However, it is not certain that additional debates beforehand would have prevented problems during implementation, as it seems one important factor for the more ambitious EU ETS Directive 2009 was the experience gained from the previous Directive's implementation. Skjærseth and Wettestad (2009: 117) assume that it was the Commission's strategy to start the scheme in 2005 and to gain legitimacy among the actors concerned; improving the ambitiousness of the EU ETS came later, which can be seen as built into the proposed design. A finding of this thesis is that learning was necessary to improve the scheme. Because of the uniqueness of the scheme and possibly also of the EU, capacity-building had to take place and learning by actors was required in order to create a successful EU ETS. In the following chapter, three different perspectives on the entire process will be presented before arriving at the final conclusion and the answers to the research questions.

11 DIFFERENT PERSPECTIVES ON THE EU ETS

"We need more experience, but it is certainly the right instrument when designed and implemented properly." (Interview DE, POL-2, section 58, translated VA)

Having regarded the different stages of the EU ETS separately in the preceding chapters, now the puzzle is put together and the whole picture appears. Three different perspectives on the EU ETS were chosen to capture its development. Having presented the problems and discussions regarding the EU ETS and eventually the changes made between the first draft of the Directive and the review, the whole process is now examined from a learning perspective. Did policy change take place, was there a paradigm shift, and was this the result of learning? The second perspective is the view from within, hence, covering and presenting the opinions and experiences of actors who participated in the policy development of the EU ETS. This section of the thesis is contrasted to the findings from the document analysis in order to be able to verify the findings. Finally, the question of whether the development of the EU ETS was effective, efficient, and democratic is considered in an attempt to find out whether the process and output can be considered good practice. Eventually, this part leads into the conclusion of this research project and the ultimate answers to the questions posed in the beginning:

What were the main barriers and drivers during the development of the EU ETS? Can the establishment of the EU ETS be considered good practice?

11.1 Learning by doing and changing by learning

As mentioned, emissions trading as an instrument was alien to the EU as a whole and to most Member States, thus it was a new instrument. Almost no experience existed among the decision makers or the addressees and little experience existed worldwide, especially considering the size of the scheme. Furthermore, the EU had opposed emissions trading and other flexible mechanisms during negotiation of the Kyoto Protocol, but they accepted it in order to get the USA onboard. Only a few years later, the Commission published a Green Paper on EU-wide emissions trading, which led to the adoption of the EU ETS Directive 2003 that was revised in 2008 and eventually led to the adoption of the EU ETS Directive 2009.

It is interesting to analyse the development of the EU ETS under the premise of policy change because within only ten years, this new instrument was introduced, implemented in two periods, reviewed, and amended. Everyone familiar with EU politics knows that time period could be considered fast for policy formulation alone. It must also be pointed out that this speed was not possible because of harmonious negotiations or similar policy goals of the participating actors. On the contrary, the instrument was opposed by many Member States, including powerful states like Germany and France at the time of the EU ETS Green Paper (see Chapter 6.4.1). In addition, the policy formulation process was characterised by opposition and scepticism. Environmental groups were not fully convinced by this instrument, and the industry sector lobbied to impede or water down the EU ETS Directive, as has been shown. Yet, within only two years, the Directive was brought through the legislative process. Apart from the delays and deficits during implementation, the implementation was surprisingly unproblematic and within a year, all Member States had implemented the EU ETS Directive 2003 at least legally. The revision and the adoption of the EU ETS Directive 2009 happened even faster than the policy formulation of the Directive 2003 and included changes that reached farther than one could have ever expected back in 2003. Because the results of the introduction, implementation, and revision of the EU ETS Directive indicate a dynamic that cannot be explained by neo-institutionalism, the search for another theory that might better explain the process that took place is necessary. Learning approaches offer a good explanation for change.

Thus, the aim of this chapter is to give an overall analysis of the policy cycle establishing and further developing the EU ETS. This approach acknowledges the criticism made by (among others) Knoepfel et al. (1997: 296) that the focus of most studies is on only one phase, e.g., implementation, disregarding the influence of the previous phases. This is a problem for policy analyses in general and for the study of learning processes in particular. "Die aus forschungsökonomischen Gründen oft vorgenommene Verkürzung des Forschungsdesigns auf Politikumsetzungsprozesse und die damit in Kauf genommen Ausklammerung der Politikgenerierungsprozesse ist und bleibt nicht nur für allgemeine Politikanalysen, sondern auch für die Untersuchung von Lernprozessen in öffentlichen Politiken unbefriedigend." (Knoepfel/Kissling-Näf/Marek 1997: 296). Since a law is generated in a highly complex and often combative process, the policy formulation and decision phase were included in the research design. Comparing the different phases, it is possible to see what lessons have been learned during and from the implementation. In the case of the EU ETS, the Directive of 2003 was designed to be revised in the next period. This fact naturally points to an evaluation and learning process.

Because a complete and deep analysis of each phase would have been too ambitious, the focus was put on the implementation as the central phase of the policy cycle because here the Directive had to prove its effectiveness. Hence, important theories that could have been used for the analysis of the policy initiation and formulation were ignored, and these phases were only analysed from the perspective of policy learning. The evaluation and revision of the EU ETS Directive was only regarded under the scope of policy learning to examine the influence of the experience gained during implementation. As implementation has already been analysed from a neoinstitutionalist perspective in Chapter 9, here the aspects that could not be explained by institutionalist assumptions will be highlighted. The question is who learned what, when, and why? However, first of all, the degree of change that took place needs to be identified.

11.1.1 Identifying policy change

In Chapter 2.6, policy change was asserted to be the result of a change in preferences, encompassing the whole process and not only decisions. The change in preferences usually takes place because of learning (cf. Bandelow 1999: 13, 22, Kissling-Näf/Knoepfel 1994: 99). According to Sabatier and Jenkins-Smith (1999: 147), it is also possible to have gradual differentiation of changes. A major change would require a change in the policy core aspects and a minor change in the secondary aspects (see Chapter 2.6). To effect a change in the deep core aspect, a radical approach to the problem of climate change would have been necessary, as presented by Brunnengräber

et al. (2008), among others.²⁷³ A change in the policy core aspects would mean that the goals of the hitherto existing climate policy or environmental policy, respectively, would be changed. Minor changes require a change only at the instrumental or strategic level; thus, the overall goal remains the same.

As policies can be operationalised in belief systems, this is done to compare the change that was required. The aim or deep core of the EU ETS Directive 2003 was to combine ecological effectiveness with economic efficiency and thus to enhance sustainable development. The deep core of the EU environmental policy, namely, to have sustainable development was thus in line with the instrument.

The policy core includes the goal to halt climate change and to protect the atmosphere. Although some climate-related initiatives were taken before, the European Climate Change Programme (ECCP) launched in 2000 can be seen as the first comprehensive strategy to halt climate change. Although the EU did not have a common climate policy before initiating the EU ETS that was part of the ECCP, we cannot really speak of a change in the policy core aspects, as the EU had previously been active on the international level in developing an international climate policy. Hence, the goal to halt climate change had been expressed before; the ECCP simply presents an institutionalisation of this goal. Nevertheless, the EU ETS marks the first instrument only related to climate change. Those Member States who did not previously have a climate policy might have perceived the instrument as a change in the policy core aspects, as limiting greenhouse gas emissions had not been a part of their policy programme. As the EU ETS is a climate protection instrument, it follows the precautionary principle and as costs for climate protection must be paid by the polluter, it is also in line with the polluter-pays principle. Both principles have traditionally been used in determining the environmental policy of the EU (see Chapter 6.1). Moreover, the subsidiary principle was taken into account by leaving the most relevant decisions to the Member States. In sum, no major change can be

²⁷³ A radical approach would be to stop burning fossil fuels or to effect a complete change of lifestyle that would overcome the growth paradigm.

demonstrated in the case of the policy core aspects, since the goals of environmental policy in general and climate policy in particular were not challenged.

The secondary aspects were the instrumental choice and thus the decision in favour of an EU ETS. Secondary aspects of the EU ETS are how this goal should be achieved; in this case, by reducing emissions where it is most cost-efficient, since for the global climate it does not matter where reductions take place. What was actually new in the environmental policy was the trading aspect and thus the flexibility of the instrument. Thus, the establishment of a common climate policy and the EU ETS can be considered as a minor change. The development of the EU ETS shows an incremental change when considering that the EU is enhancing its competences, which was in line with the environmental policy, and when looking at the changes in preferences of Member States during policymaking. The change that took place between the first EU ETS Directive 2003 and the EU ETS Directive 2009 is only minor because it concerned refinement and correction of rules that were proven to lead to problems of harmonisation. However, the centralisation of the EU ETS and the increase in power for the Commission can arguably be classified as major changes, because the path of the Member States to maintain as much authority as possible at the national level was abandoned. The increased use of more flexible market instruments also marks a change in environmental policy, but is in line with the general paradigm shift in policy-making that started in the 1990s and is subsumed as neo-liberalisation (cf. Brunnengräber, et al. 2008, Enders 2007).

The policy change of the implementation must be examined individually for each Member State analysed in this thesis. For Spain and the Czech Republic, the policy core aspect was strongly challenged because of a previously non-existent climate policy and lack of experience with marketoriented instruments. For Germany and the UK, the change was minor, considering that a number of climate measures were part of those countries' policy mixes already. However, for Germany the instrument contradicted the preference for command and control instruments and voluntary agreements.

11.1.2 Tracing learning

In the following section, the learning process is reconstructed for each phase by using the questions developed in Chapter 2.6.2. The synopsis brings together the learning of the individual actors to analyse learning in the policy network.

Who learns?

The actors that need to learn are the ones that are members of the policy network. The policy network consists of the EU institutions, Member States, experts, advisors, and stakeholders. Depending on the phase and level, the network differs slightly.

For the initiation, the relevant actors were the Commission that initiated the EU ETS Green Paper but also Member States and stakeholders that commented on the plan. The Commission then published the proposal for the establishment of the EU ETS based on the discussion on the EU ETS Green Paper. The relevant actors for policy formulation were the Commission, the EP, the Council, and stakeholders. These actors were also relevant for the review. The Commission, the EP, and the Council were the main actors in the decision-making process, with a decision power²⁷⁴ legitimised by the EU treaties. Important stakeholders were the green NGOs, here especially CAN Europe and WWF, and the associations of the affected industries, including the representatives of the energy sector and energy-intensive industries. Experts and advisors were also part of the policy network but acted as norm entrepreneurs.

The implementation mainly took place at the national level. The policy network consisted of political and administrative actors, experts, advisors, and stakeholders. The Commission was also part of the network, because of its role in ruling on the implementing measures. The legislature was the legitimate power to decide the legal implementation, and the public administrations were important actors for the practical implementation. In all four Member States, the group of stakeholders consisted of environmental NGOs and business interests, basically the equivalents to those at

²⁷⁴ The ECOSOC and Council of Regions are not examined.

the EU level. Advisors were especially relevant for the UK and Germany, but also here they can be counted as norm entrepreneurs.

What did they learn?

Although in the past decade all actors learned more about climate change through new research and reports, the focus here is on the EU ETS and thus only on the instrument that is the object of learning. The members of the policy network needed to learn about the instrument: how to design, implement, and monitor it. To design an effective instrument, it was necessary to understand the basic mechanisms, the effect of the design, and the possible impacts of the instrument.

Once the Directive was designed and adopted, actors needed to learn how to incorporate the instrument into national law and how to put the instrument in practice. To that end, they needed to learn how to draft the NAP and in particular how the system works, the effect of individual rules, and what consequences result from decisions. Moreover, they needed to learn how to monitor their system and report to the Commission.

Whom do they learn from?

The problem was that the instrument was alien to the EU and to most Member States. Moreover, no other scheme of such a scale existed that could have served as a role model. Thus, the policy network had to learn from small-scale schemes and from theory. Therefore, many studies were commissioned to increase expertise and broaden knowledge about the functioning of the instrument. At this stage, the norm entrepreneurs were very important for transferring knowledge within the policy network and convincing the other actors.

