Advancing Ambition – Interests and Arguments in EU Climate Policy-Making

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SUMMARY

The goal of this dissertation is to explain under which conditions the European Union adopts ambitious climate policies aimed at reducing greenhouse gas emissions from particular sectors. Its main argument is that ambitious sectoral climate policies emerge in situations in which the opponents of such policies run out of socially sustainable arguments to defend their positions. Drawing on previous scholarship on European politics and environmental policy-making, it develops a theoretical framework consisting of two parts. The first part provides a "rational choice baseline." It accounts for the preferences of the main actors involved in the policy-making process, i.e. the European Commission, the European Parliament, and the member states, and explains the bargaining outcomes that result from these preferences. The second part, called the "analysis of rhetorical possibilities" draws on the "soft constructivist" literature about norms and arguments in international politics. It develops the concept of the "discursive environment", which helps us identify the conditions under which opponents of ambitious policies become "rhetorically entrapped." By coherently integrating both "material" and "ideational" factors, the theoretical framework takes into account the intimate links between the economic and ethical questions that characterize climate change as a political problem. In the empirical part of this dissertation, the theoretical framework is tested on five cases of EU sectoral climate policy-making: limitations on CO2 emissions from cars, the EU's emissions trading system for the electricity and manufacturing industry sectors, the Energy Performance of Buildings Directive, the promotion of renewable energy, as well as the absence of climate policy in the agricultural sector.

Advancing Ambition

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All errors and shortcomings in the text are of course my own.

Part I
Preliminaries

Chapter 1: Analyzing sectoral climate policy ambition in the european union

1.1 A political response to climate change

Most climate scientists today agree that the world is getting warmer and that human activities are to blame for this fact (e.g. Bolin 2008, Dessler/Parson 2006, IPCC 2007, Richardson et al. 2009). While the precise impacts of rising global temperatures are highly uncertain, they may be catastrophic. Sea-levels could rise. Islands could disappear. More frequent and more severe extreme weather events might cause enormous damages. Heat waves or storms might interrupt global food production. Yet global warming is not inevitable: economic research suggests that avoiding dangerous climate change through the mitigation of greenhouse gas (GHG) emissions would be costly, but not crippling to global growth or prosperity. Estimates range from one to at most a few percent of global GDP (e.g. Enkvist et al. 2007, Helm 2009a, Hepburn/Stern 2009, IEA 2007, McKinsey 2009, Stern 2007, Weyant 2008).[1] So far, however, the political response to climate change has been limited. Neither individually nor collectively have the world's governments agreed to or implemented policies to lower GHG emissions in a way that is compatible with a long-term stabilization of the global climate. This raises the overarching question underlying this book: why has there been such a limited political response to climate change in the past and how might ambitious emission reduction policies become politically feasible?

The book contributes to answering this question by focusing on a more specific issue, namely the development of EU climate policies in different economic sectors. Its goal is to identify the conditions under which the European Union adopts ambitious climate policies for particular sectors or sets of economic activities.[2] It thereby seeks to explain a puzzling aspect of EU climate policy-making: While

1 Thus, costs would hardly be higher as a share of GDP than the cost of defense spending during the Cold War, a period of extraordinary prosperity in many Western countries. In 1988, for example, the United States spent 5.7% of its GDP on defense spending (SIPRI, no date).

2 I am not interested in explaining the adoption of headline targets like a 20 or 30% reduction in overall emissions. These are meaningless without more concrete policies targeting particular sources of emissions. It is the adoption of concrete sectoral policies I seek to understand.

the EU has been widely hailed as a leader in international climate policy (e.g. Gupta/Grubb 2000, Oberthür/Roche Kelly 2008, Schreuers/Tiberghien 2007; Wurzel/Connelly 2011), the ambition level of its efforts to reduce domestic GHG emissions has varied significantly between different sectors. The EU ETS, its emissions trading system agreed in 2003 and launched in 2005, certainly constitutes an ambitious GHG reduction policy and may well become the nucleus of a global carbon market (Benwell 2008, Ellerman 2008). It sets absolute emission reduction targets, establishes a carbon price, and spells out stiff penalties for non-compliance. Yet it only covers some 10,000 combustion and industry installations, accounting for about 40% of the EU's total emissions. Other sectors, notably transport, buildings, or agriculture, which each account for significant shares of emissions, faced much lighter European regulations for many years, focusing mainly on non-mandatory targets and information provision. Given the EU's proclaimed leadership on climate change and the equal potency of GHG emissions from all sources, this cross-sectoral variation in climate political ambition is puzzling.[3]

In order to explain why and when the European Union adopts ambitious climate policies for particular sectors, I develop a theoretical framework that draws on rational choice institutionalism and the literature on political rhetoric in international relations. My central claim is that ambitious policies result when the opponents of such policies run out of socially sustainable arguments to defend their positions. According to my theoretical framework, the European Commission and the European Parliament (EP) have for self-interested reasons continuously pushed for ambitious climate policies across sectors. They usually faced more or less severe resistance from member states defending powerful domestic interests and their own existing sectoral regulatory approaches. Whether or not the Commission and the EP were able to overcome this resistance depended to a large degree on the discursive environment in different sectors and at different points in time. Ambitious policies emerged in discursive environments that contained few materials to craft arguments against GHG reduction measures. In five empirical chapters, I show that my explanatory framework provides us with a good explanation for the ambition level of different sectoral EU climate policies.

In doing so, I seek to make three contributions to the previous literature – one theoretical, one conceptual, and one empirical. In terms of theory, I develop a simple and coherent analytical framework to explain variations in the ambition

3 This is especially the case if we consider the fact that the sectors facing the most ambitious legislation are neither those with the fastest growing emissions nor those with the lowest abatement costs. Transport emissions (both road and air transport) were the fastest growing emissions sources from 1990 to 2006 (European Environment Agency 2008, p. 9), while buildings related measures have the lowest abatement costs (e.g. European Commission 2001, Enkvist et al. 2007).

level of different sectoral EU climate policies by combining insights from rational choice theory and from the literature on the effects of political rhetoric. My conceptual contribution is in specifying the idea of "climate policy ambition" and in developing a measurement scheme that allows us to compare the ambition levels of different sectoral climate policies. Finally, my empirical contribution is the analysis of five cases of EU climate policy-making in light of the theoretical framework. I study the emergence of the EU ETS in 2003, the Directive on Electricity from Renewable Energy Sources of 2001 and its 2009 revision, EU efforts to limit CO2 emissions from passenger cars through a Voluntary Agreement (1998) and a Regulation (2009), the Energy Performance of Buildings directive (EPBD) of 2002 and its 2010 recast, as well as the lack of climate policy in the agricultural sector. While the first three have received at least some attention in the previous literature, the EPBD and agricultural climate policy have not been the subject of previous political science research. I mainly consider the time period between the signing of the Kyoto protocol in 1997 and the failed Copenhagen negotiations of a successor regime in 2009.[4]

1.1.1 Outline of the book

The book is divided into four parts. The first part consists of this introductory chapter. It provides an overview of the book, presents the historical background for the empirical case studies, and locates the book within the previous (political science)[5] literature on EU climate policy-making. Part II is devoted to theory and methodology. In chapter 2, I draw on the previous literature on EU politics and environmental policy-making to develop a two part explanatory framework. It consists of a "rational choice baseline", which provides predictions on the main actors' preferences and the resulting bargaining outcomes. The second part is dubbed "the analysis of rhetorical possibilities" – drawing on the "soft constructivist" literature about norms and political rhetoric, I identify those aspects of the "discursive environment" that make the emergence of ambitious climate policies more or less likely. Chapter 3 discusses my research design as well as methodological

4 As we see below, there wasn't much of an EU climate policy before this point in time, though in the case study of car CO2 emissions reductions I have to consider the pre-1997 period in some detail.

5 There is also a wide and growing economics literature on climate policy, dealing with the costs and benefits of climate mitigation and adaptation, developing potential policies to reduce emissions, and evaluating the costs and benefits of existing policies. Though I periodically refer to this literature where necessary and useful, I do not explicitly review it, as I have little to contribute to it.

issues. It lays out my measurement scheme for "climate policy ambition", my dependent variable, and discusses the measurement and data sources for my independent variables. It also presents a series of alternative factors for which I need to control when testing my explanatory framework.

Part III is devoted to empirical tests of the framework. Thus, in chapter 4, I show that my framework can explain the "crucial case" of car CO2 emissions, where a rhetorical entrapment of the car industry and its supporters led to an ambitious climate policy in 2008. In chapter 5, I apply my framework to the emergence of the EU ETS. This is important, as the previous literature has provided explanations of this case. Hence, I have to show that my framework does just as well as these other explanations. In the following chapters, I discuss EU efforts to address emissions from buildings (chapter 6) and to promote energy from renewable sources (chapter 7). In chapter 8, I present the "negative" case of agriculture. In each chapter, I first describe the development of the relevant policies, then develop predictions based on my explanatory framework, and discuss the empirical evidence. I also compare the performance of my explanatory model to evidence on alternative explanations. Part IV consists of one short concluding chapter. It compares and contrasts the findings from the five case studies in order to gain further insights on the explanatory power of my theoretical framework. It also relates the findings to the previous literature and identifies implications for policy-makers.

1.1.2 The importance of ambitious EU climate policy

Identifying the conditions under which the EU adopts ambitious climate policies for particular economic activities is both practically important and methodologically useful. It is practically important because the EU and its member states contribute significantly to GHG emissions. The EU accounts for a significant (though declining) share of worldwide GHG emissions. In 2007, the EU-27's emissions amounted to 5,045 Mt CO2e[6], which was equivalent to approximately 12.4% of global emissions (EEA 2009, pp. 19f.). By itself, it thus won't solve the problem of global warming. But as developed countries will have to make much greater reductions than developing ones if the challenge is to be met, the EU's contribution is crucial. Moreover, EU climate policies are important for the Union's member states. According to a survey by the European Environment Agency, 56 % of EU policies introduced completely new measures in its member

6 CO2e refers to CO2-equivalent – other greenhouse gases are denoted in CO2 equivalents based on their global warming potential.

states, while a further 24% reinforced existing ones[7] (EEA 2009, pp. 48f.). Thus, EU policy does not merely constitute an aggregation of member state activities – it significantly shapes those activities.

On a methodological level, EU climate policy-making constitutes a useful "case" for two reasons. On one hand, the EU has already implemented climate policies of different ambition levels in a variety of sectors. Thus, we can actually study variation between different EU climate policies – in polities that have not yet adopted ambitious policies, empirical tests of how the political process leads to ambitious sectoral climate policies would not even be possible. On the other hand, the EU is a political system with many veto points (Tsebelis 2002). Hence, from a theoretical perspective we would not necessarily expect the EU to be able to adopt ambitious policies. The fact that some such policies have seen the light of day nonetheless suggests that studying the EU does provide an interesting perspective on the factors that enable the adoption of ambitious climate polices.

Finally, as I show below, the previous literature on EU climate policy (and on climate politics more generally) has neglected the puzzle of cross-sectoral variation in ambition levels. Instead, it has mainly focused on the "positive" aspects of EU climate policy, namely the development of the EU ETS and the adoption of ambitious targets. The previous literature has also tended to provide ad hoc explanations not closely tied to wider social scientific theories. Moreover, much research on EU climate policy has not conducted explicit tests of theoretical propositions but instead lumped a variety of causal factors together and asserted that they were all important. Unlike previous research, this book also focuses on the less successful aspects of EU climate policy, and tries to disentangle previous explanations and to set them on a more solid theoretical footing.

The remainder of this introductory chapter is devoted to three tasks. First, I describe the main features of climate change as a political problem, thus laying the foundations for the theoretical framework I present in chapter 2. I then briefly recount the development of both international and EU climate policy so as to provide the historical background for my empirical case studies. Finally, I locate my own research within the wider literature on EU climate policy.

7 The numbers are slightly higher fort he new member states (EU-12) than fort he old ones (EU-15), though for the latter the share of EU policies that led them to introduce completely new measures in the process of implementation of EU Directives is also above 50% (EEA 2009, p. 48).

1.2 Climate change as a political problem

As I argue in the following paragraphs, global warming constitutes both a giant collective action problem and an immense ethical challenge. In order to fully understand climate policy-making, we thus need to understand both the incentives and constraints policy-makers face in addressing the collective action problem, and the conditions under which the ethical dimension of climate change comes to influence their choices. The explanatory framework I develop in chapter 2 takes up this challenge by integrating insights from rational choice theory and from the "soft-constructivist" literature on the effects of political rhetoric. Here, I limit myself to a description of global warming as a political problem.

We can best understand climate change in terms of what Hardin (1968) has described as the "tragedy of the commons." Individuals can release carbon dioxide or other GHG into the atmosphere at no cost. The atmosphere is thus a "global commons", a resource to which access is not restricted. For each individual (person, firm, sector, country) it is hence rational to emit GHG if the satisfaction of other needs (e.g. for energy, cement, steel, food, etc.) requires such emissions. Yet, the "commons" is not a finite resource[8]: once more GHG are emitted than can be absorbed by the world's plants and oceans, the atmosphere heats up with potentially dangerous consequences. Thus, individually rational behavior leads to a collectively suboptimal outcome: more GHG are emitted than the natural carbon cycle can handle. The result is global warming.[9]

To understand the sheer magnitude of the collective action problem of climate change, it is important to note that *no individual country or economic sector* contributes enough to global GHG emissions to by itself make much of a difference to the global climate. According to current estimates (IPCC 2007), global emissions would have to fall by about 50-85% over the next half-century for the world to stand a reasonable chance of limiting global warming to 2 degrees above pre-industrial levels, the level of warming considered to be relatively "safe".[10] Yet,

8 This distinguishes what Ostrom (1990) calls a "common pool resource" from a "public good": both are goods to which access is hard to restrict, yet common pool resources are limited, while the degree to which one actor uses a public good does not diminish the degree to which other actors can use the good.

9 This problem is much exacerbated by the unequal distribution of costs and benefits between current and future generations, and between developed and developing countries, as I discuss below.

10 The target is obviously more political than "scientific" in nature, which is not surprising, given that any identification of "acceptable" levels would involve value judgments about which science can hardly make a definite statement. For a vigorous critique of the 2 degree target from an economic perspective see Tol 2007.

the largest country emitters, the U.S. and China, collectively accounted for only around 40% of emissions in 2007 (World Bank 2010). The three most important economic sectors – electricity and heat generation, industry and transportation each account for less than a quarter of global emissions (Herzog 2009). In the absence of action by all or most other countries, no country thus has an incentive to significantly reduce emissions by itself. Similarly, we cannot expect any particular sector to make investments in emission reductions to address climate change, unless other sectors are similarly involved. At the same time, if all or most countries and sectors did reduce their emissions significantly, it would be rational for any particular country or sector to free-ride on the efforts of others – they could avoid the costs of mitigation while enjoying the benefits of a stable climate.

To make matters worse, climate change not only involves a collective action problem, but also a host of ethical questions concerning intergenerational and international justice. As the climate system moves very slowly, GHG emissions (and hence mitigation measures) only have an effect several decades after they occur. Thus, any estimate of the costs and benefits of emission reductions depends on how one decides to weight the claims of current and future generations or – in economic terms – which discount rate one applies. The most widely-cited economic analysis of climate change, the *Stern Review* on *The Economics of Climate Change* (Stern 2006), chose a very low discount rate and came to one "simple conclusion: the benefits of strong, early [mitigation] action considerably outweigh the costs" of later adaptation (Stern 2006, p. ii). Prior to the Stern Review, most economists (e.g. Nordhaus 1991; Nordhaus/ Boyer 2000) had applied significantly higher discount rates and come to different conclusions about the economically optimal course of action, arguing that it was best to let GHG concentrations stabilize at higher levels and to adapt to the impacts later on.[11] What may appear to be an economic technicality, thus has huge implications and ultimately involves value judgments: can we treat the climate and the world as we know it as just an economic widget, the value of which can be expressed in monetary terms and the future state of which can be heavily discounted? Or is there value in the world as we know it – do we have a responsibility to protect specific places and features for future generations, i.e. coast-lines, glaciers, etc., which would disappear due to unmitigated climate change?