Although there were only few schemes already in place at the time of the initiation of the EU ETS, these role models inspired the EU ETS. Examples are the US SOx scheme, the UK ETS, and the Danish ETS. Moreover, the inclusion of emissions trading as a flexible mechanism in the Kyoto Protocol prepared the path for the establishment of an EU ETS. As has been mentioned, for the initiation, the so-called BEST group within the DG Environment's climate change department (see Chapter 6.6) was very important. The group members were all new in this department and familiar

with discussions of the instrument in economic research and in the USA. Some had previously worked with trading instruments and therefore had an affinity for them. As the initiators of this instrument, they played an important role in the subsequent process. Skjærseth and Wettestad (2010) consider the Commission therefore to be an "entrepreneurial epistemic leader" – this leadership is especially important in the initiation – because of its advantage in knowledge, which it acquired through learning. Expertise and studies prepared by research institutes (FIELD; CCAP) that acted as advisors were important because they offered the argumentation for the design. By providing external information, they gained influence (Skjærseth/Wettestad 2010: 317). Other supporters were companies like Shell who already had an internal trading scheme and Member States such as the UK and Denmark who had established or were about to establish national ETSs. Each of these actors can be seen as some kind of norm or political entrepreneur.

To achieve adoption of the EU ETS Directive 2003, sceptical Member States had to be convinced. Moreover, stakeholders had to be taken on board. For this purpose, a number of workshops and debates took place to promote capacity-building.

Learning during implementation took place by gaining experience with the instrument and by learning from others. Member States who were first to publish their NAPs and get them approved served as role models (or negative examples) for others. The Commission partly enforced learning when ruling against certain aspects of the NAPs.

In the second implementation phase (and the review), the policy formulation and the implementation (or the process and the outcome, respectively) served as the object of learning. Experience had shown that design was very important. Moreover, the designers realised that greater harmonisation and even centralisation was necessary to have a functioning system that would comply with the goals of ecological effectiveness and economic efficiency. This experience was evaluated during the review process, and it enabled the policy network to improve the design of the scheme.

Why did the policy network learn?

The learning at the EU level can be seen as voluntary because the initiation of the EU ETS took place without external pressure. International ETS was one of the flexible mechanisms mentioned in the Kyoto Protocol.²⁷⁵ As an interviewee points out, the Kyoto Protocol did not demand implementation of regional ETSs. Therefore, there needs to be a distinction made between the international ETS and the EU ETS. When the EU ETS Directive was adopted, the international ETS did not yet exist. Moreover, the linking to the two flexible mechanisms CDM and JI was not required. The vision behind the EU ETS was the idea of a global carbon market (Interview DE, ADVISOR, section 28). Hence, being a member of the protocol did not necessarily require a domestic or regional scheme, but the aim of the EU was to give actors the possibility to gain experience before the international ETS would start. It was considered an advantage to have a learning period and a regional scheme in the EU. Another reason for the EU-wide trading scheme was that some Member States had begun to use this instrument and in order to harmonise approaches, the EU seized the opportunity to create a common scheme. Moreover, the EU wanted to harmonise climate policy but did not have any other common instrument to address climate change. The failure to introduce a CO2 tax might be seen as another reason why emissions trading was considered an option.

The political entrepreneurs had enhanced their knowledge of economic instruments and especially emissions trading mostly from studying theory. Some had experience with practice projects, but not of this size. They promoted and mediated the advantages of the instrument in general and were to a large extent responsible for the design.

At the national level, learning was forced because membership in the EU requires the Member State to implement and comply with directives adopted at the EU level. However, Member States were also willing to learn and gain experience using this new instrument. From the first to the second

²⁷⁵ At the time of its initiation and formulation, the Kyoto Protocol was not yet in force because of missing ratifications. Nevertheless, the awareness was present, and the will to make it come about strong.

phase, learning was enhanced by the publication of the verified emissions that revealed over-allocation and windfall profits. Moreover, the large number of special rules had led to market distortions. The aim was to make the instrument more effective for the second phase and eventually for the future ETS.

Internal learning mainly took place within the EU policy network because of reassessments of the system. As the EU had gained experience from the policy formulation and implementation, at the time of revision and formulation of EU ETS Directive 2009, they were able to learn from the previous phases. The improvements made in the design of the EU ETS Directive 2009 were only possible because of this experience that had revealed weaknesses in the design of the EU ETS Directive 2003. The focus was on the internal perspective of the EU ETS but with a look outside regarding compatibility with other ETSs that had emerged in the meantime or were in a planning phase.

What enables or constrains learning?

Perception, ability, and willingness enabled the EU to introduce the EU ETS. Climate change was perceived as a problem, and the willingness to halt climate change had already been expressed in several documents and by membership in the Kyoto Protocol, whereby the EU and its Member States had committed themselves to reducing emissions. The structure of the EU made it possible to establish a common EU ETS.

The opportunity was that the reduction phase of the Kyoto Protocol was soon to start and that if actors could be given the possibility to gain experience beforehand, an EU-wide system would have to be established quickly. Moreover, the national ETSs that were planned made it necessary for the Commission to react to avoid a multitude of diverse systems.

Political entrepreneurs in the Commission and early mover Member States enhanced learning, as has been shown. Moreover, capacity-building took place through organised workshops, advisory, new scientific reports, and within working groups, which certainly enhanced learning as well. This helped to overcome the constraints. Constraints were found in the already existing institutions, mostly at the national level in administrations, and in policy style. These were discussed in depth in Chapter 9. Another hindrance for learning was the general acceptance of the instrument, because the instrument challenged the policy core beliefs of some actors (namely, that growth is more important than environmental protection) or the general scepticism against market-oriented instruments. Constraints for an effective scheme also originated from business interests, the fear of carbon leakage, and the general influence of blocking stakeholders (see Chapter 6.4).

In the end, bad experiences such as over-allocation and windfall profits in the first trading phase provided the impetus for improvements, but also served to underline the argumentation of opponents of the scheme, who were mostly found in academia.

How did they learn?

The choice of new instruments is understood as second-order learning by Csigó (2006: 162). The policy network decided to try a new instrument to tackle the emissions of the energy-producing and energy-intensive sectors, as other instruments were not effective (voluntary agreements, information campaigns), not innovative enough (standards), or not feasible (taxes). Moreover, no other instrument would set an overall limit on emissions as realised by the cap. As has been stated earlier, the choice for an EU ETS marks a paradigm shift in EU environmental policy-making (cf. Brunnengräber, et al. 2008, Enders 2007, Steuwer 2007). Although the policy core beliefs of the EU were not altered, second-order learning was necessary in the initiation and policy formulation phases. Old concepts of policymaking had to be overcome; the creation of a flexible market solution for the reduction of climate change challenged conventional methods of environmental policy-making in most countries, or at least this was how it was perceived. Examining the instrument in detail and how it was designed, the only new element was the flexibility of the trading, as the allocation method chosen was mostly grandfathering or benchmarks and not auctioning. The design of the EU ETS Directive 2003 hence still includes aspects of conventional policy-making, which proves that learning was not completed.

Implementation generally requires only adjustments of administrations and adaptations of rules. The Member State has basically no choice with regard to implementation because according to the treaties, it is obliged to implement. The strategy of the Member States to deal with unwanted directives is therefore interesting to observe. They can ignore it until the Commission demands implementation, they can delay it, or they can implement the requirements incompletely or incorrectly. Non-compliance can be intentional or result from other caused. Finding out what leads to non-compliance is the task of implementation research. Theoretical approaches to learning may provide an answer to the question of why implementation succeeds even though it is expected to be complicated, thus complementing institutional approaches.

During implementation, peer learning but also learning from experience is possible and necessary. In the case of the EU ETS 2003, it was probably both; Member States tended to see what other Member States had designed, copying special rules and in some cases also changing rules that had already been rejected by the Commission in other cases. Experience with an instrument or the mechanisms of an instrument might enhance implementation effectiveness. A special aspect of the EU ETS was that the implementation of the Directive took place in two phases. Phase one was the trial or learning period; the second phase coincided with the international reduction period and was therefore the main phase. In the end, the decision to have a learning period proved to be a good one, because in the first phase Member States jeopardised the effectiveness of the instrument by abusing the flexibility of the EU ETS Directive 2003. In the second phase, some Member States had learned from the first phase. In particular, the Commission had learned the lessons from the first phase and took a stronger role in the implementation of the second phase, thus enforcing top-down to achieve greater effectiveness.

In the cases in which only adjustments and minor changes are necessary for effective implementation, first-order learning is sufficient. If the policy core

is challenged, we can also speak of second-order learning. From a theoretical perspective, double-loop learning might have been necessary in the first phase for the Czech Republic, Germany, and Spain. As the UK had used the instrument before, the learning potential was limited and the implementation was just about adjustments, thus first-order learning.

For the Czech Republic, second-order learning was necessary because 1) it was not part of the policy network at the time of formulation, 2) it was a new Member State and lacked experience with implementation in general, and 3) it had not previously had an elaborated climate policy. Thus, it not only had to transpose the Directive, but decision-makers, the public, stakeholders, etc., had to be convinced as to the necessity of a climate policy. The direct translation of directives into national law as often practiced by the Czech Republic and the transposition by government decree might have hindered learning, as the debate took place in a closed circle without opposition in the parliament.

In the case of Spain, the implementation of the first phase can be regarded as second-order learning as well because decision makers felt that it would go against the country's core policy objectives to have first economic growth and then care about environmental issues. Germany was in favour of a climate policy but opposed the instrument, as it preferred voluntary agreements with the industry to reduce emissions.

For the second period, first-order learning was sufficient in all four cases because of already existing institutions and experience and the focus on making the processes more effective. Taking into account of the designs of NAP 2s, especially with regard to the cap, an improvement regarding the ecological effectiveness of the instrument can be expected. This improvement was mainly the result of the strict rulings by the Commission. With the verified emissions from the EU ETS, the basis for determining appropriate caps was improved. Surprisingly, the experience from the first phase and the already existing institutions did not influence the implementation of the second phase overwhelmingly positively. Therefore, it seems that the actor who learned most was the Commission. Learning effects by Member States can be seen in the use of fewer special rules, the use of more benchmarks as allocation methods, an increased use of auctioning, and the measures addressing windfall profits. However, the protection of industry was still present under NAP 2 and was stronger than the aims of an ambitious climate policy. However, policy learning can take place also without major changes as an immediate consequence and can thus be seen as independent from change. Policy learning does not necessarily effect the output immediately but can also lead to changes in structures and processes (Bandelow 2003b: 324) that in the long term may enable policy change.

In sum, as all Member States managed to implement the EU ETS Directive 2003 successfully, evidently first-order learning had taken place in the first phase and (based on the adjustments and improvements made in NAP 2) also in the second phase. However, it seems that second-order learning was not successful, as too many rules still confirm the adherence to the old methods of policy-making. As an interviewee points out, in some extreme cases the cover page of the NAP read "National Allocation Plan for Emissions Trading"; however, when examining the design of the NAP, it became evident that a command and control thinking was still present, especially regarding the special rules for each installation. It seemed that "conceptual understanding" was missing (Interview EU, COM, section 37). Here, probably institutional aspects had hindered learning or at least hindered application of lessons learned in practice. In the second phase, the EU ETS Directive 2003 was still the framework for the implementation, hence the question remains whether the institutionalisation of the EU ETS had already taken place and was itself a constraint on learning. Comparing the Czech Republic with the other three Member States, it becomes evident that learning can only be analysed when all phases are considered. While the old Member States started a learning process already during the policy formulation, the Czech Republic was basically only confronted with the EU ETS Directive at the time of the implementation.

Looking at the review process and eventually the revised EU ETS Directive, learning effects become more evident. Buchner, Catenacci, and Sgobbi (2007: 20) have shown that the weaknesses and pitfalls of the EU ETS revealed in the first phase enabled learning and led to the process of reviewing the scheme in 2006.

The experience gained during implementation and the learning that might have taken place became visible during the revision. Skjærseth and Wettestad (2010: 318) also see the revised EU ETS and especially the centralised cap that will decrease annually as a response to the problems experienced during implementation. All analysed Member States that were sceptical about the instrument before supported the continued use of emissions trading. Member States like the Czech Republic, Germany, and Spain contributed to the process to further develop the EU ETS. Evaluation of the previous phases made it possible to learn from experience. Moreover, they agreed on expanded centralisation and harmonisation, which they had objected to during policy formulation of the EU ETS Directive 2003.

The choice to keep emissions trading as an instrument can be examined using the approach of Howlett and Ramesh (1993: 246), who consider instrumental choice as learning through experience that takes place either incrementally or as paradigm shifts over time and space. Past experience with an instrument influences future decisions because decision makers learn which instrument fits a certain situation (Sabatier/Jenkins-Smith 1999: 117). In the review of the EU ETS, the Commission asserts that the instrument can work when designed carefully and implemented correctly and thus sticks with this formerly unfamiliar instrument.