The international distribution of costs and benefits (Dessler/Parson 2006, IPCC 2007) raises similar concerns: a large share of current emissions comes from Northern developed countries, which would hence need to bear a large

11 Accordingly, the publication of the *Stern Review* caused a huge stir among economists (e.g. Helm 2009a; Mendelssohn 2008a, 2008b; Sterner/Persson 2008; Tol 2006, Weitzman 2007, Weyant 2008).

share of abatement costs.[12] Moreover, Northern countries are responsible for most of the historical emissions that have led to past increases in GHG concentrations (WRI 2005, p. 31ff.). Yet Northern countries would probably experience relatively benign effects of climate change and be in a good position to adapt to the changes that do occur. For Northern countries alone, it might hence be more beneficial to limit abatement and invest in adaptation. The greatest damages of climate change, on the other hand, are expected in poor Southern, currently developing countries. These countries are also the least capable to adapt to climate change because of poverty and a lack of effective governmental institutions. Some Southern and island countries might even see large parts of their land disappear. Hence, they would be the greatest beneficiaries of climate change mitigation, while they are unable to make large contributions to mitigation costs. How we estimate the costs and benefits of climate mitigation thus depends to a very significant degree on the perspective we take: whether we include only our or future generations, whether we speak from the perspective of "humanity" or of the citizens of particular countries, and how much we value specific places or human lives.

The problem constellation described so far has several implications. First, it makes the puzzle of this book even more puzzling. Given that a reduction in GHG emissions from any particular economic sector in the EU probably has no noticeable effect on the global climate, the fact that it has nonetheless adopted some sectoral climate policies is surprising. Secondly, if we do observe the adoption of ambitious policies to address emissions from particular economic activities, a pure rational choice explanation probably cannot account for this fact. Myopic, instrumentally rational self-interested actors would hardly incur the very real and immediate costs of avoiding emissions for ephemeral future benefits to their (literal or figurative) offspring. To explain such actions we thus need to take into account some level of "moral" behavior (Kirchgässner 2000, 2008, p. 176). To incur the costs for emission reductions, actors need either a wider definition of the self, including not only themselves but also future generations, or they must be motivated by norms or values. This is not to say that emission reduction efforts may not be beneficial to some: on the contrary, most climate mitigation policies create winners and losers. Yet the emission reductions that are needed according to climate scientists do require some actions that do not "pay for themselves" within the time horizons required by ordinary investors.

To explain why governments do adopt policies to reduce emissions from particular sectors, we thus need to identify the conditions under which normative concerns come to influence policy-making. At the same time, we need to be able to account for economic interests that push both against and in favor of mitiga-

12 Assuming for the moment that each country pays for its own abatement efforts.

tion measures. My explanatory framework tries to do just this by combining a "rational choice baseline" with an "analysis of rhetorical possibilities". Its basic assumption is that norms become relevant to concrete policy-making through the strategic arguments of political actors – how relevant they become, however, depends on the specific discursive environment within which arguments are made. Before I elaborate on these points, however, let me review how climate change became a political issue and what political scientists have so far written about climate politics and policy.

1.3 A brief history of the politics of climate change

Climate change has been on the political agenda for a bit more than two decades. Within the UN framework, a global climate regime has emerged yet achieved little due to a number of recurring conflicts both among wealthy nations and between developed and less developed countries. The EU tried from the beginning to position itself as a leader within these international negotiations, but has struggled to follow up on its high-minded international rhetoric with a consistent domestic policy to address GHG emissions across sectors.

1.3.1 The development of a global climate regime

While the basic science of climate change goes back to the 19th century, it did not become a political issue until the 1980s (Bolin 2008)[13]. A 1985 conference in Villach, Austria, first brought the issue to the attention of a wider audience of policy-makers (Bolin 2008, p. 38, Bodansky 2001). Two years later, in 1987, climate change gained public attention when the UN Commission on Environment and Development prominently mentioned the threat of global warming in its report *Our Common Future* (also known as the Brundtland Report, see World Commission on Environment and Development 1987). In 1988, the UN General Assembly first issued a resolution on the necessity to limit the greenhouse effect; a conference of environmental policy-makers in Toronto called for a 20% reduction in GHG emissions by 2005 (Davenport 2008, p. 49). 1988 also saw the establishment of the Intergovernmental Panel on Climate Change (IPCC), an international body of scientists that was to review climate science and publish periodic "Assessment Reports" to provide a scientific basis for political decision-making (Bolin

13 The following paragraphs are based on Bolin (2008, chapters 1-5).

2008, ch. 5). At the request of the UN General Assembly, the IPCC was to publish its first report by 1990.

This "First Assessment Report" was still quite cautious in describing its findings. It noted that "[t]he observed increase [in temperatures] could be largely due to naturally variability; alternatively this variability and other man-made factors could have offset a still larger man-made greenhouse warming" (IPCC 1990, cited in Bolin 2008, p. 63). Yet despite the IPCC's emphasis on remaining uncertainties, the evidence was sufficient for the UN General Assembly to establish an International Negotiating Committee (INC) charged with drafting a "Framework Convention on Climate Change" (FCCC[14]) in December 1990 (Bodansky 2001, p. 32). The Convention was to be ready for signing at the 1992 "Earth Summit" in Rio de Janeiro, also known as UNCED (United Nations Conference on Environment and Development), which was planned to follow up on the findings of the Brundtland report. During the INC the negotiations of the early 1990s, most of the cleavages that would continue to haunt international climate policy for the coming two decades first appeared (Bodansky 2001; Paterson 1996; Schreurs 2002). The first of these was between developed and developing countries. As the former were responsible for most historical emissions and had much greater financial resources, the latter were pushing them to take the lead in reducing emissions. Moreover, developing nations argued that they should have a right to development – they would not accept measures that would hamper the economic growth they deemed necessary to catch up with wealthy countries. At the same time, it was clear that in the longer term, most emission increases would come from developing countries and that overall stabilization of the climate system could not be achieved without a developing country contribution. The UNFCCC took account of this underlying conflict by specifying that all nations had "common, but differentiated responsibilities" to protect the climate. The other split was between developed nations. While the EU (driven largely by Germany) favored an agreement that included targets and timetables, starting with a stabilization target at 1990 levels for 2000, the United States emerged as the main opponent to strong, early action. In the end, the Convention merely set out the aim of "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (quoted in Yamin/Depledge 2004, pp. 60-61). The Convention also obliged developed country parties[15] to adopt national strategies to control emissions, established a fund for technical assistance to vulnerable developing countries, and set up a

14 As the Framework Convention is a UN convention, it is usually referred to as the UNFCCC.

15 Listed in "Annex-1" to the Convention, these included the "economies in transition", i.e. formerly Communist countries in Europe.

Secretariat. Most importantly, it launched a process that would regularly review the nature of the agreement and the adequacy of commitments in light of new scientific findings and technical developments: every year, there would be a Conference of the Parties (COP) for this purpose. Signed in Rio in 1992, the Convention entered into force in March 1994 (Yamin/Depledge 2004, p. 24).

Shortly afterwards, negotiations commenced on a protocol specifying additional commitments. It was to be adopted at COP-3 in Kyoto, Japan by late 1997. During the negotiations, the cleavages of the UNFCC-negotiation reemerged (Bodansky 2001, Grubb 1999, Oberthür/Ott 1999, Schreurs 2002). The EU, led by Germany, demanded that all developed countries commit themselves to a GHG emission reduction target of 15% for a basket of three GHG (CO2, CH4, N2O) by 2010 relative to 1990. The EU would achieve this target as a "bubble", i.e. with differentiated internal targets, thus allowing some EU member states to significantly increase their emissions, while Germany and the UK were to achieve most of the reductions.[16] The U.S., on the other hand, initially advocated a stabilization target as well as maximum flexibility to achieve this target. Thus, it proposed the inclusion of three additional GHG[17], carbon sinks (i.e., forests and land-use changes), emissions trading, and the possibility to invest in (cheaper) emission reductions in other countries into the protocol. Moreover, the U.S. was adamant that developing countries like China and India had to take on emission reduction commitments as well so as to not hurt U.S. competitiveness. The latter, however, argued that the greatest historical emitters were to lead on emission reductions, while developing countries[18] had to prioritize catching up economically.

In the end, the negotiators reached a compromise that obliged industrialized countries to cut their emissions of six[19] GHG (as demanded by the U.S.) by at least 5% relative to 1990 for the average annual emissions in the period of 2008-2012 (Oberthür and Ott 1999, 95ff). Targets differed between the parties. EU member

16 Both countries' emissions were declining anyways: the UK had liberalized its electricity market and the EU Large Combustion Plant Directive had made old coal-fired power plants uncompetitive, leading to a replacement by gas-fired plants, which emit significantly less CO2 (e.g. Collier 1997b). Germany's reunification led to the collapse of East German industry and the modernization of the East German energy system, which by itself caused significant emission reductions (e.g. Michaelowa 2003).

17 Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

18 Developing countries agreed that they should be exempted from any emission reduction efforts until developed countries had markedly reduced their own emissions. Yet other than that, they were far from cohesive. While the "Alliance of Small Island States" (AOSIS), which was concerned about the impacts of rising sea levels, called for strong reduction efforts (a target of 20% emission reductions by 2010), oil-exporters organized in OPEC tried their best to torpedo any agreement (Obterthür/Ott 1999, p. 24f.)

19 CO2, CH4, N2O, hydro fluorocarbons, per fluorocarbons, sulphur hexafluoride.

states collectively (i.e. as a "bubble") committed to an 8% reduction, the U.S to 7%, Canada, and Japan to a 6% reduction. Russia and Ukraine promised to hold their emissions at the same level as 1990, while most of the other East European formerly communist countries accepted the same target as the EU.[20] Moreover, the Kyoto protocol introduced a number of so called "flexibility mechanisms", including emissions trading, Joint Implementation (JI), which allows industrialized countries to get credit for financing emission reduction projects in other industrialized countries, as well as a Clean Development Mechanism (CDM), which is analogous to JI, but concerns projects in developing countries. Due to the collapse of their economies in the early 1990s all of the formerly Communist countries had already reduced their emissions by much more than their Kyoto commitments in the early 1990s. Thus, it was clear from the beginning that they would have excess allowances to sell in international emissions trading, a phenomenon that quickly came to be known as "hot air" or "paper tones" (Yamin/Depledge 2004, p. 140).

As the Kyoto Protocol established neither the precise workings of the flexibility mechanisms, nor the technicalities of accounting for carbon sinks nor a compliance mechanism, much "unfinished business" was left for the following COPs. The negotiations of these "details" dragged on for several years and threatened to be derailed in 2001, when U.S. President George Bush officially declared that the U.S. would not ratify the "fatally flawed" Kyoto Protocol. Yet contrary to Bush's expectations, this action did not lead to the treaty's collapse. Instead, it focused the minds and strengthened the resolve of the remaining negotiators, notably in the EU. By COP-7 in Marrakech in late 2001, they finalized all of the details on carbon sinks, compliance, and most of the rules, guidelines, and procedures for the use of the flexibility mechanisms (Ott 2001; Yamin and Depledge 2001, 26-29).

Nevertheless, the Kyoto Protocol could not enter into force until early 2005. As parties representing 55% of total 1990 emissions had to ratify the protocol for it to enter into force, the U.S. withdrawal led to a situation where all the other Annex-1 countries had to accede to the agreement, in particular Russia. Only after intense diplomatic activities and the EU's threat to block Russia's entry into the WTO did Russia ratify the agreement (Douma 2006). While the EU was thus able to salvage the Kyoto Protocol in the face of U.S. resistance, it could not avoid the continued "ossification" of the international climate regime in the following years (Depledge 2005, 2006). The main coalitions continued to oppose each other in an atmosphere of growing mistrust, particularly between developed and developing countries. As a result, many important issues were not even discussed in subsequent

20 The reduction commitments refer to "net" GHG emissions, thus taking into account "carbon sinks" like forests and grasslands.

years, e.g. post-Kyoto reduction commitments or possible future commitments from developing countries were not even discussed for many years.

The tide turned somewhat in 2007, after the *Stern Review*, Al Gore's film *An Inconvenient Truth* and the IPCC's Fourth Assessment Report had significantly raised the profile of global warming as a political issue. Earlier in 2007, the EU had committed itself to a unilateral 20% reduction in GHG emissions by 2020 and offered 30% in the context of an international agreement. The G8-group of major industrial countries had endorsed a significant long-term reduction at their meeting in Heiligendamm in June 2007. In December 2007, at COP-13 in Bali, the UNFCCC members achieved somewhat of a breakthrough (e.g. Christoff 2008; Ott/Sterk/Watanabe 2008). The parties agreed to the Bali Action Plan, laying the groundwork for the next two years of climate diplomacy. These were to culminate in a comprehensive climate agreement including long-term emission reduction targets, mitigation measures, as well as agreements on adaptation measures, technology transfers and financing for developing countries to be reached at COP-15 in Copenhagen.

In the intervening two years, of course, the most severe recession in decades hit the world and thus reduced the urgency with which policy-makers treated the issue of climate change. Moreover, the old cleavages reasserted themselves – developed countries asking some commitments from developing countries, developing countries asking developed ones to do more faster and to provide more financing. The new U.S. administration was much more willing to engage, yet was constrained by a legislature that would not fathom any legislation in line with what others were demanding of the U.S. Hopes for a breakthrough at Copenhagen thus dimmed throughout 2009 and the Conference only barely escaped a total breakdown. In the end, a group consisting of the U.S., China, India, Brazil, and South Africa hashed out a compromise "Copenhagen Accord" of which the Conference "took note" – in other words it was merely a political agreement with no legal force. While it did not contain binding targets, it did endorse the goal of reducing emissions in line with an expected increase in global average temperatures of no more than 2 degrees Celsius beyond pre-industrial levels. Yet these targets were to be achieved through a "bottom-up" approach in which individual countries decided on their own goals without a negotiation (e.g. Christoff 2010; Grubb 2010). In addition, the accord included provisions on enhanced verification and monitoring of emissions as well as short-term pledges for financing. Negotiations on a post-2012 climate regime have continued since the failure of Copenhagen. COP-16 in Cancun, Mexico in December 2010, turned out to be more successful than anticipated, yet did not produce a legally-binding post-2012 accord. At the time of writing, negotiations were still ongoing. As stated above, this book focuses on the time period between the Kyoto of 1997 and the Copenhagen Conference of

2009. Let me now turn to the EU's involvement in climate policy, focusing again on this time-period.

1.3.2 The EU's involvement in climate policy

As soon as the issue of global warming emerged on the agenda, the EU started to get involved in crafting a political response to the new problem (Haigh 1996; Ringius 1999; Skjaerseth 1994; Wagner 1997). In 1990, the Council of Environment Ministers declared the member states' intention to stabilize their emissions of greenhouse gases at 1990 levels by 2000. Prior to the Rio Conference, during the negotiations about the UN Climate Convention, the EU and its member states urged other developed countries to adopt a similar target. Yet it was unable to overcome the United States' resistance. In 1991, the Commission also introduced a package of policy measures to achieve a stabilization of GHG emissions by 2000 (European Commission 1991). The most important of these measures was the introduction of a joint carbon/energy tax.[21] After a barrage of lobbying from European industry, the Commission made the introduction of such a tax conditional on the adoption of equivalent measures by other OECD countries (European Commission 1992a, 1992b). Yet even with this caveat, the UK continually blocked the proposal, arguing that the EU had no business in setting taxes.