The policy network of the revision phase is similar to that of formulation, with the difference that no political entrepreneurs were necessary because the instrument had already been established. Criticism within the policy network was mostly directed at the design, not at the instrument as such.

Taking into account the whole policy cycle from initiation to review, second-order learning has probably taken place: Member States shifted power to the EU level by centralising the system, auctioning became the main method of allocation, and the system was extended to other sectors. The EU ETS as designed in the EU ETS Directive 2009 comes closer to the theoretical model and includes the experience gained. The concept of the EU ETS Directive 2003 was changed substantially, indicating a second loop because it was more than just adjustments.

In summary, for the policy network as such it was probably only a minor change because Member States and European institutions as well as NGOs and also business associations recognised the urge to act in order to halt climate change. They shared the same goal although they differed in weighting and prioritising it. However, climate policy per se and the need to reduce emissions was not opposed. What was opposed in the beginning was the instrument, although for various reasons. As has been shown, some opposed it for its supposedly neo-liberal approach, others because it was considered not far-reaching enough, and still others because they saw it as a threat to economic development.

The establishment of a new instrument was second-order learning if it is considered to be learning in a network. Policy core beliefs were touched on, because usually standards or taxes would have been the preferred option. It was not only the instrument choice but rather a paradigm shift. Internal factors that influenced the application of the lessons learned were elections, change of government, new actors, and the interests of the addressees.

The density of the process makes us assume that changes indeed were mostly intrinsic because the external variables were more or less stable at the time, although in recent years climate change has become one of the most important topics in environmental policy. Learning was enhanced by studies and reports such as the IPCC reports and the Stern review that revealed once more not only the gravity of climate change but also the costs of inaction.

One of the "surprising" results was that there were not many indications at the national level that Member States had learned from one phase to the next phase. They fell into the same patterns, and ambitious steps were only included through the interventions of the Commission. The reason might have been that the EU ETS Directive of 2003 with all its weaknesses was still the basis for the implementation of the second phase. Moreover, institutionalisation might have already taken place, making it difficult to change the rules in opposition to the addressees. Taking all theoretical implementation approaches into account, the second phase should have led to better performance regarding time and general compliance, which was not the case. However, at the time of preparation of their NAP 2s, most Member States mentioned the necessity to have greater harmonisation at EU level and to have 100 % auctioning. Hence, it is possible that learning had already taken place but had not yet turned into action.

Learning processes depend on the policy instrument, according to Knoepfel, Kissling-Näf, and Marek. Accordingly, regulative instruments entail externally guided learning processes (Knoepfel/Kissling-Näf/Marek 1997: 291). Emissions trading, in contrast, leaves room for individual learning. For example, operators need to learn how to deal with the instrument and must decide either to invest in clean technologies or to buy certificates on the market. The calculation as such is basic economics, but depending on the person in charge this can be a challenge: if an engineer is in charge, he or she might prefer strict provisions that are simple to apply. Administrators probably also need to learn how to deal with this new instrument, although the main task in enforcing the system is checking balances and determining whether a company can provide the number of certificates that correspond to the released emissions. Consequently, it seems that the learning required at the level of practical implementation and enforcement was relatively easy to cope with. The more complicated task for administrators might be in the approval of external credits. The learning process on the political level however, required more complex learning for some actors. For decisionmakers, it is often a balancing act between applying what they know or want and what is expected from them. Moreover, they are influenced by interests. In the end, the effectiveness and efficiency of the instrument is determined by the level of learning of all actors.

Conclusions are:

- 1. The political/norm entrepreneurs were necessary to establish the EU ETS.
- 2. The implementation provided experience and enabled learning.
- 3. Through learning, institutional constraints could be overcome but particular interests still constrained learning.

11.2 The view from within

As has been shown, the EU ETS Directive is an interesting case because there is scarcely another instrument in environmental policy that has enjoyed similar attention and has been so intensively debated. Therefore, it is interesting to see what the actors involved in the policy formulation or implementation thought about emissions trading as an instrument, the EU ETS Directive, and the political processes. Moreover, the evaluation of the interviews held with various actors will help to verify the findings of the document analysis.

11.2.1 Perception of emissions trading in general and the EU ETS in particular

Although certificate trading is considered by economic theory as an adequate instrument to reduce greenhouse gas emissions, as it is cost-efficient and at the same time ecologically effective, the real use of this instrument revealed some problems. Therefore most actors that were involved in policy-making are critical about the instrument, even though most support it, as interviews have shown. In general, emissions trading is seen as a "good", "right", "adequate", "suitable", "useful", and "most efficient" instrument (Interview CZ, GOV2, section 88, 89, DE, POL-2, section 58, DE, POL-4, section 15, DE, ADVISOR, section 28, ES, POL-2, sections 7, 15) to address climate change, although this judgement is mostly qualified by a restriction, such as "when designed properly", "compared to alternatives" (Interview CZ, GOV2, section 89, UK, BUS, section 5), or "to address big emitters" (Interview DE, NGO, section 19, translated VA). A Czech interviewee thinks that it is good to have emissions trading because there is no other climate policy instrument (Interview CZ, GOV1, section 95). NGOs in particular point out that other instruments are also necessary to address other sectors and small emitters, for example (Interview UK, NGO, section 23-4, BXL, NGO, section 23), because emissions trading is "AN instrument" "but should not be the only instrument" (Interview EU, NGO, section 23, UK, NGO, section 23-4) and is "not the right instrument for everything" (Interview DE, NGO, section 19, translated VA).

Criticism of the EU ETS Directive is more concrete, but only became evident when implementation started. During policy formulation, the Commission was quite pragmatic about moving away from the ideal solution of an emissions trading scheme towards a solution that was possible and political feasible. According to a Commission staff member, the aim was to launch the EU ETS and to view the first phase as the first step in a learning process. All in all, the Commission was satisfied with the design of the EU ETS Directive 2003 (Interview EU, COM, section 7, 3). Other interviewees point out that having "an emissions trading scheme on this scale up running is an achievement" (Interview UK, BUS, section 7) and that the "scheme did the major job in starting the carbon market" because now investments in power plants take into account the costs of CO2 (Interview CZ, GOV2, section 92, 93). However, the potential has not yet been exploited, as during the design of the NAP, it the aim seemed not to be having the correct allocation of emissions but rather the rentability for each country, as pointed out by an interviewee (Interview ES, NGO, section 1).

However, it turned out that the way actors approached the certificate trading instrument did not sufficiently acknowledge the difference between this instrument and other instruments. The traditional method of policy-making was producing frameworks and adding details later on. "If you're introducing a new market, the detail is actually far more important than the framework, [...] we actually launched the EU ETS without the monitoring and verification, this is the basis of trading, now, you know, we needed time, which is why it failed badly" (Interview EU, NGO, section 37). Other interviewees think that policy makers should only "set some rules but let the market do the job. Sometimes there is a temptation of governments or the Commission to look at the market and every little single imperfection is tried to be solved by adjusting the rules", which the respondent does not think is useful for developing a market (Interview CZ, GOV2, section 89).

Although policy formulation was not focus of the interviews, some criticism of the implementation is traced back to the policy formulation and will be mentioned below. It cannot ultimately be judged whether the EU ETS was a success or failure, because too many aspects must be taken into account. Given that the first phase was marked by failures, there were still many "teething problems" (Interview DE, POL-2, section 58, translated VA) in the beginning. A general problem of the EU ETS Directive 2003 turned out to be its flexibility, which led to non-harmonisation. As a result of subsidiarity, each Member State imposed different rules and many were accused of trying "to get a particular advantage for their industries" (Interview UK, BUS, section 7), which caused market distortions (Interview CZ, GOV1, section 94) or implementation that was not environmentally sensitive (Interview CZ, NGO, section 10-11). The allocation process was marked by the high value of the certificates and thus a very active industry in the negotiations for the free allocation of allowances. This was probably the most decisive obstacle in the whole process (Interview EU, COM, section 23, 47). In addition to non-harmonisation of allocation rules, different definitions (for example, for combustion plants) turned out to be a problem. The non-harmonised definitions of combustion plants (Interview EU, ADVISOR, section 12, Interview EU, COM, section 19) had the consequence that an installation in Denmark that was part of the EU ETS would not have been included if it were located only a few meters away, on the other side of the border with Germany. The market distortions were a result of this flexibility because the Directive was not concrete in this sense (Interview EU, ADVISOR, section 38). Another technical problem was having nonharmonised approaches regarding how to deal with installation closures and new installations (Interview EU, ADVISOR, section 38). All these aspects were especially a problem "for those states that have a strong industry lobby at home" because all points that are fixed in the Directive are untouchable but the flexibility creates openings for pressure from lobbying (Interview DE, POL-3, section 30).

Therefore, one interviewee would have preferred a system in which no national adjustments were possible (Interview DE, POL-4, section 16-18). However, subsidiarity and the abandonment of the main issues to decisions by the Member States was necessary to get the legislation adopted, even though it caused many of problems; this was, according to an advisor, "a political decision" (Interview EU, ADVISOR, section 38).

States like the UK and Denmark were especially in favour of a decentralised system and hence flexibility as part of the Directive in order to make the EU scheme compatible with their own (Interview EU, ADVISOR, section 38). According to a Commission staff member, asking for more flexibility is a normal reflex of Member States when directives are negotiated, as they are sure to make good decisions at the national level. In the case of the EU ETS Directive, however, Member States and also stakeholders approached the Commission once implementation started and complained that there was too much flexibility. One way to increase harmonisation was the implementation guidance, which however was not binding (Interview EU, COM, section 15).

11.2.2 Implementation: Consequences of European decisions?

Issues that came up at the Member State level were that the EU ETS was bureaucratic and costly. According to a Commission staff member, the argument that the EU ETS was complicated and bureaucratic was however "80 % homemade". The Directive allows a relatively simple implementation. The NAP could be implemented easily or in a complicated fashion. "We ended up with the model 'very complicated' and 'very diverse', but that was in no way a requirement of the Directive" (Interview EU, COM, section 55). Those actors who criticise the costs of the EU ETS in general and for industry and consumers in particular mostly compare emissions trading with having no other measure (Interview CZ, GOV2, section 90), but the costs are not the costs of emissions trading but of climate policy and do not take into account of costs that would have been caused by other instruments (Interview DE, ADVISOR, section 42). An advisor states that theoretically, emissions trading is the most cost-efficient instrument but that experience has shown that it is not without costs. "But by tendency, I would still say that emissions trading cannot be the most expensive instrument" (Interview DE, ADVISOR, section 42, translated VA). That the EU ETS is sending a price signal can be seen as an achievement; however, the "question is whether the carbon market can send the right signal" (Interview CZ, GOV2, section 94), which was doubted by many in the first phase, considering windfall profits (most EU countries) and investments in new coal-fired power plants (Germany) as a result of the EU ETS.

Costs on one side and windfall profits on the other side were probably the aspects that were of the greatest public interest. The decision to allocate allowances for free and mainly based on grandfathering led to high profits for the energy sector. Afterwards, some decision makers would say that they had known about the consequences of free allocation at the time of policy formulation. For them, it seemed natural that the industry would price in the freely received certificates and make windfall profits. Evidently, those who did not understand this mechanism could not make it an issue (Interview EU, COM, section 49). In particular, economists with theoretical knowledge about certificate trading knew about windfall profits. They did not make it an issue, as they thought it would be good to start with grandfathering and to introduce auctioning later (Interview EU, ADVISOR, section 38). Windfall profits were underestimated by some and intentionally not brought up by others, as has been discussed in the case studies (see Chapter 9.4.3.4).

Auctioning was not intended to be included by the Commission. "We looked at all existing systems, especially cap and trade systems in the USA. Until then, there was no scheme that included a substantial part of auctioning, only some two or three percent had been on auction but more symbol-lically" (Interview EU, COM, section 49). Hence, experience with full auctioning was lacking and existed only in theory. Moreover, the decision to have no auctioning was a strategic manoeuvre to get the Member States on board. Apparently in an early advisory report, the think tank CCAP had argued for more auctioning but the head of the climate change department Jos Delbeke in the Commission made it clear that auctioning was no longer included (Interview EU, ADVISOR, section 38). The 5 % and 10 %, respectively, that were included in the EU ETS Directive were demanded and insisted upon by the EP.

Other aspects criticised by interviewees were that the EU ETS was not an adequate instrument for small emitters because they do not have the capa-

city (Interview CZ, NGO, section 10-11, CZ, GOV1, section 91, CZ, GOV2, section 31). Moreover, the links to CDM and JI basically served as a loophole for industry and made the system more complicated (Interview CZ, NGO, section 10-11), which also threatened the environmental integrity of the system.