While it became obvious relatively soon that the carbon/energy tax would not arrive, the Commission and various member states holding the rotating Council presidency kept it on the agenda throughout the 1990s. In 1997, the Commission thus made a proposal to simply extend a previously agreed directive setting minimum rates for mineral oil products to all energy products (Oberthür/Tänzler 2007; Rosenstock 2006). Yet the idea continued to face opposition – now Spain, rather than the UK became the main adversary. Finally, fearing competition from the new member states that were to arrive in 2004, the EU-15 agreed to a framework directive on minimum rates of energy taxation in 2003. The directive never received much praise, however, as it was little more than a codification of the status quo and allowed member states a wide range of exceptions for energy-intensive industries.

Other Commission proposals fared little better in the early 1990s. As I elaborate in chapter 5, EU bodies discussed various proposals to address the fuel efficiency

21 50% of the tax would be based on the carbon content of a fuel, 50% on the energy content – this was intended as a compromise between France and Germany – a pure carbon tax would have meant that electricity in France would have been hardly affected at all (as it is mostly nuclear generated), while Germany's coal- and lignite based electricity would have become significantly more expensive.

of cars, but the contrarian interests of different car makers (and their member states) made any agreement impossible. Eventually, a voluntary agreement on car CO2 emissions emerged in 1998. The energy efficiency and renewable energy programs SAVE and ALTENER received only tiny amounts of funding and led to very limited framework directives on boiler energy efficiency and energy labels for various household goods (Collier 1997a). The EU did, however, establish a monitoring mechanism under which member states had to continually inform the European Commission about their efforts to rein in GHG emissions (Hyvarinen 1999). This allowed the Commission to build increasing expertise and provided it with the data and information to periodically report on European efforts to address climate change and to develop its own policy suggestions.

In the run-up to the Kyoto Conference in 1997, EU member states agreed to propose a 15% reduction target of greenhouse gas emissions for industrialized countries by 2010 and worked out a burden sharing agreement amongst them to achieve this target (Oberthür and Ott 1999; Ringius 1997, 1999). At Kyoto, the EU pressed the US to adopt concrete emissions reduction targets, albeit at the price of introducing the above-described flexibility mechanisms. It came out of the Kyoto negotiations with a collective commitment to an 8% reduction during the years 2008-2012. It also gained the right to form a "bubble", meaning that it could give differentiated targets to its member states, as long as their efforts added up to an average of 8%. During 1998, the member states then developed a "burden-sharing agreement", giving each country an individual target ranging from -28% for Luxembourg to an increase of up to 27% for Portugal (Oberthür/ Pallmaerts 2010b, p. 34).

For the European Commission and the European Parliament, the conclusion of the Kyoto Protocol and the member states' desire to collectively fulfill their reduction target offered an opportunity to expand into a new policy area. Both seized the opportunity. The Commission developed its thinking on the issue in various Communications (European Commission 1998a, 1999a) and launched a consultation process by the name of European Climate Change Program (ECCP) in 2000, bringing together stakeholders from the European Parliament, member state governments, industry, environmental NGOs and academia (European Commission 2000a). In the end, the ECCP endorsed a bouquet of EU policies, ranging from an emissions trading system for large point-sources of GHG emissions to a directive on the energy performance of buildings. The EP continuously endorsed the Commission's moves towards greater European involvement in climate policy-making and urged it to pursue even bolder proposals. Over the following years, the Commission proposed (and the EP and member states accepted) a range of climate policy directives (Oberthür/Pallmaerts 2010b). Most important among them was the emissions trading scheme (EU ETS), which I

discuss in greater detail in chapter 6 and which Deketelaere and Peeters (2006, p. 8) have call the "parade horse" of EU climate policy. Other important EU directives adopted in the wake of the ECCP concerned the promotion of renewable energy source for electricity (2001/77/EC), the energy performance of buildings (2002/91/EC), the promotion of biofuels (2003/30/EC) and of cogeneration (2004/8/EC), as well as frameworks for the eco-design of energy-using products (005/32/EC) and for energy efficiency and energy services (2006/32/EC). Most of these directives were rather modest in their ambition: they mostly included non-binding targets and allowed member states much autonomy in how to achieve them.

The years 2007 and 2008 constituted somewhat of a watershed for EU climate policy. Buoyed by much greater public attention to the issue, the Commission proposed and the Council adopted ambitious climate targets in the spring of 2007 (European Commission 2007a, European Council 2007x). As mentioned above, the EU pledged to unilaterally reduce emissions by 20% by 2020, and offered a 30% contingent on similar commitments by other industrialized countries in the context of a post-Kyoto agreement. In addition, it announced a mandatory target of 20% renewables in total energy consumption by 2020, as well as a 10% target for the use of biofuels in the transport sector. These targets became known as the "20 20 by 2020" formula. In order to achieve these targets, the Commission proposed a bundle of directives in January 2008 (Oberthür/Pallmaerts 2010b, 46ff.). This "Climate and Energy Package" included a revision of the EU ETS, a Directive on Renewable Energy (replacing the previous directives on renewable electricity and biofuels), a directive on carbon capture and storage (CCS) technology[22], as well as a decision on "effort-sharing". The package split the overall 20% target into a 21% target relative to 2005 for the sectors participating in emissions trading and a 10% target (relative to 2005) for the "non-ETS"-sectors, i.e. primarily transport, the tertiary sector, small industry, buildings, and agriculture. The "effort-sharing" decision established differentiated targets for individual member states ranging from a 20% reduction (Denmark, Ireland, Luxembourg) to a 20% increase (Bulgaria) adding up to 10% on average (Decision No. 406/2009/EC). France's President, Nicolas Sarkozy, decided to make the passage of this package one of the central elements of the French Council Presidency in the second half of 2008 and managed to bring the negotiations to a conclusion by December of that year.[23] In addition to the Climate and Energy package, the EU negotiated a

22 CCS refers to a technology that captures CO2 from the exhaust of combustion installations and stores it underground – the directive was to set up a legal framework to make this possible.

23 The onset of the economic crisis had made the negotiations very contentious, though a number of legislative tricks were necessary to preserve the overall targets proposed by the Commission.

very contentious Regulation on the fuel efficiency of cars during 2008 and a less-contentious directive on fuel quality. In 2009, an "Energy Efficiency Package" containing a recast of the energy performance of buildings directive as well as labeling schemes for tires and energy-using products made its way through the EP and the Council. In 2010, these efforts were followed by a Regulation on the fuel efficiency of light commercial vehicles, thus extending the car CO2 regulation to larger vehicles.

Overall, the EU has thus gradually adopted a range of increasingly ambitious sectoral climate policies. They have not been equally ambitious in all sectors and the timing of their adoption has varied. One sector, agriculture, has faced virtually no efforts at emission reduction, though other measures led to a decline in its emissions. As I show in the following section, the previous literature on EU climate policy has described the development of EU climate policy and provided a variety of ad-hoc explanations for it. Yet it has not given equal attention to all sectors and it has not developed systematic theoretical accounts of why the EU adopts ambitious or less ambitious sectoral climate policies. There is thus a gap in the literature, which this book seeks to fill.

1.4 The literature on climate change politics and policy

Soon after global warming first appeared on the international political agenda, political scientists started to analyze the issue (e.g. Hurrell/Kingsbury 1992; Mitchell 2002; Paterson 1996; Porter/Brown 1996; Sebenius 1991). Much of the political science literature on climate change, however, has focused on the international level, i.e. the creation, implementation, and shortcomings of the UNFCCC and the Kyoto Protocol as well as potential alternatives (e.g. Barrett 2003; Newell 2000; Victor 2001). My research question, however, concerns the "domestic level" – why do individual states or political entities, particularly the EU, decide to reduce the emissions from particular economic activities within their borders?

On these questions, the literature to date has produced insufficient answers. Much of the literature on EU climate policy has been descriptive. Too often it has relied on "ad-hoc-theorizing", rather than developing new theoretical models or systematically applying existing explanations of EU environmental policy-making. Similar shortcomings can be observed for the literature on domestic

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Thus, much of the reduction effort can be achieved through credits from the Kyoto mechanisms. Moreover, a number of accounting shenanigans made the Renewables target easier to achieve (see Chapter 8).

climate policy more generally. This is not to say that work on climate policy has not contributed to theory-based research programs. Yet many scholars simply used global warming policy as a case of some other category of phenomenon they were interested in.[24] Very few have actually set out to explain specific climate-policy-outputs and their ambition levels. I detail these observations in the following two sub-sections, first reviewing the literature on EU climate policy-making and then the wider literature on domestic climate politics.[25]

1.4.1 The literature on EU climate politics and policy

Previous scholarship on EU climate politics and policy falls roughly into two categories. One concerns the EU's role and behavior in international climate negotiations, i.e. *its external climate policy*. This strand of the literature deals with questions of EU "actor-ness" (i.e. whether the EU manages to act as one actor) and of EU leadership – why the EU aspires to such actor-ness and leadership, and whether and how it succeeds and fails in exerting it (e.g. Groenleer/van Schaik 2007; Gupta/Grubb 2000; Harrison/Sundstrom 2007; Lacasta et al. 2007; Parker/Karlsson 2010; Schreurs/Tiberghien 2007; Vogler/Bretherton 2006; Yamin 20000; Zwolski/Kaunert 2011). The other strand of the literature deals with the EU's *domestic climate policy*, i.e. with how and why the EU has adopted what kind of climate policy to address its own emissions. My contribution is to the latter strand.

Most research on the EU's domestic climate policy has analyzed the rise of a domestic emissions trading system, which is also frequently cited as an example of EU leadership. Various authors have described the establishment of the EU ETS as a "U-turn", as the EU had long opposed emissions trading during the Kyoto negotiations but then moved fairly quickly to implement an emissions trading system itself (e.g. Christiansen 2004, Cass 2005). Scholars have identified a number of factors explaining this U-turn, including policy learning, European Commission entrepreneurship, lobbying by large corporations, member

24 Examples include the rise of new policy instruments (Jordan et al. 2003), the influence of non-state actors (Gullberg 2008a, 2008b; Newell 2000; Van den Hove 2000), or the role of international norms (Cass 2005, 2006) and of ideas and learning (Brown 2000) in shaping policy.

25 I do not review the very extensive policy-oriented literature on (EU) climate policy, which has appeared in a variety of academic and practitioner-oriented journals, most notably in journals such as *Climate Policy* or *Energy Policy*. This literature, often driven more by economists than by political scientists, has studied different policy options to address GHG emissions, and analyzed costs, benefits, and feasibilities of different policy instruments. While this literature is of enormous importance for climate policy-making, my interest is in the politics of climate change, i.e. in causalities that lead governments or governing bodies to adopt more or less ambitious policies.

state activities in the field that threatened the cohesion of the internal market, and institutional features, namely qualified majority voting in the Environment Council. Thus, Commission officials and members of the European Parliament sought to learn about emissions trading after the conclusion of the Kyoto protocol and the failure of a European carbon/energy tax (Christiansen 2004; Damro/Luaces Mendez 2003; Wettestad/Christiansen 2003; Wettestad 2005;Woerdman 2004; Zapfel/Vainio 2002). This learning process was supported by lobbying efforts from a number of business associations and multinational corporations such as BP and Shell. Several member states, notably the UK and Denmark also started working on their own schemes after the Kyoto agreement of 1997, raising concerns about internal market cohesion within the European Commission (Zapfel/ Vainio 2002, Christiansen/Wettestad 2003, Christiansen 2004). Moreover, unlike the carbon/energy tax, emissions trading did not require unanimous support in the Council, which facilitated its passage (Christiansen 2004, Woerdman 2004). According to Markussen and Svendsen (2005), industry lobbying not only facilitated policy learning, but also shaped several design aspects of the scheme; the electricity industry in particular seemed to have been successful in pressing its interests. Skodvin, Gullberg, and Aakre (2010) also found that influential energy-intensive industries in crucial member states managed to significantly water down the revision of the EU ETS in 2008.

Skjaerseth and Wettestad (2008) have provided the most detailed and theoretically sophisticated account of the development and implementation of the EU ETS. They studied the initiation, decision-making, and implementation phases of the scheme with reference to three broad theoretical perspectives drawn from the political science literature: an intergovernmentalist perspective, focusing on member state preferences, a multilevel-governance perspective, focusing on the behavior of surpranational actors such as the Commission, the European Parliament, and transnational industry lobbies and environmental NGOs, as well as a regime perspective, focusing on "pressure, opportunities, and learning" induced by the international climate regime (Skjaerseth/Wettestad 2008, ch. 2). They find that the Commission drove the initiation phase as a policy entrepreneur, finding a "favorable" international crisis environment after the U.S. withdrawal from Kyoto. In the decision-making phase, member states were in the drivers' seat, though constrained by the Kyoto timetable and EU institutional rules. Implementation, finally, was mainly in the member states' hands, though the Commission significantly influenced member states in setting caps on allowances. The two authors applied the same framework to the revision of the EU ETS that took place in the context of the 2008 Energy & Climate Package (Wettestad 2009, Skjaerseth/ Wettestad 2010a, 2010b). In this case, they found that changes in member state preferences as a result of the early experiences with emissions trading can explain

the move towards greater centralization and more auctioning, but that the process was also strongly driven by the Commission and the European Parliament. International factors apparently mattered little at the time.

While their work has many merits, it also has a number of shortcomings. First, they draw on several different theoretical approaches to identify potential explanatory factors, but they neither formulate directly competing hypotheses nor do they try to synthesize or integrate the various factors into a coherent framework. They do formulate testable "propositions" on the development of the EU ETS and weigh the evidence to support or reject them. But they do not investigate how they might be connected or what their relative importance might be. A second critique is closely related to the first one: their propositions are very specific to the case of the EU ETS and it is often not clear how they would generalize to a wider set of cases. Thus, it is unclear what if anything we could generalize from the case of the EU ETS. What does it have in common with other EU climate policies? Are there reasons to believe that the same dynamics apply in other policy fields? A third and more specific critique concerns their treatment of member state preferences. They refer to liberal intergovernmentalism (Moravscik 1998) when they develop their propositions on member state preferences, yet they do not explicitly offer an account of what explains variation in member states' preferences. Their propositions on member states suggest that all member states will favor autonomy and hence a decentralized emissions trading system – but they do not theoretically account for what makes some member states adopt more favorable attitudes towards emissions trading than others. Again, this makes any generalization or extrapolation from their study difficult.[26]

The literature on other EU internal climate policies has similar limitations in that it is mostly descriptive or relies on ad-hoc-theories – theory-building and theory-testing efforts have been rather limited. Early accounts of EU climate policy (e.g. Collier 1997a; Haigh 1996; Skjaerseth 1994; Wagner 1996) stressed the lack of EU competence in energy policy, the requirement of unanimity in tax questions, and concerns for subsidiarity as the main reasons for the EU's failure to adopt internal policies in line with the EU's international aspirations. Commission officials that sought to extend their environmental policy successes of the 1980s to the climate issue and a few leader states nevertheless kept the issue on the agenda. Betteville Froyn and Aaheim (2004) argued that opposition to the EU's carbon tax proposals can be explained by the fact that individual sectoral

26 Thus, their work constitutes basically what George and Bennett (2005, p. 75) call a "disciplined configurative case study" – they "use established theories to explain a case". It may have some value in showing the limits of existing theories, but provides neither a strong test of a well-specified theory nor an exercise in theory building.

actors assessing the likely impact of such taxes tend to only consider the impacts on themselves, rather than the likely effects induced by taxes in other sectors or the ancillary benefits to society. In a more theoretically grounded article, Michaelowa (1998) used a public choice framework to explain why the EU had (until then) been a "leader" in terms of target-setting but failed to implement appropriate policies to achieve these targets. He argues that the Commission's DG Environment and the Environment Council, i.e. those bodies mainly responsible for target setting, are strongly influenced by pro-environmental interest groups. The concrete policies to achieve these targets, however, need approval from Commission DGs and Council formations responsible for industry, finance, and energy – the latter are much more responsive to lobbying groups that are opposed to significant emissions reduction efforts. Yet Michaelowa merely states hypotheses without systematically testing them. Moreover, he does not address the question that animates my research, namely why it might after all be possible for the EU to adopt not only ambitious targets, but also ambitious policies.

More recently, Oberthür and Pallmaerts (2010) edited a volume on the *New Climate Policies of the European Union*, which contained essays on the development and content of the various directives the EU negotiated during 2008. Yet the book lacks a common theoretical framework and many of the chapters remain largely descriptive. Jordan et al. (2010) cover an even broader spectrum of EU internal climate policies – including not only mitigation, but also adaptation policies. They do have a common framework that all the contributing authors meticulously adhere to – yet the framework is purely descriptive. They find that climate policy-making has progressively shifted to the EU level since 2000 and that there has been a tension between a desire for "actor-ness" at the international level but national diversity internally. Neither "state-centric" nor "process-centric" theories could explain these developments, the authors assert[27], meaning that there remains much room for theory development (Jordan et al. 2010, p. 259f.). Wurzel and Connelly (2011a) and their collaborators recently revisited the topic of "leadership" in EU climate policy-making, looking both at the EU's role in international climate politics and at EU-internal climate policy-making in the various EU institutions and several member states. Yet again, their contribution is almost entirely descriptive: They claim to be interested in explaining "who exercises what kind of leadership, how and when?" (Wurzel/Connelly 2011b), yet all they offer in terms of theory is a typology of different types and styles of leadership.

What is lacking so far in the literature is an account of why the EU has adopted a range of ambitious sectoral climate policies and why there has been variation in the ambition level across sectors. Scholars know quite a bit about

27 Though they do not report any explicit theory testing.

how and why the EU ETS emerged but paid much less attention to the rest of European climate policy. Moreover they have not developed a more general explanation for the emergence of nore even a definition of ambitious climate policies. As I show in the following sub-section, scholarship on domestic climate policy-making more generally so far has similar shortcomings.

1.4.2 The literature on the domestic politics of climate change

The literature on domestic climate policy-making in individual countries or political entities has also been very eclectic both in terms of theoretical approaches and in terms of precise research questions. Many scholars analyzed the domestic and foreign policies of individual countries concerning climate policy in tandem (e.g. Harris 2007; Harrison/Sundstrom 2007; O'Riordan/Jordan 1996; Schreuers 2002), focusing on or measuring commitment to climate protection as participation in the international climate regime. Only recently, scholars have started to analyze how the domestic politics of climate change might yield significant policy commitments to lowering GHG emissions (Compston 2010; Compston/Bailey 2008; Giddens 2009). A systematic, theory-based account of why certain sectors face more ambitious policies than others, however, is still lacking.

A number of scholars have conducted large-n studies to analyze what causes countries to be more or less committed to climate protection (e.g. Dolsak 2001, Bättig/Bernauer 2009). Yet their work tends to measure commitment as different aspects of regime participation and is rather unspecific in its explanations of domestic policies. Most authors have primarily used qualitative case study methods to study the climate policies of different countries. Fermann's (1997) edited volume contains such case studies of "critical actors" in climate policy, including China, Brazil, Africa, Russia, the EU, the U.S., Japan and Germany. Yet most of these case studies remain either descriptive or provide case-specific explanations without reference to wider theoretical approaches. O'Riordan and Jäger's (1996) collection of essays on climate change policy-making purports to be about institutional adaptation "taking place … in the name of climate change" (p. xii), and contains an elaborate chapter on "Social Institutions and Climate Change" (O'Riordan/Jordan 1996). Yet its understanding of institutions is extremely wide, including institutions as policy-networks, as "structures of political power and legitimacy", "standard operating procedures", policy styles, and international regimes (Ibid., p. 73). Rather than using theory to reduce complexity, the book seeks to show how a variety of approaches can make sense of climate politics.

In a special issue of *Global Environmental Politics*, Harrison and Sundstrom (2007) compiled a series of case studies on ratification and implementation of

the Kyoto protocol to study the "comparative politics of climate change." Each of the authors followed a common framework, discussing the role of electoral incentives, the normative commitments of policy-makers, domestic political institutions as well as the impact of international norms in the climate politics of the U.S., Canada, the EU, Australia, Japan and Russia. The authors found that all of these factors mattered to some degree and in some instances, but that costs of implementation appear to have mattered above all else: those countries where business-as-usual emissions were projected to rise little or fall were favorable towards the Kyoto protocol and tough targets, while those with high business-as-usual trajectories were to be found among the laggards.[28] While Harisson/Sundstrom's work goes in a similar direction as my research interest, it remains at an aggregate level for each country rather than asking what makes particular policies more or less politically feasible. Moreover, even though the contributors to the special issue all looked at similar factors in explaining their cases, they did not engage in explicit theory development or testing.

Other scholarship on the climate policies of specific countries has either applied particular theoretical approaches or considered very specific issues. Thus, a number of authors have applied constructivist theories of politics to the climate change issue, investigating how international and domestic norms, identities and discourses have shaped climate policy-making (e.g. Bernstein 2002; Cass 2006; Pettenger 2007; Wu 2009). Neo-marxist analyses have illuminated the way in which the logic of the capitalist economy and the role of the fossil fuel industry therein has impeded political action to reduce emissions and how this might change over time (Levy 1997, Levy/Egan 1998; Newell/Paterson 1998). Still other scholars have contributed to the "second-image-reversed" literature on the domestic effects of international politics, looking at how the global climate regime has affected individual countries (e.g. Andonova 2008, Costa 2008). Various strands of the literature on climate policy-making also concern particular policy instruments such as eco-taxes (e.g. Clinch/Dunne/Dresner 2006; Dresner et al. 2006), renewable energy promotion (e.g. Jacobsson/Lauber 2006; Reiche/Bechberger 2004), and the use of voluntary instruments to reduce GHG emissions (e.g. Bailey 2008; Börkey/Levêque 2000). Still others have investigated the increasing role of climate policy at the local level such as municipalities or cities (Gustavsson/Elander/Lundmark 2009, Kern/Bulkeley 2009, Zahran et al. 2008).

Only recently, a number of authors around Hugh Compston and Ian Baily (2008; Compston ed. 2010) have sought to more explicitly investigate the domestic politics of climate change in order to identify potential strategies to get ambitious policies

28 To a large degree, these business-as-usual trajectories were driven by population growth, but also by economic growth (or economic collapse in the case of Russia and East Germany).

adopted. Their (2008) study on climate politics in "affluent democracies" compiled various country case studies to identify common obstacles to ambitious climate policies as well as ways to overcome them. They found six recurring obstacles in the countries they studied (Compston/Bailey 2008, pp. 264ff.). These included the perception that without action by others, any individual country would not make a difference, the influence of climate skeptics, the fact that no easy technical fixes to the problem are available, concerns about the competitiveness of domestic industries, fears of an electoral backlash, as well as within-government opposition from ministries responsible for industry, energy, or transport. To overcome these obstacles, the authors suggest a number of potential strategies, ranging from further efforts to build a global climate regime to taking advantage of public attention in the wake of extreme weather events. Compston's (2010) edited volume on *Climate Change and Political Strategy* sought to provide these findings with stronger theoretical underpinnings, asking his contributing authors to aim the "big guns" of causal theories from political science at the issue of climate change (Compston 2009, p. 662).[29] Thus, the various authors apply rational choice models of policy-making, theories of agenda setting and regulation, resource-based policy network theory and a variety of other approaches to the politics of cutting GHG emissions. Yet while their individual contributions provide a number of interesting insights, they do not synthesize their findings in any way and thus do not contribute to the development of new theories. Instead, their approach – like that of much of the literature on climate politics so far – is very eclectic.

Given the sheer complexity and importance of global warming as a policy issue, we can certainly justify and welcome such eclecticism. Yet my – probably Quixotic – ambition is to contribute to this literature by developing a more coherent theoretical framework that can help us to identify the conditions that make possible the adoption of ambitious policies. To do so, I heavily draw on existing literature about EU politics and environmental policy-making. I review this literature as I develop the theoretical framework in chapter 2. Before that, let me sum up the main elements of this chapter.

1.5 Conclusion

Human-induced climate change constitutes a severe long-term threat to mankind and a global "tragedy of the commons" problem, which has been on the international political agenda since the late 1980s. Despite two decades of climate-

29 The book was originally published as a series of articles in *Environmental Politics*, hence the year 2009 in the citation.

political activities, however, sometimes at the highest levels of global diplomacy, and despite its economic feasibility, a convincing political response to the threat has not yet emerged. Given the nature of the problem of climate change, it is easy to explain political inaction to reduce GHG emissions with reference to the self-interest of rational myopic egoists. Yet the most interesting question concerning climate policy-making is how this inaction may be overcome. Political scientists have developed some answers to this question, but have not done so in a systematic and theoretically grounded fashion. My goal is to contribute to the development of an explanatory framework that can help us to account both for the widespread political inaction on climate change and for the adoption of ambitious sectoral climate policies. This is what I set out to do in the rest of this book. The next two chapters are devoted to the development of a theoretical framework and to methodological issues; after that, we turn to an empirical investigation of five cases of EU sectoral climate policy-making.

Part II
Theory And Methodology

Chapter 2: Interests and arguments – explaining sectoral climate policy ambition in the EU

2.1 Introduction

Under what conditions does the European Union adopt ambitious climate policies for particular economic sectors? In this chapter, I develop an explanatory framework to answer this question. My explanation takes into account both the material economic interests that are at stake in climate politics and the norms about international and intergenerational justice that might motivate actors to reduce emissions despite the limited short-term benefits of such actions.

The framework consists of two parts, a "rational choice baseline" and an "analysis of rhetorical possibilities". The rational choice baseline provides hypotheses on the preferences of the main actors of EU policy-making – the European Commission, the European Parliament, and the member states – and on the bargaining outcomes that result from their interaction under given institutional rules. It lays out the ways in which we would expect purely rational self-interested actors to approach sectoral climate policy. In line with much of the previous literature on EU politics, the baseline identifies the European Commission and the European Parliament as the promoters of greater policy ambition, while it anticipates that member states defend the interests of powerful domestic interest groups as well as their pre-existing domestic policy arrangements. As a result, the Council as a whole tends to be more reluctant to adopting ambitious climate policies, though the preferences of individual member states vary significantly across sectors.

The second part of the framework starts from the same expectations about actor preferences but adds two assumptions. (1) Actors have to give reasons or provide arguments in favor of their (self-interested) positions and (2) the range of socially acceptable reasons or arguments is limited. The range of socially acceptable arguments in turn depends on the rhetorical materials on which actors can draw to craft their arguments. I conceptualize this range of available rhetorical materials as the "discursive environment", which varies between sectors and over time, and which can favor either the supporters or the opponents of ambitious climate policies. In a "permissive" discursive environment, I expect that arguments

play little role: self-interested preferences and bargaining power under given decision-making rules are likely to determine climate policy choices. In a more "restrictive" discursive environment, however, opponents of ambitious climate policies will have to make concessions and accept more ambitious policies than they would otherwise be willing to consider. Normative concerns about the implications of climate change thus enter the political process through the arguments actors make in favor of their preferred policies.

In combination, the two parts of my framework can provide us with an account of the main dynamics of EU climate politics. While the rational choice baseline offers a good explanation of actor preferences and the concrete bargains between actors, the discursive environment determines the balance of power between proponents and opponents at particular moments in time. As I discuss in the conclusion, I do not argue that other factors are unimportant in specific cases. But to explain the overall pattern of sectoral climate policy ambition, the central factors are variations in the discursive environment and the distribution of domestic interests in member states.

Like the framework I set out to develop, this chapter is divided into two parts. The first part spells out the rational choice baseline, starting with a discussion of the theoretical underpinnings of rational choice theory and its application to EU politics in the previous literature on which I draw. After that, I develop hypotheses on the preferences of the main EU actors as well as our expectations about the resulting bargaining outcomes. The second part proceeds in a similar fashion: I start by adding and justifying the two additional assumptions. After that, I outline a generic dialogue between proponents and opponents of ambitious sectoral climate policies, from which I then derive the determinants of a more or less restrictive discursive environment. The conclusion defends the framework against a number of potential criticisms.

My dependent variable is "sectoral climate policy ambition", which I define as the degree to which a state or state-like entity commits itself to use its financial and coercive means in order to limit or reduce GHG emissions from a particular sector. In chapter 3, I operationalize this concept on a three-part ordinal scale ranging from low to high policy ambition that allows us to compare the ambition levels of different sectoral climate policies. This chapter focuses on my explanation for variations in climate policy ambition over time and across sectors.

2.2 The rational choice baseline

The first part of my explanatory framework consists of a "rational choice baseline." Rational choice theory[30] is best understood as a theoretical approach that seeks to explain social phenomena by analyzing the logic of individual decision-making.[31] Exponents of this approach assume individuals to have stable identities as well as clearly ordered and relatively fixed[32] preferences about different "states of the world." When choosing between alternative courses of action, individuals select whichever strategy seems most likely to yield their preferred outcome based on their beliefs about how the world works and taking into account externally given opportunities and constraints. "Rationality" thus means that individuals chose between ranked options[33] under externally given restrictions (Kirchgässner 2008, p. 28-29). Usually, this rationality is "bounded", i.e. individuals do not consider all possible states of the world and all potential options – instead they take short-cuts and search for "good-enough solutions."

In order to develop predictions about social outcomes, rational choice theory also needs to make assumptions about the content of preferences. In principle, the model of action described above can accommodate any set of preferences, regardless of their content and origin. Yet most rational choice theory works with an assumption of "self-interest", meaning that individuals pursue actions that are best for them, but behave neutrally towards others (Kirchgässner 2008, p. 41ff.).[34] To develop theoretical propositions about more specific domains of social life, we have to further specify what this self-interest means for different classes of actors in different situations. Thus, economists usually assume that consumers seek to maximize the "contentment" they derive from their consumption choices, that producers maximize profits, workers maximize a combination of

30 The following paragraph is based on Elster 1989 Kirchgässner 2008, Kydd 2008, Shepsle/ Bonchek 1997, Snidal 2002.

31 This is referred to as "methodological individualism.

32 Rational choice theory does not pay much attention to the origins of preferences of individuals and does not accord an important place to preference changes in explanations. If preferences change, they are expected to change much more slowly than the restrictions or external constraints on people's actions, which is why such "restrictions" tend to do most of the analytical "work" in rational choice theories.

33 It is assumed that such rankings are "transitive, meaning that if A is preferred to B and B is preferred to C, then C cannot be preferred to A (e.g. Shepsle/Bonchek 1997, p. 26ff.)