A particular problem for new Member States was the language chosen in the Directive that indicated that it was designed to help old Member States to achieve their Kyoto targets; there was a problem with setting tight caps for countries whose targets had already been over-achieved, as in the case of the Czech Republic (Interview CZ, NGO, section 10-11, CZ, GOV2, section 30). The problem of new Member States has been discussed intensively (see Chapter 9.7.3).

One interviewee did not think that the EU ETS Directive itself was actually the problem in the first phase; rather, the problem was that the Kyoto commitment period only started in 2008 and there were no other mechanisms or authorities to force the Member States to have lower caps (Interview UK, NGO, section 10-12). In addition to the failures of the Member States, deficits in the first phase can also be viewed as deficits in the overly weak Commission's intervention (Interview DE, POL-4, sections 16). The role of the Commission was quite an interesting factor in the case of the EU ETS and therefore will be analysed separately below.

11.2.3 Failure as a chance for improvement

There are two aspects that were central in the discussions and decisionmaking process of the EU ETS Directive 2003: "pragmatism" and "learning". These factors were pointed out in many interviews. Most decisions that were called "political decisions" or the like indicate pragmatism regarding policy formulation or implementation, as has previously been shown. Learning was not only a by-product of the process but was an intended effect for which a learning period was created – the first phase. Therefore, learning has been a central analytic category in this thesis. The interviewees were also aware of the important roles of experience, capacitybuilding, and learning. Whereas experience and learning take place regardless of planning or desire, capacity-building is definitely a planned process. In the beginning, the EU ETS Directive 2003 was perceived as just another EU directive; stakeholders only realised the impact of the Directive after it was adopted. This is why in the first phase capacity-building and rising awareness of questions (such as what the instrument is about, its aims, and how to achieve them) took place. The problem was that not many understood the concept of emissions trading, while everyone thinks they know what energy or environmental taxes are about. However, emissions trading is not so different from environmental taxes, with the difference that it is a quota solution (Interview EU, COM, section 37).

Despite the failures of phase one, most interviewees assess the learning period of phase one as important. Learning was essential on all levels and a central aspect for all actors (Interview EU, COM, section 11) because experience with emissions trading on such as scale was nonexistent. "I think having a short phase one was right, it was right to have an introductory phase as a sort of learning phase as it were to enable some of the problems identified" (Interview UK, BUS, section 7).

The learning phase was particularly relevant at the national level. Policy makers had to convince not only the opposition and stakeholders of the advantages of emissions trading but also their own followers. For the parties in power, it was essential to get their own base membership on board, which was not always easy. They had to show how important this instrument was for the policy mix and convince the sceptics that it could be the central instrument of a climate policy for the industrial sector (Interview DE, POL-3, section 5).

For learning effects, failure is sometimes positive. The failures of the first phase were bad for the image of the system outside Europe; however, the enhanced integrity of the scheme in phase two and the review would not have come about so quickly and in such depth if it had not been perceived so negatively by some people (Interview EU, COM, section 57). "The first phase was a learning period, [...] an experiment that was also named learning period and hence, the first phase cannot be measured by the level of the cap but that institutionally a first step was made towards an emissions trading scheme. And let's say there are many mistakes that were avoided that could have been made. [...]. To put it short, the first period was not glamorous, but we know more or less why it was like this and then one can judge on it differently, it was a learning period and more important is now what happens in the second period" (Interview DE, ADVISOR, section 12, translated VA). Another interviewee notes the role of the Commission, which was learning the system as well. Whereas in the first phase they accepted overly generous allocations, in the second phase they "did do a better job" and had some countries to revise their NAPs when over-allocation was suspected (Interview UK, BUS, section 35).

That the second phase was better than the first is agreed upon by all interviewees. To some extent this was part of the learning process, but it was also strategically influenced. As an example, the Commission published the first verified emissions just a few months before NAP 2 was due. That was intentional and had a fundamental influence on phase two according to a Commission staff member (Interview EU, COM, section 61). The second phase marked an intermediate step towards the revised Directive of 2009. Despite calls for a review of the EU ETS Directive 2003 already before phase two, the Commission did not revise the Directive then because of the uncertainties this would have caused and because time was short. Hence, in phase two they used the framework provided by the EU ETS Directive 2003 but were stricter in reviewing the NAPs (Interview EU, COM, section 15). Real change was broad in the revision process of the EU ETS Directive, as has been described.

As interviews partly took place before the review process was completed and the final result was set, answers must be interpreted according to the knowledge at the time of the interviews. In 2007, while the review process was still ongoing, an advisor said that they did not expect to have revolutionary changes for the third phase: they thought that the foundations would not be touched. They thought that the Commission would try to stabilise the system and then change it step by step and link it to other schemes (Interview DE, ADVISOR, section 40). This conservative view was shared by most other actors; an NGO representative said after the publication of the draft version that they were surprised by the centralised cap, which was one of their main demands. "I would have said that this is the bottom line, centralised cap setting, and we had no discussion about this" (Interview EU, NGO, section 59). Finally, the positive aspects of the new Directive are seen from an environmental perspective: the centralised cap, auctioning, and the 30 % (instead of 20 %) reduction target by 2020 if international agreement is reached. The negative aspects are the inclusion of CCS and limited ambition to capture the emissions of the diffuse sectors (Interview ES, NGO, section 2, 3).

Comparing the discussions of the EU ETS Directives 2003 and 2009, the main change in policy formulation is that in 2008 the discussion was enriched by the experience from implementation. The discussions in 2003 were led on a more abstract level, concerning architectural and conceptual questions. The discussion about implementation and the awareness of the open questions related to implementation that were experienced in the first phase led to a radical change in positions, which is reflected in the design of the EU ETS Directive 2009 (Interview EU, COM, section 3).

As a result of the experience with flexibility, the need for more and stronger harmonisation was a broad consensus among all actors, as pointed out by a Commission staff member. One could assume that enhanced harmonisation would have been the intention of the Commission, but it was requested during the consultation process and in many meetings by Member States and stakeholders as well. This referred especially to the setting of the cap and the allocation method. This it was a demand the Commission acknowledged (Interview EU, COM, section 5). The mistakes of phase one were used to support the arguments for a centralised cap (over-allocation in the first phase), the extent of auctioning (windfall profits in the first phase), and CDM. Thus, the failures of phase one were good for improvements because "the bigger the mistake the more you can improve" (Interview EU, NGO, section 6).

The most significant change was arguably the centralisation of the system.

"For the first time we have the European Commission setting up a policy in Brussels; in the past it kind of set directions and that allowed Member States to kind of implement it but this is hugely significant, the Commission sets the cap now for at least 15 or 18 years. [...] We had never done this before. And a lot of people now suddenly realise this is the best way to do policy at the EU level, to have centralised targets, centralised system and a centralised approach. [...] And although in short term we might not recognise it, in five years time or ten years time we look back as such as we had recognise that this changes everything. [...] I mean this thing, Member States giving over their authority to the Commission" (Interview EU, NGO, section 6). Whether the EU ETS Directive 2009 will mark a paradigm shift in EU policy-making cannot ultimately be judged because creating a market is something different than setting standards, but as the EU attempts to use increasingly more market instruments, it might be a step in the direction of making policies at the EU level. However, it can only be confirmed in the future, if more centralisation and more power for the Commission spreads to other policy areas and characterise policy-making in the future. What is certain, however, is that the changes planned for phase three will make the instrument stronger and more effective (Interview DE, POL-3, section 134).

What other schemes can learn from the EU ETS experience is that it is good to start a scheme, including some lobby interests and avoiding the expectation that the system will work immediately; adjustments will need to be made later (Interview DE, POL-3, section 66). Markets need time to develop; an interviewee states that "it usually takes at least a decade to evolve a market". Hence, considering the time frame, it was logical that mistakes would occur (Interview EU, NGO, section 41). As has been pointed out earlier, failure and mistakes in the first phase of the EU ETS were the key factors for learning the instrument.

11.2.4 The role of the Commission

As mentioned earlier, the role of the Commission can be considered quite important for the development of the EU ETS, and the Commission's role itself changed throughout the process.

In general, the Commission was perceived by the interviewees as an important (Interview UK, BUS, section 35) and strong actor (Interview DE, POL-2, sections 52) that played a beneficial role (Interview DE, POL-3, section 134) in the policy formulation and implementation, although one should differentiate between the first and the second phases.
In the first phase, the Commission was not strong and let many things slide, which was partly seen as a strategy to get the system launched (Interview DE, POL-3, section 25-28, 42). As another reason, it was mentioned that the Commission faced some difficulties in exercising its role as supervisor of the implementation. Within the Commission the problem was that there was not enough staff and they were mostly inexperienced. Therefore, the Commission outsourced most NAP evaluations to the EEA topic centre. As the Commission had no basis or method to judge the caps, it did not dare to alter the proposed caps – except for those of the new Member States and in cases of obvious over-allocation. Because the method the Commission based its ruling on was unclear, Member States criticised the decisions on the NAPs as lacking transparency (Interview EU, ADVISOR, section 15-18).

Moreover, it was felt that the "Commission did not have enough power to regulate the things that the Member States did not implement properly or let's say in an environmentally sensible way" (Interview CZ, NGO, section 10-11). Another problem was that the European Commission evaluated the NAPs without taking account of the potential in each country. There were complaints that the Commission should have been stricter regarding the allocations. Moreover, the Commission should have played a more prince-pal role in implementation, as countries tended to focus on their particular interests (Interview ES, NGO, section 11). Nevertheless, the Commission was also seen as the ally and strongest partner regarding the ecological integrity of the scheme by environmentalists, although it did not help national actors to have more ecological effectiveness (Interview DE, POL-3, sections 25-28, 42). In the case of Spain, the Commission played a positive role regarding transposition and practical implementation, according to an interviewee from politics (Interview ES, POL-2, section 22).

The Commission saw itself as some kind of referee. Although they were very much involved in the beginning of the implementation process, advising Member States in preparing their NAPs, they were outside the discussions about the actual designs (Interview EU, COM, section 41). However, Member States supported the Commission in its role. Many states, especially the big ones, cooperated and exchanged views during implementation regarding some rules (such as the definition of combustion plants). The results of these informal talks were included as recommendations by the Commission in the NAP guidance for phase two, which was then applied by most Member States (Interview EU, COM, section 19).

Especially for NAP 2, the Commission had an essential role (Interview DE, ADVISOR, section 8). The Commission was very active because it had a deep base for evaluating the NAPs after the first verified emissions were published (Interview EU, COM, section 17). Now their decisions were based on projections and reports prepared by advisors who analysed all policy measures to reduce emissions in each country. The Commission contributed positively to tougher caps (Interview EU, ADVISOR, section 15-18) and fewer special rules. This changed role was perceived by most actors as positive (Interview DE, POL-4, sections 53), especially by those actors who wanted more ecological effectiveness (Interview DE, POL-3, section 127-128). The intervention of the Commission was good and necessary, because otherwise the instrument would have been dead (Interview DE, NGO, section 35). It seemed that the Commission had discovered its platform to effect changes in the Member States during the second phase (Interview DE, POL-3, section 25-28, 42).

Governmental actors in particular perceived the interventions of the Commission regarding ex-post adjustments, investment security, and the corrections to the cap negatively (Interview DE, POL-2, section 62). In the first phase, there was a legal dispute in which the UK forwarded a draft allocation plan, "which the commission approved and then when it turned out that some of the data, the UK planned on was wrong, the UK, I think rightly, went back to the Commission and presented a final plan that was different and the Commission refused to accept the final plan, which had a higher allocation and went to court in the end" (Interview UK, BUS, section 35). One German advisor questioned whether the intervention of the Commission on the German cap was legally and legitimately correct because the formula by which the Commission decided to cut the cap was not in the guidance. The decision in Germany not to take the Commission to court was probably political (Interview DE, ADVISOR, section 14). Unlike the new Member States who went to court, Germany had proclaimed climate change to be one of the main issues of its EU and G8 presidency.

All in all, although the second phase was not perfect it was definitely better than phase one (Interview EU, ADVISOR, section 15-18), and this improvement is to the credit of the Commission (Interview DE, POL-4, sections 53). The Commission seemed to have "a lot more sort of teeth and authority because they were in the Kyoto commitment period and they were better able to identify over-allocation" (Interview UK, NGO, section 48).