34 This conception is known as *homo oeconomicus*. It does not mean that individuals cannot or will not act morally or altruistically in many situations. It only avers that in many situations, people will weigh costs and benefits of different actions and chose whatever is best for themselves. In situations where moral or altruistic behavior is costly, moreover, the prediction is that we should not expect most people to behave morally or altruistically. See Kirchgässener 2008.

purchasing power and leisure, while investors are interested in their rate of return (Shepsle/Bonchek 1997, p. 20). In rational choice analyses of (democratic) politics, the usual assumption is that politicians seek to maximize their chances of reelection (cf. Downs 1957, Kirchgässner 2008, p. 100ff.). Given these assumptions on "basic interests", theorists can then specify how they expect actors to behave in particular situations. While methodological individualism is one of the premises of rational choice theory, its analytical toolkit has also been widely applied to "corporate actors" such as firms, governments, bureaucracies, states etc. In these contexts, preferences are either attributed to the actor as a whole (as in profit-maximizing firms, security-maximizing states) or to certain pivotal individuals (agency heads, CEOs, prime ministers, median legislators).

Yet, the assumptions outlined so far, namely that actors make self-interested decisions based on rank-ordered preferences under given external constraints, are insufficient to account for many social and political phenomena. As most decisions involve more than one actor, we need to account for the aggregation and interaction of preferences. This is where institutions come into the picture. Institutions structure interactions between different actors, "by affecting the range and sequence of alternatives on the choice-agenda or by providing information and enforcement mechanisms that reduce uncertainty about the behavior of others and allow 'gains from exchange', thereby leading actors to particular calculations …" (Hall/Taylor 1996, p. 545). In somewhat more simple terms, institutions are the "rules of the game", within which actors pursue their interests and according to which different actors reach collective decisions. Many political scientists working in a rational choice framework thus consider themselves "rational choice institutionalists".

2.2.1 Rational Choice Approaches to EU and environmental policy-making

Rational choice theory has found a wide array of applications in the literature on the European Union and on environmental politics. Before I develop my own baseline model, let me briefly describe those applications that are most relevant to an explanation of EU climate policy. The most prominent rational institutionalist account of European integration is certainly Andrew Moravscik's (1998) Liberal Intergovernmentalism (LI)[35]. Drawing on rationalist regime theory, he explains the process of European integration as a series of "grand bargains"

35 Liberal intergovernmentalism stands in the older "intergovernmentalist" tradition (e.g. Hoffmann 1966, 1982, also Milward 1992), which advanced similar arguments but was not explicitly grounded in rational choice theory. The word "liberal" in liberal intergovernmentalism indicates that Moravscik's conception of national preference formation is drawn from a liberal approach to international relations theory. Also see Moravscik/Schimmelfennig 2009.

between the member states. Each of these bargains, he asserts, can be explained by disaggregating the negotiation process into three steps: the definition of national preferences, inter-state bargaining, and institutional choices. He argues that powerful economic interest groups determine member states' national preferences regarding European integration. On the basis of these preferences, states engage in negotiations. The outcomes of negotiations in turn depend on the (issue-specific) bargaining power of different states: those states that have the most to gain from a particular bargain will compromise the most, whereas those with little to gain will be able to impose their preferences or exert side-payments. Finally, Moravscik argues that institutional choices are primarily determined by concerns about the credibility of commitments made by other member states. As outlined below, LI offers a good starting point for an explanation of member states' climate political preferences. Its other two elements are less relevant for climate policy: as climate policy constitutes secondary legislation it is negotiated under different institutional rules; moreover, it normally does not deal with institutional choices.

While LI has focused on history-making "grand bargains" between member states, Sandholtz and Sweet Stone's (1998) "supranational governance" approach[36] explains European integration as a much more gradual process. While their work is also based on rational choice assumptions, it ascribes a much greater role to transnational transactions and to supranational institutions like the European Commission and the European Parliament. Once established, they claim, these institutions further promote the process of European integration for reasons of institutional self-interest. Thus, they become the "engines of integration", to quote the title of Mark Pollack's (2005) book on these dynamics. In my explanatory framework, the Commission and the EP are the "engines of greater climate policy ambition".

Another strand of rational choice institutionalist EU scholarship has tried to model the interactions of the main EU actors: the Council (composed of the member states), the EP, the Commission, and the European Court of Justice (Aspinwall/Schneider 2000; Crombez 1996, Garrett/Tsebelis 1996, 2000, 2001; Pollack 1997, 2009). From this strand of the literature, I draw particularly on Tsebelis and Garrett's (e.g. 2000; 2001) spatial models of legislative politics in the EU. These models help us to understand the implications of different voting rules for the relative influence of the Commission and the EP in determining

36 Like LI, the supranational governance approach stands in the tradition of an earlier approach to integration theorizing, namely the neofunctionalism of Ernst Haas (1958), Leon Lindberg (1963), and others (see e.g. Niemann/Schmitter 2009).

policy outcomes and thus the degree of climate policy ambition achieved in different sectors.

Finally, scholars have used rational choice institutionalist approaches to study environmental politics in the EU and elsewhere. One important insight from this literature is that EU member states have tried to avoid the costs of administrative adaptation when negotiating about environmental legislation (e.g. Héritier/Knill/Mingers 1996; Knill 2001). Thus, member states with relatively strict regulations[37], have tried to "upload" their legislation to the EU level (Börzel 2005, 2007). This allows them to avoid the cost of adapting national legislation and administrative procedures to subsequent EU legislation and prevents competitive disadvantages for their national industries. Yet it forces poorer member states to "download" legislation from the EU, a process they often resist and which leads to poor implementation (Ibid, also see Risse/Cowles/Caporaso 2001; Featherstone/Radaelli 2003; Graziano/Vink 2007). When explaining sectoral EU climate policy, I also expect administrative adaptation costs to play a major role in determining member state preferences. Yet I expect less of a general "leader-laggard"[38] dynamic than in other fields of environmental politics: in traditional environmental policy, the leaders derived local benefits from restricting pollution, whereas in climate policy the local benefits are virtually "nil" – from a perspective of mere "self-interest", there is hence little reason to expect countries to lead on emission reductions.[39]

2.2.2 Basic features of the rational choice baseline

Armed with the basic assumptions of rationalist theory and the insights from the previous literature on EU and environmental politics, I can now develop the rational choice baseline explanation of EU climate policy ambition. It constitutes a set of hypotheses about actor preferences and bargaining outcomes that is simple and parsimonious. I also expect it to be insufficient to by itself account for variations in climate policy ambition. Yet its simplicity (and insufficiency) is

37 This was particularly the case for the "green" member states Germany, Netherlands, and Denmark, which shaped much of the EU's environmental policy (Liefferink/Andersen 1997).

38 By this I mean that we should not expect the same countries to always lead on sectoral climate policy – instead, leader-laggard-dynamics are likely to be issue specific.

39 For similar reasons, I do not expect Sprinz and Vaahtoranta's (1994) "Interest-Based Explanation of International Environmental Policy" to offer much leverage regarding climate change: given the long time-horizon and the small impact of individual countries' efforts to reduce emissions on the overall climate, we should not expect vulnerabilities to be important in determining countries domestic emission reduction efforts. To be fair: their model aims to explain what countries do at the international level: here vulnerability may determine what countries demand in terms of climate policy, even though it does not spur them to take action themselves.

intentional: the rational choice baseline allows us to understand fundamental dynamics of a complex process and to identify additional causal factors in cases where its predictions turn out to be incomplete.[40]

In the baseline model, I assume each of the actors, i.e. the Commission, the EP, and the member state governments to be unitary actors and to generally have access to good information about the costs and benefits of different policy options. Both of these assumptions are gross but justifiable simplifications. The Commission consists of different Directorate Generals (DGs) with often diverging positions, the European Parliament is composed of several hundred deputies from all parts of the political spectrum, and the member state governments consist of ministries and coalition partners with sometimes diverse priorities. Yet at the end of the day, each of these actors brings one position into the policy process – a formal proposal adopted by the College of Commissioners, a First or Second Reading Position in the Parliament, a position advocated by the Permanent Representative in COREPER or a minister in the relevant Ministerial Council. While implications of policies are sometimes difficult to gauge at the outset, businesses have strong incentives to obtain information on costs and benefits and to communicate this information to policy-makers.[41]

The baseline model provides predictions for the climate policy ambition level in a particular sector favored by each of the main actors. Their preferences on particular climate policies in turn depend on certain basic institutional interests, which we have to assume for each of the actors. In line with much of the previous literature, I hence assume the European Commission and the European Parliament to have an institutional interest in expanding their own competences, which is well served by the adoption of ambitious climate policies. Member state governments, on the other hand, are basically interested in reelection. This leads them to support ambitious policies when national industries in a particular sector benefit from the legislation and to oppose them when national industry stands to lose. Where interest constellations are unclear, member states will seek to avoid

40 Scharpf (1997) suggests that constructing parsimonious models based on simple rational choice assumptions can perform a function similar to a regression line in large-n quantitative analyses: they provide a central tendency against which residuals can be examined in greater detail. Similarly, Andrew Kydd (2008, pp. 437-438) argues that "(e)ven for those who view decision-making as imperfectly rational, identities as flied and norms as important, it is often critical to know what a model adhering to MIRC (methodological individualism and rational choice) has to contribute to a given research problems. This is because it is difficult to know what results from cognitive limits if we do not know what rational actors would do, and it is difficult to deduce the impact of norms without knowing what selfishness leads to."

41 And while they might face incentives to overstate their case, they generally have a strong incentive to not provide grossly misleading information so as to not undermine their own credibility.

administrative adaptation costs, i.e. they will accept EU legislation as long as it does not require them to change national practices in any significant way. Since all actors are conceptualized as rational self-interested utility-maximizers, the baseline model does not expect any of them to actually pursue emission reductions because of their benefits for the climate. These benefits are too small to make a difference and too far into the future to be relevant to self-interested decision-makers.[42]

The ambition level of adopted EU climate policies then depends both on the distribution of the various actors' preferences and on the decision-making rules. Most EU climate policies have been passed as environmental policy under the so-called co-decision procedure. This means that the Commission introduces legislation, which is then amended by the European Parliament and the Council, with the former deciding by absolute and the latter by qualified majority (e.g. Hix 2005, p. 78-79). Certain types of policies, notably (environmental) tax policy requires a unanimous vote in the Council. For legislation passed under the co-decision procedure, the baseline model would thus predict an ambition level equivalent to the preferences of the last member state required for a qualified majority. For legislation passed under unanimity, it would predict the "lowest common denominator" to hold sway, unless there is some sort of side-payment or "package deal".

At an empirical level, the baseline model has three main observable implications. First, it would lead us to expect the Commission and Parliament to continuously keep climate policy on the agenda across different sectors. In the baseline model, they are the engines of advancing climate policy ambition. Secondly, we would expect the Council to generally be less favorable towards ambitious climate policies than the other two actors, simply because in many sectors climate policy means a cost to one industry without attendant gains for other industries. Thirdly, and expanding on the second implication, it would be very difficult for any ambitious climate policies to overcome the many potential veto-points in the Council. I elaborate each of these features of the rational choice baseline in the following subsections.

42 Individual decision-makers' discount rates would lead these future benefits to appear excessively small.

2.2.3 The European Commission – Engine of European Integration and Climate Policy

Let's start with the European Commission. Its basic interests are somewhat tricky to specify as the Commission is both a bureaucracy and a political actor (e.g. Rhinard/Vaccari 2005). The rational choice literature on bureaucracies since Niskanen (1971, quoted in Shepsle/Bonchek 1997) has assumed bureaucracies to be basically interested in maximizing their budgets. Based on this assumption, we would expect the Commission to generally pursue an expansion of its own competences and the attendant budgets. As a political actor, the institutional setting spelt out in the Treaties defines its role. It is at once a "guardian" of those treaties and an agenda-setter in the legislative process, identifying areas of common interest to all Europeans and suggesting common policies to realize these interests.

Thus, it is not surprising that the rational choice literature on EU decision-making often assumes a "pro-integration bias" in the Commission, though the reasons for this assumption vary. Tsebelis/Garrett (2000, p. 16) argue that governments face strong incentives to nominate independent personalities to Brussels, which means that Commissioners will tend to favor European integration more than the governments that nominated them. Similarly, Majone (2001, p. 112) holds that member states signal their commitment to European integration through nominating pro-European Commissioners. Napel/Wildgren (2008) give the more banal reason that the Commission votes by simple, the Council by qualified majority, which means that the pivotal vote in the Commission is likely to be more pro-integrationist than in the Council. Other authors have questioned the pro-integrationist bias of the Commission (e.g. Hug 2003; Wonka 2007, 2008; Thomson 2008). They point out that member states appoint Commissioners in a highly politicized process. Commissioners should hence not stray far from their principals' political wishes.[43] Still other authors have pointed out that the Commission is far from a cohesive actor (Rhinard/Vaccari 2005; Smith 2003). Instead, its division into Directorates General with narrow mandates frequently leads to conflicts, especially in environmental policy, where other, often more powerful DGs try to water down proposals from DG environment (e.g. Lenschow 2005; Knill/Liefferink 2007, pp. 57-61).

While keeping these caveats in mind, I start with a conception of the European Commission as a unitary actor and assume that its basic interest is to pursue greater European integration with a stronger role for itself. As more ambitious

43 What these authors do not consider, however, is that in recent years the EP has also had to approve the Commission, which, given the pro-integrationist bias of the EP (see below), should in turn lead to a more pro-integrationist Commission.

climate policies tend to also imply more European integration and greater competences for the Commission, we should thus generally expect the Commission to have an interest in introducing ambitious climate policies. Yet in doing so, it is likely to behave strategically: it will not propose legislation that the Council and Parliament are highly unlikely to accept. Such a failure in the legislative process would entail reputation costs for the Commission. Multiple such failures would lead other actors to take Commission proposals less seriously or doubt its competence, which the Commission as a rational actor should want to avoid. Hence we can expect the Commission to take its cues from the European Parliament and the member states before proposing legislation. We should only expect it to propose legislation of a certain ambition level if at least some member states and the European Parliament have signaled that they will accept legislation of a particular ambition level. Such signals can either be official statements from member state governments or resolutions by the European parliament. Public policies already adopted by member states might also serve this function.

An objection to this argument might be that the link between a basic interest in EU integration (and greater competences) and a specific interest in ambitious climate policy is not logically necessary. The Commission might well seek to expand its competences by promoting other policies or policies that lead to higher rather than lower emissions. While this is true, climate change is a particularly attractive issue for the Commission: addressing it has implications for a wide range of sectors (meaning that integration and Commission competences can expand in a variety of fields) and it is indisputable that the issue is of a transnational nature (making EU involvement easier to justify). Thus, the Commission has a strong interest in keeping it on the agenda and using it as a means to advance its competences[44] through more ambitious EU policies.

We can thus formulate the following hypothesis about the European Commission's behavior with regard to climate policy. H1: The European Commission will continually develop sectoral climate policies even without explicit demands from member states, and propose legislation that is as ambitious as the most ambitious member states have signaled they will be willing to accept. Several aspects of this hypothesis are important to note. First of all, it refers to the type of formal legislative proposals the Commission makes – we can hence evaluate it by looking at the ambition level of the suggested legislative text. Secondly, the

44 In a book chapter on the Commission's role in EU climate policy, Barnes (2011, p. 55) also argued "that the Commission is the institution which is able to provide entrepreneurial leadership in the EU by facilitating and brokering agreements …" Yet her work did not systematically analyze Commission legislative proposals across sectors – i.e. I am not simply replicating previous research.

hypothesis implies that we would expect the initiative for European climate legislation to come primarily from within the Commission. Thirdly, the Commission will build some "wiggle room" into its proposals – allowing member states to make legislation slightly less ambitious than proposed during negotiations. The word "some member states" in the hypothesis means more than one, though the exact number will depend on how many the Commission may expect to bring around during the negotiation process. Finally, the formulation of the hypothesis already includes an expectation that the European Parliament will not stand in the way of ambitious climate policy in most cases. The justification of this expectation is the subject of the next subsection.

Before that, it is important to consider the role the Commission can play in the legislative process. It has the exclusive right to make legislative proposals, yet once the proposal is adopted, its formal power to adjust it is very limited as the EP and the Council have to find some agreement on the final legislative text. While the Commission can influence the positions of individual member states through a variety of means (e.g. Schmidt 2000; Smyrl 1998), I expect its role in the context of sectoral climate policies to be mainly in keeping the issue on the agenda and thus in "forcing" the EP and the Council to make some decision. Thus, two pieces of evidence are particularly important in evaluating this hypothesis. If the hypothesis is correct, the content of particular Commission proposals should not be less ambitious than what most member states subsequently support, and there should be no evidence that member states demanded the specific legislation proposed by the Commission.[45]

2.2.4 The European Parliament – A Green Actor Driving Climate Policy

We can now turn to the European Parliament, which has gradually become more relevant to EU policy-making (e.g. Maurer 2003) and which is a co-equal legislator under the co-decision procedure under which most EU climate legislation has been passed. Let's start by specifying its "basic" interests. The Members of the European Parliament (MEPs) are elected representatives of their respective

45 Member states (Council Conclusions) often demand the Commission to make proposals on a particular issue without specifying the contents of these proposals. Moreover, for strategic reasons, the Commission almost always states that its proposal was in response to demands from some Council meeting. This is not necessarily evidence against the hypothesis, as calls on the Commission to come forward with ideas is a convenient way to paper over differences of opinions and for delaying more specific decision making. Thus, only when the Council demands specific features of legislation such as the instrument choice and key parameters without prior Commission Communications suggesting these features can we consider the Council statement evidence against this hypothesis.

constituencies. Every five years, they face voters in European elections. Thus, we might assume them to be basically interested in reelection (Downs 1957). Yet unlike national parliamentarians, their chances of reelection have relatively little to do with what they do as parliamentarians. As there is very little public awareness of what the EP does and of MEPs themselves, European elections tend to be contests between national parties running on national issues (Hix 2005, p. 89f.). The party leaderships that nominate candidates to party lists thus mainly decide MEPs' chances of election and reelection. At the same time, however, given the limited attention the wider public pays to the EP, national party officials have little incentive to monitor European Parliament activities closely, thus allowing MEPs significant (though not unlimited) leeway in pursuing particular policies. While reelection is thus probably an important interest of most MEPs, it does not help us much in deriving predictions about substantive policy preferences.

Hence we need to look at MEPs' other basic interests. One such interest is simply to have an impact on and through policy. After all, they need to justify their salary and their time spent in Brussels and Strasbourg to their constituents, their parties, their families, and themselves. Yet for MEPs, "doing something", having an impact on policy, always means doing something European. This gives MEPs an incentive to act in a pro-integrationist fashion. This is not to say that MEPs' positions on the desired "depth" of European integration don't vary (think, for example, of Green Party vs. EPP deputies). It only means that every MEP who wants to achieve something other than obstruction will of necessity have to work in the direction of more European integration at least sometimes. For the EP as a whole, this is reinforced by its decision-making procedures. In order for the EP to make amendments in the second reading of the co-decision procedure, it needs to adopt them by absolute majority (Hix 2005, p. 96). Without such an absolute majority, the EP is in a weak position vis-à-vis the Council. As MEPs know this, and because there are no stable majorities in the EP, MEPs are likely to trade (pro-European) votes in order to get their favorite legislation adopted.

Hence, it seems reasonable to assume that the EP's basic interest, like the Commission, is in deepening European integration. This is well supported by the previous literature, which shows that the EP has traditionally been very favorably inclined towards deeper European integration (e.g. König et al. 2007; Tsebelis/Garrett 2000). In addition, it has tended to favor strict environmental legislation as its Environment Committee has provided useful access points for environmental NGOs[46] (e.g. Burns 2005; Knill/Liefferink 2007, 64-66). Again, as more ambitious

46 The Environment Committee's influence on the entire EP varies between issues, however – where industry is strongly affected, the Environment Committee tends to be less influential (Smith 2008).

climate policy tends to also be more European policy, we can thus expect the EP to generally favor more ambitious climate policy than the other actors.[47] It also has an incentive to adopt positions that are more ambitious than the Commission's proposals. In order for legislation to come into force, both the EP and the Council have to agree to the same version of it. This version is – formally or informally, depending on the procedure – negotiated between the Council Presidency and the EP's rapporteur (Hix 2005, p. 99ff., European Parliament 2004a, 2009a).[48] Thus, the dynamics of negotiation require that each side "give up" something. As we can expect the Council to generally favor less ambitious legislation than the EP, the EP will have an incentive to pass particularly ambitious legislation, knowing that it will have to "trade away" part of it anyways. Based on these considerations, we can thus formulate the following hypothesis. *H2: The European Parliament will favor more ambitious policies than the majority of member states and the Commission and at least a medium ambition policy across sectors.*

We can evaluate this hypothesis by identifying the ambition level of the legislative texts passed by the European Parliament as First or Second Reading positions. Where no such positions were adopted before the adoption of the final legislative text[49], we can look at the recommendations made by the lead committee on a particular piece of legislation. All of these positions should display greater policy ambition than the European Commission. This expectation is also in line with Burns and Carter's (2011) assessment of the EP's record on climate policy[50]: they found that the EP had often tried to exert leadership on climate issues but was strongly circumscribed by other actors, notably the Council, to which I turn now.

47 The reasoning behind the link between an interest in European integration and ambitious climate policy is justified in the section on Commission preferences.

48 While formally no negotiation is required until after the EP's second reading, when a conciliation procedure takes place, in practice, informal information exchange and negotiations begin almost as soon as the Commission proposal is out, more formal negotiations often start after the EP's relevant Committee has adopted a position.

49 Several of the key pieces of European climate legislation were adopted according to a fast-track First Reading Procedure, where the Council Presidency and the Parliament Rapporteur held informal trilogue negotiations and hammered out a compromise before the first reading of the full parliament.

50 Their analysis focuses mainly on international issues and the EU ETS, however, not on a wider range of internal sectoral climate policies as my research does.

2.2.5 The Council – Member State Governments Defending their Industries and Administrations

The third set of actors involved in EU climate policy consists of member state governments, which make up the Council. As in the case of the European Commission and the EP, I assume these governments to be unitary actors with one position regarding each policy under discussion. As mentioned above, this is a gross simplification: usually, multiple ministries seek to influence climate political issues, often with widely diverging positions. While environment ministries tend to favor rather strong action to reduce GHG emissions, ministries of the economy, energy, transport, agriculture or finance often have different preferences. In the end, however, governments have to take one position on each issue. It is this position that I am interested in. Democratically elected governments' basic interest is in reelection (Downs 1957), for unless they are elected they are unable (or at least much less able) to influence policy-making within their jurisdiction.[51]

What does this basic interest augur for climate policy-making? First of all, most voters are unlikely to pay much attention to individual European policies. At any point in time, citizens' attention to any particular issue is likely to be "distracted by the claims of innumerable other policy issues that are publicly discussed at the same time" (Scharpf 1997, p. 165). As most European policies (including climate policies) are highly technical in nature, the larger public is often unaware of what is being discussed in Brussels. Elections are usually decided based on few issues and European ones are rarely high on the list of reasons for people's voting decision.[52] Thus, governments can expect that most people will take relatively little notice of the positions they take on sectoral EU climate policies.

This rule is not without exceptions, however: companies that are affected by particular EU climate policies, and people associated with those companies, i.e. their employees, are likely to pay attention, in particular when these policies have significant economic repercussions. They will be aware of the measures discussed at the European level through their own representations in Brussels or through the sectoral trade associations of which they are members. Thus, we can

51 Scharpf (1997, p. 166) also makes this point very forcefully: "For the political parties involved, elections are a zero-sum game in which the stakes are a limited number of seats in parliament and, ultimately, the participation in or exclusion from the exercise of governmental power… At the limit, electoral losses will throw into doubt the very existence of a political party. In this respect … political parties or coalitions involved in electoral competition have no common interests."

52 And if so, they tend to be of a rather general kind – should a country be part of the European Union, should it adopt the Euro, not whether a country should support Directive X or Y.

expect companies in affected sectors (or their associations) to lobby member state governments, asking them to work towards European rules in their favor. Moreover, we (and rational, vote-maximizing governments) can expect the people associated with companies affected by particular climate policies to be the only voters that consider the government's position on the issue when they decide on whom to vote for. Hence, vote-maximizing politicians have a strong incentive to defend the interests of those industries most concerned about a particular sectoral climate policy, and to pay less attention to the interests of the rest of the public (which, overall, is not paying attention).[53] By the same logic we can expect that the more people work in a sector, the greater the government's incentive will be to promote that sectors' interests at the European level. Based on these considerations, we can formulate the following hypothesis: *H3. When deciding on the ambition level and the specific content of climate policy to support at the EU level, member state governments promote the interests of affected industries within their borders. They weight the relative importance of different industries according to these industries' employment levels.*

This logic also underlies previous scholarship on the EU, notably Moravscik's (1998) LI, and echoes previous research on the role of interest groups in climate policy-making (e.g. Cass 2006, Compston/Bailey 2008, Harris 2007, Newell 2000). It is important to note that this hypothesis is not meant to suggest that member states will necessarily support polluter interests – climate policies can also create significant opportunities for particular industries or industry players. Such opportunities may result from a policy design favoring certain companies at the expense of other companies.[54] Policies might also result in the exclusion of certain importers from the European market; or companies might benefit from stricter rules, if compliance with these rules requires the use of their products or services.[55]

In order to evaluate this hypothesis for a particular sectoral policy, we have to analyze how it affects domestic industries in different member states. We then have to obtain data on how many people work in the affected industry or industries. We can compare the importance of industries to different member states by comparing the share of total employment they represent – those member states

53 While not voting for a government may be the "ultimate punishment", representatives of the affected sectors might try to impose other costs on governments, e.g. negative publicity that keeps attention off the issues a government wants to focus on.

54 Thus, CO2 emission limits for passenger cars that do not take into account vehicle size would strongly favor the producers of small cars at the expense of producers of large cars, see chapter 4.

55 In line with this logic, manufacturers of building energy efficiency equipment were strong supporters of the European Commission's efforts to tighten building energy performance standards, see chapter 6.

with the highest share would then be expected to be the most adamant supporters of the industry (and vice versa). Where multiple industries are affected, governments are likely to favor the larger ones or avoid administrative adaptation costs in case of a stalemate.

Some readers might question the logic underlying this hypothesis. As Grande (1996), Wolf (2000) and other authors have argued, international negotiations actually make national governments more autonomous from domestic interest groups. Because international negotiations are hard to monitor for domestic constituencies (be they parliamentarians, lobbyists, or simple citizens) and because they always involve compromises, these authors argue that governments are able to conspire *against* powerful domestic interest groups.[56] Yet unless we relax the assumption about government's basic interest in reelection, it is hard to conceive why climate change would be an issue where rational self-interested governments should behave in this way. Conspiring in trade negotiations against import-competing industries makes sense for self-interested governments; at least if they believe the consensus of economists that freer trade leads to greater economic growth, which in turn tends to help governments win elections. In negotiations on sectoral EU climate policies, such ancillary benefits are too small to lead governments to oppose their domestic industries.

In some cases, however, there may be a relative balance between the claims and size of different industries. In these cases, a second factor is likely to influence member states' negotiating positions. As outlined above, the previous literature has identified a strong member state interest in avoiding administrative adaptation costs when negotiating EU environmental (and by extension climate) policy (e.g. Börzel 2005, Héritier/Knill/ Mingers 1996, Knill 2001; Knill/Liefferink 2007). Such costs result when EU rules require administrations to perform new tasks or to perform old tasks differently. They require resources that are not available for other tasks governments might want to pursue – hence rational governments will seek to avoid them. We would thus expect governments to accept EU climate policies of a certain ambition level if this requires them to change little in their own legislation and administrative practices. We can thus formulate a second hypothesis on member state preferences: *H4. Where national interest group constellations are neither clearly in favor nor against a climate policy, member states will adopt a negotiating position that seeks to minimize administrative adaptation costs.*

56 A variant of this argument is also often found in the literature on international trade negotiations (e.g. Hoekman/Kostecki 2001; Odell 2000), namely the idea that reciprocity in trade negotiations makes it possible to overcome the resistance from import-competing industries.

Note that this hypothesis clearly states the primacy of affected domestic interest groups. Where governments can secure electoral gains from supporting a particular policy, we should expect them to accept significant administrative adaptation costs. Yet when no such gains are likely, governments' willingness to change the status quo will be limited. This can also lead to situations in which member states that have implemented ambitious domestic policies stand in the way of more ambitious action at the European level.

Testing this hypothesis requires a measurement of administrative adaptation costs, which is complicated, as no exact figures are available on these costs.[57] What we can do, however, is to compile information on which aspects of legislation proposed by the Commission already exists in which member state. Based on this information, we can then identify the member states that have to make the greatest adjustments in order to comply with the legislation – if the hypothesis is correct, we would expect those member states with the greatest adjustment needs to be the most vehement opponents to the proposal. Moreover, for each individual member state we would expect the greatest negotiating efforts to concern those aspects of the Commission proposal that most diverge from pre-existing legislation.

As I describe in more detail in Chapter 3, I test the hypotheses on member state preferences in two ways. I look at the general pattern of countries that supported or opposed certain pieces of legislation and check whether the pattern conforms to rough indicators of the independent variables identified here (e.g. percentage of people working in a particular sector in a particular member state). Moreover, I consider the preferences of Germany and the UK across cases to test the hypotheses.[58]

2.2.6 Bargaining about climate policy ambition

Once we have established the preferences of the Commission, the EP, and the member states on particular sectoral climate policies, we also need to develop a baseline explanation for bargaining outcomes. Drawing on previous rational institutionalist accounts of bargaining, notably on LI and on spatial models of EU politics, I argue in the following paragraphs that our baseline expectation should be for EU policies to be slightly more ambitious than the policy prefe-

57 Some member states, e.g. the UK, conduct impact assessments which try to calculate the costs of EU legislation – yet these assessments do not for all member states and not according to a comparable methodology.

58 The logic being that they are "least-likely" cases for the hypotheses specified, as I elaborate in chapter 4.

rences of the last member state whose support is required to reach a qualified majority (or unanimity).

LI's theory of bargaining runs as follows: those states, which stand to gain the most from cooperation (i.e. European integration) relative to the status quo ante, will have to make the greatest sacrifices in negotiations. Conversely, those states for whom the status quo is most acceptable or who have viable alternative options to cooperation, will have the greatest bargaining power. As they can credibly threaten to walk away from an agreement that does not suit their demands, others will have to yield to them. LI, of course, only theorizes situations in which decisions are reached by unanimity. The spatial models developed by Tsebelis, Garrett, and others explicitly deal with the question of what happens under different voting rules. Thus, they (2000, 2001) analyze EU decision-making by representing the preferences of different member states, the Commission, and the EP along a one-dimensional policy space that represents the degree of European integration. In these models, the Commission and the Parliament are assumed to have strong preferences for more European integration. Under voting rules that prescribe a qualified majority among member states and which allow the Commission (and/or the EP) to act as an agenda setter (i.e. to make proposals on which the member states then have to vote), the level of integration achieved depends on which proposal the least integrationist member state prefers to the status quo.