Asked whether interviewees would like to see the Commission in a strong or stronger role, the answers can be split into environmentalists and politicians, who were mostly in favour of a strong Commission (Interview UK, NGO, section 50, ES, POL-1, section 16), and industry that was in favour but also sceptical because they feared too much intervention in national sovereignty (Interview UK, BUS, section 34-7). Even the slightly EU-critical British wanted the Commission to take a strong role in emissions trading.

"I think [the Commission] should continue to play a strong role. So I think that the plan for post 2012 and that the commission will basically set the cap in Europe is a positive step forward." (Interview UK, NGO, section 50). Especially for business associations, it was not easy to judge whether the Commission should have a stronger role because they "have some reservetions about that because obviously we think about national sovereignty in this issue" but they "concluded that in the end this was the right decision because we think that it's quite difficult to have different countries allocateing to their industries different allowances." Therefore, "[t]he wish for more centralisation and a stronger role for the Commission is restricted to emissions trading where it is necessary to have a cap set and benchmarks determined at EU level in working with companies" (Interview UK, BUS, section 35).

Summarising the results from the interviews, the actor that was most decisive for effective implementation was the Commission. Moreover, lobbying by industries and their influence on implementation was seen as the most critical point regarding an ambitious implementation. Both aspects correspond with the findings of the document analysis.

That learning was necessary and also took place was confirmed by the interviews. Most interviewees point out that the first phase was a trial period in which all actors had to learn how to deal with the instrument. Apart from inexperience with the instrument, the data availability was also a key point mentioned by interviewees that made it difficult for the Member States to have a realistic basis for their allocation.

In all, the interviewees were surprisingly positive about the instrument and the policy-making despite acknowledged deficits and failures.

11.3 Developing the EU ETS – Effective, efficient, and democratic?

One question posed in the beginning was whether the establishment of the EU ETS is an example of good practice. This question operates on different levels and can be judged on its technical, economic, environmental, and political levels, among others. The focus here is on the political level, and thus on the process. However, the other perspectives cannot be ignored for the simple fact that they determine the effectiveness of the system.

To judge good practice, the criteria to be analysed are the problem-solving capacity, the capacity to act, and democratic legitimacy.

The problem-solving capacity can be related to the effectiveness of the instrument. The problem to be solved was tackling climate change. It must be acknowledged that it would be naive to think that climate change could be halted by just one instrument, so we should view emissions trading as a contribution towards resolving the problem. The aim was to reduce the emissions in certain sectors using a common instrument. As explained in Chapter 6.4, there were not many alternatives to this instrument, because taxes were not feasible and a command and control instrument would have been difficult to agree on and would not have been dynamic enough. With a pure ETS, it is indeed possible to reduce emissions. Moreover, as economic growth is an aim of the EU, compatibility with this aim must be ensured. Emissions trading offers the flexibility of having economic growth while reducing emissions, because it aims at energy efficiency and savings. Hence, the instrument can be seen as one option to reduce emissions.

Every instrument has a theory and a practice, and the effectiveness of an instrument depends on its design and its effective implementation. While

the EU ETS Directive 2003 probably must be viewed as the best option at the time it was implemented, its implementation demonstrated the weaknesses of the design.

The flexibility of the EU ETS Directive 2003 turned out to be one of the major problems of the policy formulation that became apparent during implementation. The flexibility was necessary as a concession to critical Member States and for its acceptance by the Council. The problem was not that flexibility was present in general, but rather the extent of the flexibility. The aspects that had been left to the Member States to decide upon were the cap and the allocation method, among other aspects – basically, the core elements for guaranteeing an effective trading scheme. Nevertheless, as the British House of Commons (2007: 27) points out, any trading scheme's success should be judged on whether a) emissions are reduced and b) a stable and effective carbon price is generated.

One of the problems that challenged the problem-solving capacity of the instrument was arguably the decision to have the cap set at the national level. While this makes sense from the point of view of Member States that want to adjust directives to their national circumstances and to maintain some degree of autonomy at the national level, this decision cannot be supported for reasons of effectiveness. The cap was not meant to be adjusted to national circumstances; it is clear that it should be set at a level of total emissions that is less than needed. As the cap was ultimately adjusted to national circumstances in an overly generous manner, the transfer of the decision on the cap to the national level did not lead to greater effectiveness. On the contrary, in the end it turned out to be one of the reasons why the instrument failed to be effective and why emissions were barely reduced in the first phase. Whereas some Member States like the UK and Spain had set a tight cap, Germany and the Czech Republic had set the cap high enough to create over-allocation. Over-allocation led to a fall in certificates prices, which did not provide an incentive to reduce emissions by investments in cleaner technology. As interviews revealed, however, one of the major problems for setting the cap was the lack of data (see Chapter 11.2); the question remains whether a cap set at the EU level would have worked better. Still, decision makers would have been dependent on the addressees' cooperation. Nevertheless, the decision makers at the EU level probably would have been less likely to be influenced as the national governments were and likely would have been more objective. Moreover, instead of grandfathering where data is essential, auctioning or benchmark allocation could have overcome this problem.

Another problem was the allocation method. From a subsidiarity point of view, it would make sense decide on allocations at the national level because of early actions and other special rules. However, benchmarks or auctioning would have led to a more effective instrument, more transparency, and greater fairness. It is seen as a mistake that auctioning was restricted to only 10 % in the second phase (House of Commons 2007: 31), although no country exploited even this potential. The allocation method based on grandfathering in most cases led to arbitrary processes lacking transparency. The various rules resulted in market distortions that made the scheme unfair: in some cases, a company in one country received fewer certificates for the same operation as a company in another country. Moreover, particular interests of industries or parties in power were reflected in the design of rules (such as the intention to protect a certain sort of fuel or to protect an important industry sector).

The problem of windfall profits was not a new one for most actors. The EU ETS Green Paper had mentioned that "opportunity costs" may be priced in because the use of the allowances is not free. "If a company uses the allowances itself, it foregoes the revenue that it could have received by selling them. Thus, the company should include this lost revenue in its production costs. Seen from this perspective, "grandfathering" need not confer a competitive advantage on existing firms compared with new entrants" (EU ETS Green Paper 2000: 20). A number of interviewees also confirmed that it was clear that windfall profits would occur; most people did not talk about this issue because they thought that it was known to everyone else, as has been shown (see Chapter 11.2).

Considering the profits made by some industries with this instrument and the limited reductions that took place in the first phase, the EU ETS can also be seen as an example of how theoretically promising instruments can end up being counterproductive due to misuse. As Schäfer and Creutzig correctly point out, the design determines whether the instrument leads to capital accumulation or ecological effectiveness (footnote 2 in Schäfer/Creutzig 2008: 108).

Another aspect of the EU ETS that challenged the ecological effectiveness was the link to the other flexible mechanisms JI and CDM. The CDM in particular has been the focus of fundamental critique because of the possibility of sham credits (cf. Brouns/Witt 2008). The reason behind this is its lack of additionality and sustainability, but also misguided and incorrect incentives for environmentally harmful products resulting from the possibility of CDM projects (ibid.). According to the gold standards developed by the WWF, additionality is the condition of having only projects included that are realised without economic interest or political pressure. The sustainability criterion demands consideration of environmental, social, and economic criteria. The misguided incentive cited by Brouns and Witt is that CDM is calculated on the amount of omissions, thus projects with high emissions under business-as-usual scenarios are planned in order to receive more certificates. Moreover, the additionality criterion of CDM does not provide incentives to develop an environmental policy or climate policy in the possible project countries. Another point of criticism is that most projects to date have been located in transitional countries such as India, China, South Korea, and Brazil (over 90 %) and not in developing countries (cf. Brunnengräber et al. 2008: 118), although technology transfer was seen as one of the justifications of this instrument.

In short, the failures of the EU ETS in the first period and partly also in the second period cannot be traced back to the instrument per se but are to be found in the design and missing data. Because a slight increase in verified emissions (0.68 %, considering the changed number of participants over the lifetime) took place in the first phase (European Commission 2008b), the problem-solving capacity of the system as a whole was not proven. To defend the scheme, it must be recognised that the first phase was intended as a learning period. The House of Commons accepts this first trial period but complained that in the second phase, lessons should have been learned and the scheme improved (House of Commons 2007: 26). As the second

phase only ends in 2012, judgments of the effectiveness of the second period cannot be made yet. However, due to tougher caps it is expected that it will be more successful than the first phase; it still cannot be seen as satisfactory regarding the required effort. Moreover, emissions also sank in the second period as a result of the financial crisis and the consequently reduced production level. Nevertheless, Buchner, Catenacci, and Sgobbi (2007: 4) regard the EU ETS as effective because "[e]ven though the scheme faced a number of difficulties in its beginning [...] it turned out to be an effective tool to limit Greenhouse Gases (GHGs) emissions". In the long run, it might also deliver reductions.

In the case of the EU ETS, Member States admitted that too much flexibility leads to market distortions (see Chapter 11.2) and frustration on all sides. Therefore, in the revision process they called for the stronger involvement of the Commission and eventually a more centralised scheme. In this way, they shifted their national authority to the EU level where in the future, the cap will be decided and the allocation executed. This is very interesting, because usually Member States try to keep as much sovereignty as possible. Whether the design of the EU ETS Directive 2009 really leads to better results can only be judged after its implementation in 2013. In addition to the cap, windfall profits were an important aspect addressed in the revision by making auctioning the main method of allocation. This inspires hope for a better practice from 2013 onwards.

The capacity to act is measured by the efficiency of the process.

Using time as a criterion to measure efficiency, the initiation and policy formulation can be definitely seen as successful because "[w]ithin less than five years, the EU ETS evolved from being an innovative but controversial idea to an indispensable instrument of European climate change policy" (Buchner/Catenacci/Sgobbi 2007: 4). Moreover, the EU ETS Directive 2003 was adopted within only two years, and the adoption of the revised Directive was even shorter. The number of participants in the policy network was large, and the EU institutions included stakeholders and experts in the process. Moreover, a number of workshops were held in which all actors

came together to debate the instrument. However, as has been discussed in Chapter 2.3, a plurality of actors does not certify democratic legitimacy.

Apart from the lack of ecological effectiveness, the implementation of the EU ETS can be considered as quite exceptional: it was surprisingly unproblematic concerning delays and compliance. However, this was also the result of the extensive involvement of the Commission and capacity-building. Typically, only a small number of Member States met the deadlines, but those who did not meet the deadlines only delayed the process by less than a year, which is a short time relative to other directives. All this was achieved even though the time frame was strict and short and the instrument new. The negotiations between the actors can be seen as cooperative. As QMV was the voting procedure, no blocking by individual Member States was possible but the aim nevertheless was to get all Member States on board; this succeeded, as the EU ETS Directive 2003 was adopted unanimously. This is probably mostly due to the role of the Commission, but also to Member States like Denmark that pushed the Directive during their presidency.

The revision took also place in quite a short time. In only one reading, the EU ETS Directive 2003 was revised and the EU ETS Directive 2009 was adopted despite the profound changes made in the design.

Basically, the entire "policy cycle" was quite intense. Within less than a decade, the instrument was initiated (taking the EU ETS Green Paper as the starting point), established, implemented, evaluated, and revised. As has previously been mentioned (see Chapter 2.6), an entire policy cycle generally requires more than a decade. Thus, in all, the process can be seen as efficient.

As the capacity to act and the problem-solving capacity are only one side of good practice, democratic legitimacy is analysed as well.

Chapter 2.3 discussed the fact that the EU in general faces the problem of democratic deficiencies. Therefore, European institutions must be viewed in a critical light. The European Commission represents the most problematic institution because its Commissioners are appointed and not elected. Even the approval of the EP cannot help to overcome this problem. Considering

the actual power of the Commission and its advisory bodies, this can be seen as a negative, although the Commission has made the system more effective through its extensive involvement during implementation.

Moreover, as has been indicated before, despite the large number of actors that were involved in policy formulation, not all relevant actors were involved in the process. Actors that could have contributed the most to increasing democratic legitimacy were arguably the national legislatures or at least the national parliaments. As they were later responsible for legal implementation, their contributions could have been fruitful. Some might argue that as the government is the most important decision-maker in the adoption of a directive and in most cases the government is built from the majority in the national parliaments, their voice is in a way present in policy formulation as well. However, as the case of Germany shows, parliaments and even the parties in power do not always agree with the decisions of the ministries but could have their own ideas of how to design a system.