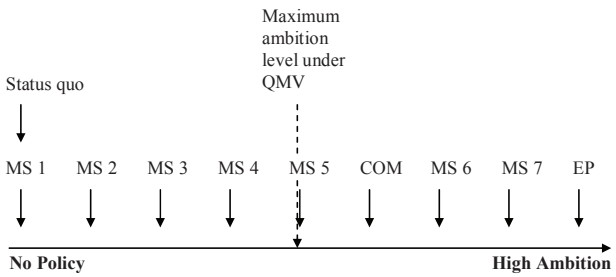
We can think analogously about bargaining situations regarding sectoral climate policies. For simplicity's sake, let us initially assume the status quo to be no policy or a low ambition policy and that actors bargain about more or less climate policy ambition (rather than the substantive content of particular pieces of legislation, which is always multi-dimensional). As the various actors now bargain about introducing a sectoral climate policy, we would expect those actors that prefer the highest level of policy ambition to be most willing to compromise in order to reach an agreement. Those actors, on the other hand, who have a preference for no policy or a low ambition policy will be able to exert the most concessions – if the agreement fails, after all, they will not mind as much as the proponents of ambitious rules.

We can graphically represent the situation on a one-dimensional policy-space ranging from no climate policy to high climate policy ambition, as I do in Figure 2.1. The points on the vertical arrows represent the "ideal points" (i.e. the preferred level of policy ambition) of the respective actors. The distance between the different points on the continuum represents the relative preferences of different actors: an actor whose ideal point in the middle of the continuum thus is indifferent between a position that is of equal distance to his right or his left. The farther a point is from an actor's "ideal point", the less it prefers that level of ambition. To keep things simple, and following Tsebelis/Garrett (2000), the figure only

represents seven member states, which is convenient because a qualified majority roughly corresponds to a five-seventh majority among member states.

Which policy is chosen under such a preference constellation, of course depends on the voting rule. As noted above, in most cases, climate policies are adopted under the co-decision procedure, which implies decisions by qualified majority in the Council and the participation of the European Parliament as a coequal legislator. If the Commission and EP preferences are as predicted, we would then expect sectoral climate policies to be determined by the preferences of the pivotal member state – the last member state required to reach a qualified majority. In the example of Figure 2.1, this is MS 3. Given that the EP has to approve of any agreement under the co-decision procedure, and given that it prefers an ambitious policy, we can expect the chosen level of policy ambition to be higher than the ideal point of MS 3 – in this case (with equal distances between the member states' ideal points) it is likely to be at the ideal point of MS 5. How much higher than the ideal point of the pivotal member state the ambition level of a chosen policy can lie then depends on how much the pivotal member state prefers some climate policy to none at all (or whatever the status quo is at the time). Under a unanimity rule, of course, the pivotal member state would be MS 1 – bargaining would thus result in the lowest common denominator of all member states. We can thus formulate a final baseline hypothesis. *H5: The ambition level of sectoral EU climate policies will be as high as the pivotal member state will tolerate.*

Fig. 2.1: A representation of actors' climate policy ambition preferences



In reality, of course, it is rarely possible to identify the "pivotal member state." First of all, this would require us to collect data on all member states involved in a negotiation. This would be an enormous task and probably not be possible for more than one or two negotiations. But even if it were possible, we would still have to code different member states' positions as more or less ambitious. This

in turn, might not lead to enough differentiation to identify one pivotal member state, as member states always negotiate about multiple dimensions of legislation, not just its overall ambition level.

Nevertheless, the hypothesis does have a number of empirically observable implications. First, if the theory is correct, we expect that the European Parliament would have relatively little influence on the overall level of policy ambition. At most, it will get small, rather symbolic concessions from the Council. Because it generally prefers much more ambitious policies than most of the member states, it will accept whatever the Council will agree, as long as it is more ambitious than the status quo. The inverse of this implication is – of course – that once a certain ambition level has been reached in a particular sector, subsequent legislation won't be less ambitious. As changes to legislation require EP approval, the latter will ensure that ambition levels remain stable or advance further. The second observable implication is that individual member states can be outvoted and won't be able to stop legislation: only groups of like-minded member states that have a blocking minority will be able to significantly alter Commission proposals.

A third set of implications of the hypothesis can be observed at the level of individual parameters of particular pieces of legislation. Such parameters include the level at which quantitative targets are set, the time by which the targets are to be achieved, the level of penalties, and others. When such parameters become part of the negotiation, we should expect that the levels that are agreed in the end should be at the lower end of what is demanded by different participants in the negotiation. Finally, we would expect more ambitious legislation to be agreed under the co-decision procedure than under other decision-making procedures. This last implication is again difficult to test, as the empirical record offers little variation in the decision-making procedures actually used.

2.2.7 Overall implications and limitations of the rational choice baseline

Drawing together the rational choice baseline's expectations about actor preferences and legislative bargaining, we would not expect particularly ambitious policies in most sectors. Most climate policies impose costs on a certain limited range of actors, while their benefits (both short-term, through energy savings, and long-term through avoided climate change) are spread among many people who are unlikely to care even remotely as much as those bearing the costs. We therefore cannot expect industry constellations in most member states to be sufficiently favorable towards ambitious climate policies for a qualified majority in the Council. Instead, given the European Commission's and the EP's preferences, we would expect deadlock – in most sectors, the EU would adopt no policy or at most a low-ambition policy.

This expectation may appear to be at odds with much of the literature about the effect of trade integration on environmental regulations, which finds more evidence for a convergence of environmental standards towards the top rather than a "race to the bottom" in standards (e.g. Bernauer/Caduff 2004; Drezner 2001; Vogel 1997). For three reasons, however, it is not incompatible with this literature. First, my argument is not that all member states will do as little to reduce emissions as the least ambitious member states – I am only talking about what the member states agree to all do based on EU legislation. Secondly, given the global, long-term nature of climate change and the benign local effects of CO2 emissions, there is less of an incentive for member state governments to unilaterally adopt ambitious legislation and to push others to go along than in the case of "traditional" air, soil, or water pollution. Thirdly, many CO2 emission reductions have to be regulated through process-standards rather than product standards – thus it is more difficult for the frontrunner states to exert pressure through restrictions of market access.

The rational choice baseline's expectations are hence reasonable for the given assumptions. Moreover, the empirical record confirmed these expectations for many years. Yet more recently, the EU has managed to adopt ambitious policies in various sectors; this seems to be at odds with the rational choice baseline. Apparently, a theoretical world occupied exclusively by rational self-interested actors can't account for the adoption of ambitious climate policies for most sectors. Instead, strong climate mitigation action requires some level of "moral behavior" or some response to normative concerns. Here, the second part of my explanatory framework for EU climate policy-making comes into play, which seeks to identify the conditions under which normative concerns become relevant for particular sectoral policies.

2.3 The analysis of rhetorical possibilities

In order to identify these conditions, I draw on a "soft" version of social constructivism developed mainly by Frank Schimmelfennig (2001, 2003). I extend the rational choice baseline by adding the assumptions that actors have to justify their actions and that the range of justifications that relevant audiences are willing to accept is limited. These assumptions allow us to identify situations in which opponents of ambitious climate policies become rhetorically entrapped and as a result accept policies that are more ambitious than their underlying preferences. Normative concerns about climate change thus enter the realm of practical sectoral policy-making through the justifications self-interested actors provide for their preferred policies. In the following paragraphs, I first discuss these added

assumptions and present a generic set of arguments that opponents of ambitious climate policies can make to defend their position. Drawing on these arguments, I then develop the concept of the discursive environment, describe how we can empirically measure whether it is more or less permissive or restrictive, and state a hypothesis about its effects. In the conclusion, I relate this hypothesis to the rational choice baseline above.

2.3.1 Making arguments Work – analyzing rhetorical possibilities

As described above, strictly rational self-interested individuals would not reduce GHG emissions in order to avoid climate change – the short-term costs would clearly outweigh the discounted future benefits to those same individuals. Thus, we can interpret the fact that many people nonetheless support action to reduce GHG emissions as a form of "moral behavior" in compliance with a social norm. By norm, I mean "the collective expectations about proper behavior for a given identity" (Jepperson/Wendt/Katzenstein 1997, p. 54). Norms can be contested or uncontested and more or less constraining. Moreover, norms are "counterfactually valid" (Kratochwil/Ruggie 1986, p. 767). In other words, even when significant numbers of people violate a norm, i.e. when their behavior does not reflect a norm, this does not constitute evidence that the norm does not exist. People may well endorse some behavior as "the right thing to do" but not do the right thing themselves.[59]

At an empirical level, the norm that GHG emissions should be limited to a level that does not dangerously interfere with the world's climate is well-established. It is spelt out in Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC), which entered into force in 1994 and which by now has near universal member ship[60] (Bodansky 2001, Yamin/Deplege 2004, p. 60f). The Kyoto protocol, which has been ratified by 192 countries and entered into force in February 2005, specified the commitment for developed countries, notably all EU member states, to reduce their emissions by specific amounts or to stabilize them at specified levels.[61] Politicians the world over have affirmed the need to lower GHG emissions, many countries have established climate change task-forces, administrative units, even ministries to deal with the issue and adopted more or less ambitious climate policies. Thus, by most standards of measurement

59 Norms can be constitutive or regulative. While constitutive norms define an identity, regulative norms define what constitutes proper behavior for a given identity (Jepperson/Wendt/Katzenstein 1996, p. 54). The climate protection norm is primarily a regulative norm.

60 According to the UNFCCC website (accessed 11 November 2010), 193 states and the European Union have ratified the Convention.

61 Several countries had targets above their 1990 levels. The United States ratified the UNFCCC but not the Kyoto Protocol.

used in the political science literature, it is safe to assert that there is what I call a "climate-protection-norm", specifying that "reducing GHG emissions to avoid dangerous climate change is the right thing to do." The norm, of course, is not uncontested and its salience has varied over time and between geographies.

Under which conditions does this climate-protection-norm become relevant to policy-making for a particular economic sector? Drawing primarily on work by Schimmelfennig (2001, 2003) and Krebs/Jackson (2007), I try to identify and capture these conditions in the concept of the "discursive environment". I argue that proponents of ambitious sectoral climate policies can draw on the climate-protection-norm to craft arguments in favor of their suggested policies. Whether or not these arguments have an impact on the sectoral policy ultimately chosen, however, will depend on the specific discursive environment in a particular sector and at a particular point in time. The mechanism through which I expect the climate protection norm to become relevant to the ambition level of sectoral climate policy is "rhetorical coercion" or "rhetorical entrapment".

The second part of my explanatory framework starts from the same expectations about actor preferences as the rational choice baseline. The European Commission and the European Parliament favor ambitious policies, while the member states defend the interests of their domestic industries and avoid administrative adaptation costs. I now add the assumptions, however, that actors have to give reasons for their positions and that the range of socially acceptable reasons is limited. It is limited by the availability of what Krebs and Jackson (2007) and many others call "rhetorical commonplaces" – "a number of *topoi* … that both enable and constrain speakers' rhetorical possibilities", which are shared by all members of particular discursive community (Krebs/Jackson 2007, p. 45)[62]. They include the foundational values, norms and standards of legitimacy that define the identity of members of particular communities[63], as well as certain argumentative standards relating to specific topics, e.g. the conventions of scientific methods. Moreover, the range of available justifications is limited by actors' need to preserve their own "argumentative credibility" (Elster 1992, quoted in Schimmelfennig 2003, p. 220-221). This means that actors have to make impartial and consistent arguments. In other words, justifications in terms of self-interest are usually not acceptable, nor can an actor make an argument that blatantly contradicts a previous argument he made or the premises thereof without encountering costs to his credibility.

62 See Finlayson (2007, p. 557ff.)

63 Thus, within a church community, references to God may be acceptable, while a the argument that God wants a new highway might not be considered valid or even acceptable in a city council discussion.

Actors – being as self-interested as before – choose their arguments strategically in a way that they expect to be as convincing as possible to relevant audiences. They engage in "rhetorical action", making "strategic use of norm-based arguments" in support of their own interests (Schimmelfennig 2001, p. 48).[64] They may genuinely believe that theirs is (by whatever standard) the more valid argument; what counts, however, is their expectation about which arguments will be most powerful in the political arena. The goal of rhetorical action is to make arguments that are so strong that they rhetorically "entrap" opponents.[65] In other words, the goal is to deprive opponents of the argumentative materials that are necessary for a "socially sustainable rebuttal" (Krebs/Jackson 2007, p. 42). When this happens, actors will accept policies they previously opposed for fear of being "punished" by relevant audiences for supporting "unjustifiable" positions. In democratic polities, the relevant audience consists of voters and the potential punishment of a failure to reelect governments. As governments never know which particular issues might become politically salient, they have a strong incentive to only choose policies, which they can justify with (at least minimally) acceptable arguments if need be. Scharpf, while not explicitly theorizing argumentation or rhetorical action, says as much in a discussion of competitive democracy:

> "Since it is impossible to know in advance which issues will become electorally decisive, it is prudent for officials and functionaries below the top levels to act on worst-case assumptions and to avoid decisions that, if they should be exposed and become politically salient, could alienate swing voters" (Scharpf 1997, p. 187).

This incentive to have good justifications for policies will be particularly strong when governments have reasons to believe that there is a high risk of an issue becoming politically salient.

Of course, I do not conjecture that voters will automatically punish governments who fail to make socially acceptable arguments on politically salient issues. My claim is, however, that making socially unsustainable arguments in policy fields that reach some minimum threshold of salience does entail costs to governments. These range from the psychological cost to politicians for being rhetorically attacked in press conferences, meetings with citizens, and the media to the loss of certain marginal voters who are strongly concerned about a particular issue. Most importantly, governments that are "caught" when adopting policies for which they cannot provide socially acceptable arguments will lose control over a

64 Rhetorical action is thus a specific kind of what the literature on social movements calls "framing" activities (e.g. Tarrow 1998, Keck/Sikkink 1998). Framing also involves the strategic use of arguments – "rhetorical action" more specifically refers to the pursuit of "material" self-interest, while social movements often (though not always, think of labor unions) are motivated by ideational goals.

65 Or at least to avoid being entrapped oneself.

certain share of the political agenda – the time government politicians and the media spend debating the poorly justified policy is lost for other issues the government may want to push and that it may need to mobilize its base for its reelection.[66]

2.3.2 Arguing about sectoral climate policies – a stylized conversation

How can we use these insights to explain sectoral climate policies? How might EU actors use the "rhetorical commonplace" that "reducing GHG emissions to protect the climate is the right thing to do" in order to raise the ambition level in a particular sector? Whether or not the supporters of ambitious climate policies can rhetorically "coerce" their opponents into accepting greater policy ambition will depend on the "rhetorical commonplaces" or argumentative materials that are available in relation to a particular sector at a particular moment in time. I call the range of available argumentative materials for supporters and opponents of sectoral climate policy the "discursive environment".[67] When the discursive environment is permissive, this means that many potential (socially acceptable) arguments to oppose sectoral climate policies are available. In a restrictive discursive environment, on the other hand, opponents will have a hard time to defend their stance and face rhetorical entrapment. In a restrictive discursive environment, we would thus expect the adoption of ambitious climate policies – even if many veto players are against such policies.