Another problem from a democracy perspective regarding the national parliaments is that in many cases, a parliamentary process was avoided by using governmental or royal degrees to determine the NAP. This helped to speed up the process but poses a risk to democracy. In Germany, the NAP was adopted as a law and thus the parliament was involved from the very beginning. In the case of Spain, the parliament was involved only afterwards to adopt the law for the NAP, more of an approval than real participation. In the adoption of NAP 2, the parliament was excluded again, as the NAP 2 was also adopted by a royal decree. Similarly, in the UK, the NAP was determined without the involvement of the British House of Commons. In some Member States such as the Czech Republic, the exclusion of the parliament became general practice for implementing directives to manage the deadlines. Moreover, as the Czech Republic often literally translates directives, the national parliament has little possibility to adjust the directives to national circumstances. In the case of the implementation of the EU ETS Directive, the parliament was involved but did not play a decisive role.

According to the personal view of an interviewee, it was good that the Czech Parliament was not involved in the NAP negotiations. "[I]t's really better to discuss this in a rather closed group or on the expert level than on a rather general political non-expert level, because it was so difficult to explain anything to the parliament, for example, what is an allowance and what is the Kyoto Protocol and what is CDM [...]" (Interview CZ, NGO, section 24-9). Another interviewee explains that the parliament tried to introduce changes to this act but the decision makers thought it would not be possible "because it would be completely against the Directive, because the members of the parliament are not involved in the emissions trading, so they don't know how does it work, and that we couldn't make any improvement how they want because they would like to give any advantage to our industry it means that the CZ government should support our industry ... but this state aid is against state aid rules given by the EU, so it's not simple to negotiate with our parliament." (Interview CZ, GOV1, section 78). As the NAP is seen as the central part of the transposition, it is indeed a problem when the parliaments were not sufficiently involved.

Stakeholders were involved in the process at the European and the national level to a large extent. However, the extreme involvement of business interests and the strong bond between politicians and industry in some countries (Germany and the Czech Republic, among others) challenged transparency and hence legitimacy. The proportionality between industry representatives and representatives from civil society organisations was at no phase of the policy cycle balanced. Whereas it was naturally agreed that the industry as the addressees had to be invited for discussions, civil society was sometimes left outside, based on the argument that they were not stakeholders or that they would just support the arguments of the Environmental Ministries (see Chapter 9.3).

Additionally, the very technical nature of the instrument excluded the public from getting involved because only a small core of people actually understood the mechanisms of the instrument. Although Scharpf (1999) argued that for technical issues, output legitimacy might be sufficient, the case of the EU ETS proves that this cannot be supported because of its large impact on society. The instrument has a social dimension, not only because

of the impact of climate change on livelihoods and therefore the necessity for climate protection policy, but also for its impact on prices. The rise of electricity prices was a consequence of the EU ETS (although the effect was less than the electricity companies claimed). The free allocation of certificates was therefore financed by consumers. As happens in most cases, the people who were affected the most were low-income groups.

Consequently, one group that was excluded was consumer representatives. As the EU ETS did not only affect industry but indirectly also consumers and taxpayers, del Río is correct in asserting that the "[c]onsumers and taxpayers have been the most relevant absentees from the NAP discussions, however. Policy makers have an inherent incentive to reduce the conflict with visible and noisy interest groups (firms) and to shift the costs to uninformed and unorganised taxpayers and consumers, unlikely to be very noisy against any NAP decision" (del Río 2007: 207-8). Of course, it must be acknowledged that it was partly their own fault, as they did not get involved in the process that was generally open for all kinds of stakeholders. Nevertheless, it shows that if the sustainability of a policy is the aim, all three pillars (social, ecological, and economic) must be considered. To date, emissions trading has covered only the last two; the social dimension is still missing. In environmental politics, politicians are always balancing environmental protection with economic interests and the protecttion of industry, mostly with a slightly stronger focus on the economic side. Elections, even in progressive countries, are not won on the grounds of environmental politics.

Although the result of the review process (namely, the EU ETS Directive 2009) can be welcomed for its improvements, it can be criticised for the process of its development. Most details were determined between Member States at their summit in December 2008. Only five days later, the EP adopted a nearly identical document without offering the chance to debate it extensively, as was described in Chapter 10.2.

The upload of competences at the EU level is problematic because of the legitimacy deficit of European institutions. Hence, although the centralisa-

tion of the EU ETS from 2013 on can be seen as positive regarding effectiveness, the disempowering of national legislatures is a problem.

In sum, regarding the democratic deficit, the establishment of the EU ETS had some deficiencies. The ones that reflect the general nature of the EU are the involvement of national parliaments and the legitimacy of the EU institutions. The aspect that is particular to environmental policy is the active involvement of business interests, and that the technical nature of directives excludes the wider public from participation. The extreme time pressure was also a problem, especially in the review process, as was shown.

12 CONCLUSION

12.1 Summary of the results

The aim of this research project was to analyse the development of the EU ETS and to determine the barriers and drivers that inhibited and accelerated the policy-making, respectively. An additional question investigated was whether the EU ETS can be considered an example of good practice.

As a conceptual framework, the EU was viewed as a multi-level governance system in order to examine interactions between different levels and various and actors, including state non-state actors (see Brunnengräber/Walk 2007: 20). In addition, policy-making was depicted as a policy cycle (see Jänicke/Weidner/Biermann 2001, Jänicke/Kunig/Stitzel 2003) consisting of phases of initiation, policy formulation, implementation, and evaluation and revision. As neither of these approaches includes normative elements, democracy theory was used to close this gap. In order to be classified as good practice, the governance of an issue must not only solve a problem efficiently and effectively, but must also meet certain democratic standards with regard to the process.

The focus of the policy analysis was on implementation, considered the key phase for proving the effectiveness of the instrument. Democracy theory was applied to this phase as well, to discuss the implementation beyond the problem-solving capacity debate. To this end, an investigation was carried out to examine how the national parliaments, stakeholders, and advisors were involved in the implementation process.

The implementation was analysed in depth in four Member States: the Czech Republic, Germany, Spain, and the UK. Among the sectors and potential participants in the EU ETS, these countries are similar in structure. Within individual countries, it was assumed that a relatively high number of participants and an energy mix mainly based on fossil fuels would lead to a high level of politicisation in the implementation process, which indeed it did. The three old Member States all belong to the World of Domestic Politics; the Czech Republic belongs to the World of Dead Letters, which is similar to the World of Domestic Politics with respect to the influence of actors (see Falkner/Hartlapp/Treib 2006, Falkner/Treib 2007). Data was collected through document analysis and expert interviews.

After a first step describing the initiation and policy formulation of the EU ETS Directive, the implementation effectiveness was analysed using the most common approaches in implementation research. Four approaches were chosen for application to the cases: two so-called 'goodness of fit' approaches and two preference approaches.

First, the 'preferences of the government during policy-making' (see Mastenbroek 2007) and their link to the implementation were analysed. Ultimately, this variable was unable to explain the outcome of the implementation: One government changed during the policy's implementation (Spain); one government seemed to change its preferences (Germany), leading to better than expected implementation; and in one case, delays in the implementation occurred despite governmental support (UK). The Czech Republic was not a member of the EU at the time of the policy formulation; as a result, this variable could not be applied in this country's case.

The second variable was the 'party political preferences of governments during the implementation' (see Treib 2004). This variable explained the outcome quite good: In Spain, the change of the party in power (to a regime more supportive of environmental protection) was a decisive factor in the success of the implementation; however, in the UK, implementation was delayed despite widespread governmental support. Nevertheless, both of these Member States showed more ambition in comparison to others, largely due to governmental support. In the case of the Czech Republic, a consistently unsupportive government indeed led to ineffective implementation. In Germany, both coalition parties generally supported implementtation after scepticism during the policy formulation; however, the lack of ambitiousness was a result of party preferences.

The 'goodness of fit of the policy style' approach (see Börzel 2003) did not fully explain the outcome. Spain in particular produced a surprising result, whereas in the UK and Germany, policy tradition indeed might have influenced the outcome of the implementation. In Germany, it seemed that the market-oriented instrument was used in more of a regulatory fashion. The UK had previous experience with emissions trading and seemed to have had a better understanding of how the instrument would function. In the Czech Republic, a non-existent climate policy and lack of experience with market-oriented instruments might have influenced the implementation.

The 'adaptation pressure on administrations' (see Knill 2001) and adaptation costs influenced the implementation only to a certain degree. For countries such as Germany and Spain with a moderate level of adaptation pressure, the result was the tendency was unclear; however, taking the whole picture into account, these countries performed better than expected. The UK had no adaptation pressure and hence performed a little bit worse than expected. Only in the case of the Czech Republic did this factor possibly influence the implementation negatively. Despite moderate to high adaptation pressures, the practical implementation in all countries was basically in accordance with the EU ETS. However, it was surprising that in the second phase (by which time institutional constraints should already have been overcome in all Member States), implementation was scarcely any better than in the first phase.

One of the drivers for better implementation in all countries was the involvement of the Commission. In terms of Börzel's push and pull model (see Börzel 2003), the Commission can be seen as the push factor in the implementation. The Commission pushed for a timely implementation and also for a more ambitious implementation. This is most likely the reason why more non-compliance and delays were observed in the second phase. Environmental NGOs in all four countries were supportive, but they did not always manage to 'pull' their governments into effective implementation, because of the efforts of influential business lobbies.

In sum, Germany and Spain performed better than expected and better than predicted by the variables, the UK performed a bit worse, and the Czech Republic as expected. In terms of processes, it seems that politics had a greater influence than polity, at least in the cases investigated. All in all, neither the institution-oriented nor the actor-centred approaches were able to sufficiently and completely explain the results of the implementation; this leads to the conclusion that other factors must be considered as well, or that the different approaches must seen as complementary. This assumption is partially in line with the theories of Falkner, Hartlapp, and Treib (2006), who regard the influences of different variables as dependent on a Member State's 'world'.

In addition to the 'world of compliance', it would seem that implementation also depends on the subject. For more technical directives with little politicising potential, administrative capacity may play a role; for politicised issues, the preference or veto player approaches might be more crucial. Although emissions trading is a highly technical instrument, the potential for conflicts was greater at the political level because of the instrument's redistributive elements (Steuwer 2007: 21-2) and because emissions of greenhouse gases had not previously been limited. Had auctioning or selling certificates been the only means of allocation, the implementation would likely have been smoother, but the policy formulation at the EU level would have been more combative. Results thus depend on the type of instrument, its potential to mobilise interests, and the challenge it poses in terms of administrative demands. Whether this hypothesis can be generalised, however, would require further investigation.

The study strove not only to compare implementation in the four selected Member States – a cross-national comparison – but also to explain changes between the first and second implementation periods and the changes that took place during the review of the EU ETS Directive 2003 resulting in the EU ETS Directive 2009 – a longitudinal comparison. Thus, as a second step, the findings were placed in the context of policy learning and eventually policy change. Learning theories seemed to be a good addition to institutional approaches in order to explain these dynamics. Institutions were identified that would present challenges to a smooth process; learning accelerated the process. As theories of learning reject the stage model (in which stages are separately analysed), all phases were taken into account here. The combination of both the policy cycle and learning theories was sufficient to analyse the link between the phases. The results show that an

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incremental change occurred by learning within the policy network: Single and double loop learning had taken place.

As legislation is not static – it is open to interpretation, reviews, and changes – the analysis examined whether some problems that occurred during the implementation were rooted in policy formulation. The experience gained during implementation obviously influenced the review; the EU ETS Directive 2009 can be seen as an improvement and a major change.

In the case of the EU ETS Directive, in the initiation phase, new employees in the climate change unit who promoted the emissions trading instrument were important in facilitating learning within the Commission. The employees of the Commission functioned as norm entrepreneurs, spreading the idea of the EU ETS within the Commission and to the other European institutions as the institutions and Member States learned to deal with this instrument. Policy learning was enabled on the learner's side in the policy network by including new individuals and by learning as collective actors in parts of the network. One constraint in the initial phase was the opposition of a number of Member States that preferred other instruments for the regulation of greenhouse gases or no regulation. The reason underlying this opposition and preference was a policy tradition characterised by command-and-control instruments, taxes, and voluntary agreements. The opposition of most addressees had to be overcome; their motivation was interest-driven, as they feared disadvantages in competitiveness compared to industries from other regions in which no climate policy existed.

As has been shown in Chapter 6.4, the will of the Member States was to create a decentralised system with flexibility for national adjustments. The Commission wanted to introduce the emissions trading instrument because it was the only community-wide instrument possible at that time. The result was a quite pragmatic version of a trading scheme with minimal costs for industries (no auctioning), several possibilities for flexible adjustments to national circumstances (caps, definitions, allocation methods), and minimal centralisation and harmonisation. All of these aspects turned out to be problems for implementation. Although the flexibility of the system led to less ambitious legislation, the question remains whether a more centralised system would have had the support of all Member States in 2003.

Setting the emissions cap at the national level was used by some Member States to satisfy demands by industries. The lack of auctioning and an allocation method based on grandfathering resulted in windfall profits and over-allocation, two problematic aspects that supported the arguments of academic opponents of the instrument. Varying rules and definitions led to market distortions, which were criticised by both the participating industries and also by advisors and NGOs, since they made the system unfair and less transparent. In addition to the preferences and interests of individual actors, the lack of previous experience and the unavailability of the necessary data to determine a more realistic allocation created serious problems for implementation. Interviews revealed that the major problems in the first phase were a) the lack of data, which made it difficult for Member States to set caps and benchmarks for allocation, and b) the general lack of experience with this new instrument. Lobbying of potential participants in the EU ETS resulting in watered-down ambitions was a problem in both phases. Moreover, time pressure was high - only 18 months elapsed between the final adoption and the launch of the system.

Considering the implementation performance of EU laws in general, it must be stated that the implementation of the EU ETS was relatively good, at least with regard to delays. One reason for this positive result might be that in this case, a market was created. For all Member States, it was obvious that their industries would be disadvantaged if they joined the process late, as this would limit their experience with the system.

In sum, the reason that the implementation went better than expected regarding timeliness and compliance despite the aforementioned problems can be traced back to the learning that took place in the policy network as a whole and also on the individual level. In all Member States and on the EU level, capacity building took place in extensive debates in several working groups and workshops and through interactions with expert advisors.

Member States and European institutions were already aware of the weaknesses of the system during the preparation of NAP 2. However, as the

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framework (EU ETS Directive 2003) remained the same, only limited improvements could be made regarding ecological effectiveness, such as tighter caps, the use of auctioning, and the exclusion of certain special rules. The lessons learned during implementation became apparent in the review and eventually in the revised EU ETS Directive 2009. The changes are promising, and a more effective EU ETS can be expected. The principle improvements are the centralised cap, increased auctioning, harmonised rules for free allocation, and the definition of a number of aspects in the regulations. Longer trading periods and exemptions for small installations also reflect the experience gained in the first two phases. One remaining shortcoming in the system is among others the link to the CDM. Surprisingly, Member States – who generally demand greater flexibility – asked for greater centralisation and harmonisation and stricter control by the Commission.

Although complex learning has taken place, double-loop learning will only be accomplished once the results of the third phase show that expected improvements have actually occurred.

All in all, the analysis of the development of the EU ETS underlines that institutionalist and actor-centred approaches and learning approaches are complementary; these methods simply seek to explain different aspects. Whereas implementation approaches generally examine constraints and resistance, learning approaches investigate dynamics and change. Thus, the former explain why directives are not implemented, and the latter how constraints could be overcome. Moreover, while preference approaches examine the political level of implementation, goodness-of-fit approaches focus instead on constraints at the administrative level. Thus, the preference approach might better explain transposition, and the goodness-of-fit approach, practical implementation. To be sure, these phases also influence each other.

Finally, with regard to the three aspects of effectiveness, efficiency, and democratic legitimacy, the establishment of the EU ETS succeeds in efficiency and thus capacity to act, but has been less convincing in effectiveness and democratic legitimacy. The aim to reduce emissions was not successful

in the first phase. Deficiencies in democratic legitimacy concern in particular the limited involvement of national parliaments and the strong influence of interest groups and (to a lesser extent) of advisors. Overall, the development of the EU ETS Directive was certainly better practice than has been the case for other policies, but it still lacks important aspects of good practice, especially with respect to ecological effectiveness. Democratic deficiency is a general problem of the EU and its policy-making procedures; this is not a shortcoming unique to the EU ETS Directive. However, decision makers could try to increase participation by weaker interests.

12.2 Reflection on the conceptual and methodological framework

As has been shown, the conceptual and theoretical framework was useful to capture the complexity of the development of the EU ETS. The application of learning theoretical approaches to complement neo-institutionalist assumptions was intended to better explain the outcome of the analysis.

Regarding the methods used for data gathering and evaluation, document analysis and expert interviews both turned out to be useful. The document analysis helped to classify the number of different documents and to filter out the most important elements, providing a picture of the dimension of the output of each phase. The availability of data (document analysis) was generally good, and most texts were accessible through the Internet. However, some documents were not available (e.g., positions of Member States), even on request. The lack of transparency of the Council made it difficult to reconstruct the individual positions of the Member States. An alternative used was reconstruction of the position with the help of press releases or officially available position papers.

The process was better mirrored by expert interviews, through which an insider's perspective and information about informal processes were obtained. Perceptions of the instrument differed, resulting in the various positions and attitudes of actors. However, no significant contradictions were detected in interviewee descriptions of the process.

The balance of interviews in the four case studies was unequal, as more interviews were held in Germany than in the other three countries. This was due to the fact that access to interviewees in Germany was easier; I had

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more interview phases in Germany, as the travel distance was not a constraint. Language was a minor problem for the interviews but cannot be neglected as an influencing factor. In most cases, an attempt was made to use the native language of the interviewee; as a result, at times I (as the interviewer) was unable to conduct interviews in my native language. This was the case in all countries except Germany. Moreover, in the Czech Republic, the interviewees did not use their native language, speaking instead in English. It must be acknowledged that this influenced the interviews, although during the evaluation, no problematic misunderstandings became apparent. Some of the interviews were conducted over the phone. These interviews turned out to be more straightforward: The interviewees tended to be both less talkative and more precise.

The in-depth analysis of four Member States allowed insight into the process of implementation beyond just numbers and press releases. The original intention was to create similar case studies by developing a template; in practice, the length and depth of case studies differ because of the varying availability of data. One option would have been to restrict all case studies based on the limitations of the country with the least amount of available data. However, this option was seen as insufficient because interesting information would have been lost. Instead, by embedding the results of the case studies within a broader perspective of the implementation, an overview for all Member States could be provided. By contrasting performance in the four Member States with the general performance, classification of the implementation effectiveness was improved.

Overall, the methodological framework has been adequate to answer the research questions.

12.3 Outlook

With regard to implementation research, there is not necessarily a driving need to search for more factors that influence implementation, as the existing approaches already explain implementation to a certain degree. More investigation would be needed to fine-tune the existing approaches, specifying when specific variables can be applied during implementation, what the variables explain, and how they are linked or how they could be linked.

Policy-making is influenced by institutional constraints and actors. The challenge posed by institutional constraints and interests can be overcome by learning. The development of the EU ETS with all its challenges is a good example of a learning process. Improvements were made between the first draft and the revised Directive. This evidence that intensive debates led to learning and 'better' policy-making could contribute to the call for expanded democracy in the EU. Deliberative democracy is based on intensive discussions and debates. The involvement of national parliaments in policy-making is a challenge for human resources in the parliament but should be a goal to aspire to, as it would lead to greater input legitimacy. Moreover, the tendency for EU directives to be implemented by non-parliamentary processes needs to be critically examined.

The increased power of the Commission in the third phase, which the Carbon Trust calls a "revolution...in the division of power between the EU and Member States", is a special case in the history of the EU. Wettestad (2009) adds that if it is a revolution, "then it is certainly a broadly welcomed one". In 2002-2003, Member States had insisted on a decentralised system with a great deal of flexibility for national adjustments. During the implementation, they learned the costs of this decentralisation and therefore demanded increased involvement of the Commission in the third phase. The Commission can be seen as a "guarantee of an ambitious EU ETS" (House of Commons 2007: 29) when national interests are overly influenced by special interests. Whether the centralised EU ETS will be ecologically more effective in the third phase is yet to be determined. Whether it will be accepted as good practice must also be analysed. Some weaknesses are still inherent, and new challenges (such as links to other schemes) are yet to be overcome. Whether this increased centralisation will also influence other policies and policy-making in the future is still unknown. With ever more Member States and thus a greater number of different national settings, centralisation might even have a positive effect on implementation performance; it might even lead to enhanced output legitimacy. However, more highly centralised policy-making should not be achieved at the expense of democracy.

The findings of this thesis cannot simply be generalised; the EU ETS Directive was a special case, in that it was a new instrument for almost all actors. Moreover, the scope and dimension of the EU ETS challenged the EU because it included almost the entire industrial sector and addressed the source of production (namely, energy). Furthermore, as markets can only function well and fairly when clear and equal rules exist for all participants and transparency is guaranteed, the flexibility of the EU ETS Directive 2003 might indeed have been its greatest problem

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14 LIST OF LEGISLATIONS

European Union

COM (1997) 30	Proposal for a Council Directive Concerning the Restructuring of the community Framework for the Taxation of Energy Products
1999/468/EC	Council Decision of 28/06/1999 laying down the procedures for the exercise of implementing powers conferred on the Commission
1999/C 203/01	Declarations on Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission
EU ETS Green Paper COM (2000) 87 final	Green Paper on greenhouse gas emissions trading within the EU
Renewables Directive	Directive 2001/77/EC of the and of the Council of 27/09/2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market
LCP Directive	Directive $2001/80/EC$ of the European Parliament and of the Council of $23/10/2001$ on the limitation of emissions of certain pollutants into the air from LCP.
Decision No 1600/2002/EC	Decision No 1600/2002/EC of the European Parliament and of the Council of 22/07/2002 laying down the Sixth Community Environment Action Programme
Biofuels Directive	Directive 2003/30/EC of the European Parliament and of the Council of 08/05/2003 on the promotion of the use of biofuels or other renewable fuels for transport
COM(2003) 735	Decision 99/296/EC for a monitoring mechanism of Community greenhouse gas emissions
Draft EU ETS Directive	Proposal for a Directive of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC
EU ETS Directive	Directive 2003/87/EC of the European Parliament and of the Council of 13/10/2003 establishing a scheme for greenhouse gas emission allowance trading within the

Community and amending Council Directive 96/61/EC

Draft Commission Decision of [...] concerning the unilateral inclusion of additional greenhouse gases and activities by Austria in the Community emissions trading scheme pursuant to Article 24 of Directive 2003/87/EC of the European Parliament and of the Council. D004163/03, confirmed by Council in Item Note 12918/09.

- COUNCILCouncilDirective2003/96/ECof27/10/2003DIRECTIVErestructuring the Community framework for the taxation2003/96/ECof energy products and electricity
- NAP Guidance Communication from the Commission dated 07/01/2004 assist Member States in the on guidance to implementation of the criteria listed in Annex III to Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, and on the circumstances under which force majeure is demonstrated
- C(2004) 130 final Commission Decision of 29/01/2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council
- CHP Directive Directive 2004/8/EC of the European Parliament and of the Council of 11/02/2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC.
- C(2004) 2515/1 Commission Decision of 07/07/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by the Netherlands in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 2515/2 Commission Decision of 07/07/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Germany in accordance with Directive 2003/87/EC of the European Parliament and of the Council

- C(2004) 2515/3 Commission Decision of 07/07/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Austria in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 2515/4 Commission Decision of 07/07/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by the United Kingdom in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 2515/5 Commission Decision of 07/07/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Ireland in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 2515/6 Commission Decision of 07/07/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Denmark in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 2515/7 Commission Decision of 07/07/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Sweden in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 2515/8 Commission Decision of 07/07/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Slovenia in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 3982 final Commission Decision of 20/10/2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Belgium in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 3982/2 Commission Decision of 20/10/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Finland in accordance with Directive 2003/87/EC of the European

Parliament and of the Council

- C(2004) 3982/3 Commission Decision of 20/10/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Luxembourg in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 3982/4 Commission Decision of 20/10/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Portugal in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 3982/5 Commission Decision of 20/10/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Latvia in accordance with Directive 003/87/EC of the European Parliament and of the Council
- C(2004) 3982/6 Commission Decision of 20/10/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by the Slovak Republic in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 3982/7 Commission Decision of 20/10/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by France in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 3982/8 Commission Decision of 20/10/2004 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by Estonia in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- Linking Directive Directive 2004/101/EC of the European Parliament and of the Council of 27/10/2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community with respect to the Kyoto Protocol's project mechanisms.

Commission Decision of 29/10/2004 concerning the temporary exclusion of certain installations by the United Kingdom from the Community ETS pursuant to Article

27 of Directive 2003/87/EC of the European Parliament and of the Council, Commission Decision of 11/X/2006 concerning the temporary exclusion of two installations by the United Kingdom from the Community ETS pursuant to Article 27 of Directive 2003/87/EC of the European Parliament and of the Council

Commission Regulation (EC) No 2216/2004 of 21/12/2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council.

- C(2004)5295 final Commission Decision of 27/12/2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the Republic of Cyprus in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 5298 final Commission Decision of 27/12/2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Hungary in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 5292 final Commission Decision of 27/12/2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Lithuania in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 5287 final Commission Decision of 27/12/2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Malta in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2004) 5285 final Commission Decision of 27/12/2004 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Spain in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2005) 226/2 Decisions adopted by the Commission pursuant to Article 9 of Directive 2003/87/EC of the European

Parliament and of the Council of 13/10/2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC

- C(2005) 549 final Commission Decision of 08/03/2005 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Poland in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- COM(2005) 1083 Commission Decision of 12/04/2005 concerning the final national allocation plan for the allocation of greenhouse gas emission allowances notified by the Czech Republic in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2005) 1081 final Commission Decision of 12/04/2005 concerning the proposed amendment to the national allocation plan for the allocation of greenhouse gas emission allowances notified by the United Kingdom in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2005) 1527 final Commission Decision of 25/05/2005 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Italy in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- C(2005) 1788 final Commission Decision of 20/06/2005 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Greece in accordance with Directive 2003/87/EC of the European Parliament and of the Council
- COM (2006) 676 Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: "Building a global carbon market – Report pursuant to Article 30 of Directive 2003/87/EC"
- C(2006) 426 final Commission Decision of 22/02/2006 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the United Kingdom in accordance with Directive 2003/87/EC of the

European Parliament and of the Council

2006/512/EC Council Decision of 17/07/2006 amending Decision 1999/468/EC laying down the procedures for the exercise of implementing powers conferred on the Commission

Commission Decision of 29/11/2006 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Germany in accordance with Directive 2003/87/EC of the European Parliament and of the Council

Commission Decision of 29/11/2006 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by United Kingdom in accordance with Directive 2003/87/EC of the European Parliament and of the Council

Commission Decision of 26/02/2007 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by Spain in accordance with Directive 2003/87/EC of the European Parliament and of the Council

Commission Decision of 26/03/2007 concerning the national allocation plan for the allocation of greenhouse gas emission allowances notified by the Czech Republic in accordance with Directive 2003/87/EC of the European Parliament and of the Council

- Case T-194/07 Action brought on 04/06/2007 Czech Republic v Commission (Case T-194/07) (2007/C 199/74), In: Official Journal of the European Union, C 199/38, 25/08/2007
- COM(2007)39824th Annual Report from the Commission on Monitoringfinalthe Application of Community Law. Brussels,
17/07/2007 COM(2007) 398 final

Commission Decision of 26/10/2007 concerning the amendment to the national allocation plan for the allocation of greenhouse gas emission allowances notified by Germany in accordance with Article 3(3) of Commission Decision C/2006/5609 final of 29 November 2006 concerning the national allocation plan for the allocation of greenhouse gas emission allowances

notified by Germany in accordance with Directive 2003/87/EC of the European Parliament and of the Council

European Economic Area Joint Committee Decision No 146/2007 linking the EU ETS with Norway, Iceland and Liechtenstein

IPPC DirectiveCouncil Directive 96/61/EC of 24/09/1996 concerning
integrated pollution prevention and control.Directive 2008/1/EC of the European Parliament and of
the Council of 15 January 2008 concerning integrated
pollution prevention and control

EU ETS Directive Directive 2008/101/EC of the European Parliament and (including aviation of the Council of 19/11/2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community

- C(2008) 7867 Commission Decision of 17/12/2008 concerning the unilateral inclusion of additional greenhouse gases and activities by the Netherlands in the Community ETS pursuant to Article 24 of Directive 2003/87/EC of the European Parliament and of the Council
- EU ETS Directive Directive 2009/29/EC of the European Parliament and of 2009 the Council of 23 /04/2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community

Czech Republic

Czech Emissions Act No. 695/2004 Coll., on the conditions of greenhouse Trading Act 2004 gas emission allowance trading Czech Act 695/2004 Coll. concerning the conditions for trading amended Emissions Trading in greenhouse gas emission allowances and amending Act 2004 other acts, hereafter referred to as amended Act Czech Energy Act Established in 2001 by Act No. 458/2000 of 28 November 2000, on the Conditions of Business and State Administration in the Energy Industries and Changes to Certain Laws.

Germany

	Gesetz zur geordneten Beendigung der Kernenergienutzung zur gewerblichen Erzeugung von Elektrizität, 22.04.2002 (BGBl I 2002, 1351)
	Vereinbarung zwischen der Regierung der Bundesrepublik Deutschland und der deutschen Wirtschaft zur Minderung der CO2-Emissionen und der Förderung der Kraft-Wärme-Kopplung in Ergänzung zur Klimavereinbarung vom 9.11.2000, www.bmu.de/files/pdfs/allgemein/application/pdf/kl imavereinbarung.pdf [last accessed: 2010-12-14]
	Vereinbarung zwischen der Regierung der Bundesrepublik Deutschland und der deutschen Wirtschaft zur Klimavorsorge, see www.bmu.de/klimaschutz/nationale_klimapolitik/doc /2931.php [last accessed: 07-05-2009].
	Bericht zur Umsetzung der in der Kabinettsklausur am 23./24.08.2007 in Meseberg beschlossenen Eckpunkte für ein Integriertes Energie- und Klimaprogramm; Eckpunkte für ein integriertes Energie- und Klimaprogramm, www.bmu.de/klimaschutz/downloads/doc/39875.php [last accessed: 2011-04-10].
BImSchG	Gesetz zum Schutz vor schädlichen Umwelteinwirkungen durch Luftverunreinigungen, Geräusche, Erschütterungen und ähnliche Vorgänge (Bundes-Immissionsschutzgesetz - BImSchG). 26.09.2002 (BGBl. I S. 3830)
Bundesrat Drucksache 276/07	Stellungnahme des Bundesrates: Entwurf eines Gesetzes zur Änderung der Rechtsgrundlagen zum Emissionshandel im Hinblick auf die Zuteilungsperiode 2008 bis 2012, 08.06.07, Bundesrat Drucksache 276/07 (Beschluss)
Bundesrat Drucksache 276/1/07	Empfehlungen der Ausschüsse zur 834. Sitzung des Bundesrates am 8. Juni 2007: Entwurf eines Gesetzes zur Änderung der Rechtsgrundlagen zum Emissionshandel im Hinblick auf die Zuteilungsperiode 2008 bis 2012, 29.05.07, Bundesrat Drucksache 276/1/07
Bundesrat	Antrag des Landes Nordrhein-Westfahlen: Entwurf eines

- Drucksache Gesetzes zur Änderung der Rechtsgrundlagen zum 276/3/07 Emissionshandel im Hinblick auf die Zuteilungsperiode 2008 bis 2012, 08.06.07, Bundesrat Drucksache 276/3/07 (neu).
- EEG Gesetz für den Vorrang Erneuerbarer Energien (Erneuerbare-Energien-Gesetz - EEG). 29.03.2000 (BGBl. I S. 305)
- ProMechG Gesetz über projektbezogene Mechanismen nach dem Protokoll von Kyoto zum Rahmenübereinkommen der Vereinten Nationen über Klimaänderungen vom 11. Dezember 1997 (Projekt-Mechanismen-Gesetz -ProMechG), 22.09.2005 (BGBl. I S. 2826)
- SteinkohleFinG Gesetz zur Finanzierung der Beendigung des subventionierten Steinkohlenbergbaus zum Jahr 2018, SteinkohleFinG, 20. Dezember 2007 (BGBl. I S. 3086).
- StromStG Gesetz zum Einstieg in die ökologische Steuerreform (Stromsteuergesetz - StromStG), 24.03.1999 (BGBl. I S. 378)
- TEHG Gesetz über den Handel mit Berechtigungen zur Emission von Treibhausgasen (Treibhausgas-Emissionshandelsgesetz - TEHG), 08.07.2004 (BGBl. I S. 1578)
- ZuG 2007 Gesetz über den nationalen Zuteilungsplan für Treibhausgas-Emissionsberechtigungen in der Zuteilungsperiode 2005 bis 2007 (Zuteilungsgesetz 2007 -ZuG 2007), 26.08.2004 (BGBl. I S. 2211)
- ZuG 2012 Gesetz zur Änderung der Rechtsgrundlagen zum Emissionshandel im Hinblick auf die Zuteilungsperiode 2008-2012, (Zuteilungsgesetz 2012 - ZuG 2012) 07.08.2007 (BGBl. I S. 1788)
- ZuV 2007 Verordnung über die Zuteilung von Treibhausgas-Emissionsberechtigungen in der Zuteilungsperiode 2005 bis 2007 (Zuteilungsverordnung 2007 - ZuV 2007), 31.08.2004 (BGBl. I S. 2255)
- ZuV 2012 Verordnung über die Zuteilung von Treibhausgas-Emissionsberechtigungen in der Zuteilungsperiode 2008-2012 (Zuteilungsverordnung 2012, ZuV 2012), 13.08.2007 (BGBl. I S. 1941)

Spain

NAP 1 - Spain	Real Decreto 1866/2004, de 06/09/2004, por el que se
	aprueba el Plan Nacional de Asignación de derechos de
	emisión, 2005-2007

Emissions Trading Real Decreto Ley 5/2004, de 27/08/2004, por el que se regulation - Spain del régimen del comercio de derechos de emisión de gases de efecto invernadero; BOE núm 208, Sábado 28/08/2004

Emissions Trading Ley 1/2005, de 09/03/2005, por la que se regula el régimen del comercio de derechos de emisión de gases de efecto invernadero; BOE núm 59, Jueves 10/03/2005

Real Decreto 1264/2005, de 21/10/2005, por el que se regula la organización y funcionamiento del Registro nacional de derechos de emisión

- NAP 2 Spain Real Decreto 1370/2006, de 24/11/2006, por el que se aprueba el Plan Nacional de Asignación de derechos de emisión de gases de efecto invernadero, 2008-2012
- NAP 2 Spain
 Real Decreto 1030/2007, de 20/07/2007, por el que se modifica el Real Decreto 1370/2006, de 24/11/2006, por el que se aprueba el Plan Nacional de Asignación de derechos de emisión de gases de efecto invernadero, 2008-2012
- NAP 2 Spain Real Decreto 1402/2007, de 29/10/2007, por el que se Final modifica el Real Decreto 1370/2006, de 24/11/2006, por el que se aprueba el Plan Nacional de Asignación de derechos de emisión de gases de efecto invernadero, 2008-2012

United Kingdom

- CCL (Climate The Levy Climate Change (Registration and Change Levy) Miscellaneous Provisions) Regulations 2001, No.7. A number of amendments have been made since. The latest version is The Climate Change Levy (General) (Amendment) Regulations 2010, No. 643
- CCA (Climate The Climate Change Agreements (Eligible Facilities) Change Regulations 2001, Statutory Instruments No. 662. A Agreements) number of amendments have been made since. The latest version is The Climate Change Agreements (Eligible Facilities) (Amendment) Regulations 2009, Statutory

Instruments No. 2458

RO(RenewablesRenewables Obligation (Amendment) Order 2010Obligation)Emissions Trading
Regulation 2003The Greenhouse Gas ETS Regulations 2003, Statutory
Instrument 2003 No. 3311 (SI 2003/3311Emissions Trading
Regulation 2005The Greenhouse Gas ETS Regulations 2005, Statutory
Instrument 2005 No 925 (SI 2005/925)

The emissions trading scheme (EU ETS) adopted by the European Union in 2003 was a new instrument for the EU and its Member States. It is one of the most important strategies of achieving the EU's greenhouse gas reduction target under the Kyoto Protocol. This book analyses the policy cycle of the EU ETS Directive, focusing on the crucial implementation phase. The revised EU ETS Directive of 2009 includes significant changes for greater ecological effectiveness, changes that were unlikely to have been adopted in 2003. It is evident that the experiences of the first phase influenced not only the second implementation phase but also the revision. The intensive learning process that took place on all levels was necessary to overcome institutional constraints so that the EU ETS could be successfully established and further developed.

The EU ETS policy-making is a good example to demonstrate that output legitimacy challenges input legitimacy: With the centralisation of the EU ETS in 2013, it is likely to become a more effective system; however, the legislators from the Member States may lose influence. This problem will have to be addressed.