In order to understand what makes a discursive environment more or less permissive and restrictive, let us consider a stylized conversation between a claimant (C) demanding ambitious climate legislation for a particular sector and an opponent (O), opposing this legislation, with the public (P) as the audience.[68] This conversation will allow us to identify the conditions under which P will find C's arguments more convincing than O's. I draw on this analysis in the subsequent section, when I conceptualize the discursive environment as a variable and derive a hypothesis about its effect on EU climate policy ambition.

Let C begin the conversation with the following statement: "We need to avoid dangerous climate change. Sector X emits GHG and contributes to the problem. Hence we need to reduce emissions in sector X by Y percent by date

66 Note that my argument here differs somewhat from Schimmelfennig's (2001, 2003) about the enlargement of NATO and the EU. The entrapment in those cases took place because states needed to preserve their legitimacy as members of a liberal-democratic community of states. My argument is based on the idea that governments need to (minimally) legitimate policies to voters and face certain costs when they fail to do so.

67 Konrprobst (2007, p. 464) refers to a very similar concept in a different policy context as the "reference repertoire".

68 The nomenclature of C, O and P is from Krebs/Jackson 2007.

Z." C (e.g. the European Commission) might make this claim for entirely self-interested reasons (e.g. to increase its own competences or budget), but justifies the policies it demands with concerns for the potential sufferings of future generations if the GHG emission trajectory is not radically altered.

Let the opponent be a representative of sector X (or someone representing its interests, like a national government of a member state where sector X contributes significantly to national wealth and employment). The opponent can now draw on a range of available commonplaces[69] to defend his position, as summarized in Table 2.1. Given the variety of arguments at the opponent's disposal, we should not expect rhetorical coercion to be easy or to happen frequently, even when a climate protection norm is widely accepted. Yet whether or not a particular opponent in a particular situation can make each or any of these arguments in a way that is convincitang or at least acceptable to the public (P) will vary over time and between sectors. It will depend on whether or not C has the argumentative materials to craft effective rebuttals to O's arguments. In the following paragraphs, I identify these argumentative materials by considering C's potential replies to each of O's six generic rhetorical strategies.

Table 2.1: Rhetorical strategies for opponents of ambitious climate policies

Claimant's demand	**Opponent's potential counter-arguments (representing sector X)**
"We need to reduce GHG emissions in order to protect future generations from the effects of climate change. Therefore, sector X needs to reduce emissions by Y% by date Z."	(1) There is no need for GHG emission reductions because – the scientific basis is incorrect – the damage done by global warming is so limited that future generations can easily deal with it.
	(2) Yes, we need to protect the climate, but there are other important things we must not undermine by protecting the climate.
	(3) Yes, we need to protect the climate, but it is not fair to only make demands on sector X. More could be achieved through rules for sectors A, B or C.
	(4) Yes, we need to protect the climate, but sector X is already doing its part.
	(5) Yes, we need to protect the climate and sector X is willing to do its part. But we prefer to do it in a different way.
	(6) C cannot be serious about protecting the climate, given his behavior

(1) O's first strategy is to deny the validity of the climate protection norm. She could either question the accuracy of the science that predicts global warming or claim that global warming – if it is happening – is irrelevant and future genera-

69 In fact, all of these arguments have been made in one form or another by opponents of climate policy.

tions should deal with it by themselves. This is a potentially very powerful argument: it is easy to understand and simply denies the problem. If there is no problem, there is no need for action. How could C defeat this argument? Let us first consider the first version of O's argument. The stronger the scientific consensus on global warming becomes, the more difficult it will be for O to argue that it is incorrect. Whether C's reference to the scientific consensus convinces P (and thus ultimately decision-makers) will however depend on how highly P values the results of scientists. Thus, if public opinion surveys show that large majorities of people in a polity believe that climate change is a real phenomenon and a threat, this should restrict O's room for (rhetorical) maneuver. Moreover, once O has publicly acknowledged that it accepts or believes the scientific predictions on global warming, the requirement for consistency makes it difficult for O to base an argument on the premise that the science is incorrect.

Still, O might accept the science but not accept the climate protection norm – saying that future generations would probably be rich enough to deal with it. The more strongly established this climate protection norm has become within a political community, however, the easier it will be for C to defeat O's argument. If C can point to an international treaty that O and C's country has signed and which establishes the norm that dangerous climate change needs to be avoided, this strongly supports C's case. For now O would have to not only argue against the norm, but would also have to argue why it is acceptable in this case to break international law. In the case of unilateral commitments, O would have to convince governments of why they should withdraw from previously stated positions and accept the reputation costs associated with being perceived as inconsistent or not credible. Finally, if O itself has uttered its support for the norm in previous public statements, it becomes difficult for O to repeal this support (again because of the need for consistency).

(2) O could, of course, accept the climate protection norm, but bring another norm into the debate and claim that this other norm "trumps" the climate protection norm. Thus, O might invoke a norm like "policies that create unemployment should be avoided." Such a strategy is almost always available to O and it can be very powerful. In this case, C can respond in one of two ways. He can claim that the climate protection norm is more important than the norm invoked by O, or he can argue that the other norm is not relevant to the policy he proposes. C's first line of response – saying the climate-protection-norm is more relevant than the alternative – will be more convincing the more firmly the climate-protection norm is established – through laws, institutions, etc. Moreover, C's response will be bolstered by high public concern about climate change. If – at the extreme – a majority of people consider addressing climate change to be "the most important issue currently facing their country", it is difficult for O to make the case that

other issues should trump this one. The power of C's second line of defense, i.e. claiming the norm to be irrelevant to the policy, will depend on specific circumstances and the specific norm introduced by O. Real world examples and academic studies might support C's point. Thus, economic analyses showing that a certain measure would not cause higher unemployment or examples of countries that introduced the measure demanded by C without deleterious consequences will support C's and weaken O's argumentative position.

(3) O's third strategy is to acknowledge the climate-protection-norm but to try to deflect attention from sector X to other sectors. Moreover, O invokes a fairness norm – saying that all sectors should share burdens equally – as long as others don't do their part, O's sector isn't willing to contribute either. Again, C is in a stronger position to rebut this argument the more widespread the burden already is distributed. If C can show that it is making the same claims on other sectors and that other sectors are indeed already subject to ambitious legislation, O's argument will more easily be defeated.

(4) Another potentially powerful argumentative strategy for O to use is to accept the norm but to claim that her sector is already doing enough to protect the climate. C's only opportunity to invalidate this argument is to produce evidence that O's claim is false. What P will accept as "false", on the other hand, will depend on its expectations about how much is "enough." At a general level, the following conditions will strengthen C's case against O. If the emissions of a sector have grown during the years prior to C's claim (or since a commonly agreed base-year[70]), while the rest of the economy saw stagnant or falling emissions, this strengthens C's hand (and vice versa). Similarly, if a sector has missed a previously agreed target, this makes it difficult for O to maintain that the sector has done enough.

(5) O could also accept the demand for action from sector X, but propose alternative measures. Usually, we would expect O's suggested measures to be "softer" than C's proposal, more flexible, less binding, and containing fewer sanctions for violations of agreed rules. This can be a powerful argument, as it puts the onus on C to demonstrate why these softer measures are inadequate. The argument is much harder to sustain, however, when there is strong evidence that the softer measures suggested by O have already failed. Thus, in sectors where soft measures have failed, the discursive environment should be much more favorable to C than in sectors where no such measures exist. Moreover, we should see at least some "spill-over" effects between sectors – if a soft measure has failed in one prominent sector, opponents should be less able to convincingly argue in favor of that type of measure.

70 In climate policy-making, the base-year commonly used is 1990

(6) O's final strategy – accusing C of insincerity – is highly dependent on what C actually does. As long as C does not behave in ways that are blatantly inconsistent with the climate-protection-norm, O will have a hard time sustaining this argument. Most likely, it will also lead P to raise the question of whether O has no better arguments at its disposal.

2.3.3 The conditions for rhetorical entrapment

Drawing on these generic arguments and counterarguments, we can now identify the specific measurable elements that make up the "discursive environment" in a particular sector. Doing so allows us to formulate a falsifiable hypothesis about the effects of the discursive environment. The discursive environment can be more or less permissive or restrictive – permissive means that actors can make a wider range of arguments, i.e. justify more policy positions than under a "restrictive" environment, which provides fewer rhetorical materials to craft climate political justifications. As argumentation is a dialectic process, however, we can never specify exactly how permissive or restrictive a discursive situation is. This will depend to some degree on the ingenuity of the speaker in weaving together the available rhetorical materials in new and unexpected ways. Moreover, the discursive environment is always in flux and to some degree created by the speakers themselves.

Nevertheless, these difficulties should not deter us from empirically studying a potentially important phenomenon. Based on the stylized conversation outlined above, we can identify key aspects of permissive and restrictive discursive environments for particular sectors. These aspects are measurable, which allows us to make inter-subjectively verifiable statements about the discursive environment for particular sectors at particular points in time. This in turn allows us to formulate a falsifiable hypothesis about the discursive environment's effects. Figure 2.2 summarizes these aspects. As we can see from figure 2.2, we can think about the discursive environment in terms of three "sub-environments." The first two, the general (discursive) environment and the climate policy environment vary over time but not across sectors, the "sectoral policy environment" – by definition – varies across sectors and time.

The *general policy environment* refers to the political agenda overall and locates the issue of climate policy therein. Public opinion polls that let respondents rank or identify issues that are important to them at a particular point in time offer a good indicator of the general discursive environment. Quantitative indicators of the relative salience of climate change and other issues in media coverage provide another useful indicator. The general environment is likely to be impor-

tant in determining the potential for rhetorical entrapment for two reasons. First, depending on how high or low climate policy is on the overall public agenda, governments will pay more or less attention to the quality of arguments. The overall salience of climate change as a political issue is a good indicator for how likely it is that sectoral climate policy will get widespread public attention, and hence how risky it is for governments to rely on poor justifications. The second reason the general environment is important is that it will influence how strong a counterargument opponents can craft based on alternative norms (i.e. opponent's strategy 2). Where the salience of climate change is high, this will become more and more difficult.[71]

Fig. 2.2: Conceptualizing the "Discursive Environment" in a sector

General Policy Environment	Other issues dominate political agenda	High attention to climate change relative to other issues
Climate Policy Environment	- Scientific controversy - No or unspecific international commitments/norms - No/few existing sectoral policies	- Scientific consensus - Strong, specific international commitments with high domestic salience - Sectoral climate policies adopted for most/all sectors
Sectoral Policy Environment	- Continuous reduction of emissions in previous years, without policy, with "soft" policy	- Emissions rise faster than in other sectors - Previous policies have not achieved their aims
	Permissive ← →	**Restrictive**

The "climate policy environment" refers to the strength and salience of the climate protection norm at a particular point in time. It includes, first of all, the state of the science of climate change – the more consensus there is among scientists that global warming is taking place and that it is man-made, the less acceptable it will be for opponents to attack the basic premises of all climate policy. The climate policy environment also includes measures of the presence of international norms and commitments, as well as the domestic salience of the norm. We can identify international norms by looking at relevant international treaties,

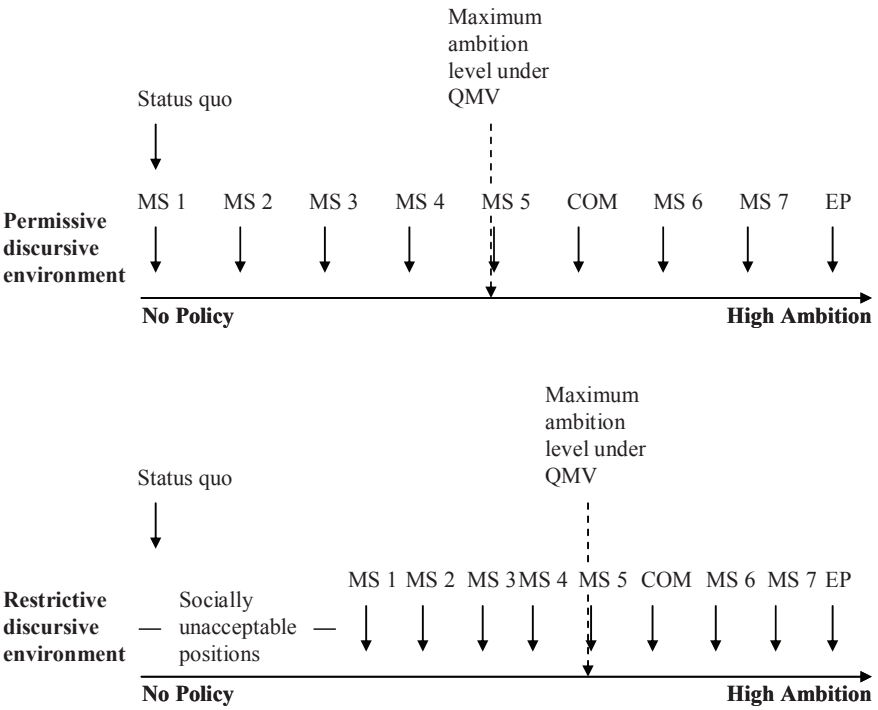
71 Of course, the strength of norms should be relatively independent from the whims of public opinion – one might argue that certain constitutional norms are so sacrosanct that they always constitute equally powerful "rhetorical commonplaces". To a certain degree, this is certainly true – though the aftermath of the terror attacks of September 11, 2001 has shown that even many constitutionally guaranteed rights are not quite as sacrosanct as many people thought. Thus, it seems safe to assert that agenda dynamics will have at least some influence on which alternative norms are likely to be how powerful.

most notably the UNFCCC and the Kyoto Protocol. International commitments are firm statements of intent in the context of international negotiations – e.g. the EU's proposal to set a 15% target in the Kyoto Protocol (Oberthür/Ott 1999) or the European Council's 2007 unilateral commitment to reduce emissions by 20% by 2020 (European Commission 2007b). A further indicator for the permissiveness of the climate policy environment is the range of policies already adopted in with the international norm or international commitments. This is relevant for two reasons: it indicates how salient the norm has already become (Cortell/Davis 2000)[72], and it gives an indication as to whether opponents of sectoral policies can reasonably claim to be unfairly "singled out" for action (strategy 3).

Finally, we can characterize the sectoral climate policy environment with reference to two factors – the trajectory of emissions from the sector, and the previous policies in the sector. First of all, a sector whose emissions have fallen over the past years or since the baseline date, in particular if the emissions have fallen faster than the average of all sectors, is likely to face a permissive discursive environment. A sector with rising emissions, in particular if emissions rise faster than the average of all sectors, will face a much more restrictive rhetorical environment. These effects are strengthened by the presence or absence of previous policies. If previously adopted soft policies (or non-climate-policies) have led to steeply declining emissions, the sector will face a permissive discursive environment. When, on the contrary, previous soft measures have not had the intended effect on emissions, the discursive environment will be more restrictive. The sectoral policy environment is thus largely determinant of the degree to which O can make arguments 4 and 5.

72 Cortell/Davis (2000) have suggested a four-part measurements scheme fort he domestic salience of international norms, ranging from not salient through low and moderate to high ambition. They measure salience based on a norm's presence in national discourse as well as the degree to which it has changed institutions and policies. While in principle it would make sense to apply this measurement scheme to each of the member states to see how salient the norm is in these states and hence how prone they might be to rhetorical coercion, in practice it is very complicated. Cass (2006) wrote a book-length study to apply an adapted version of the measurement scheme to climate-related norms' salience in only three countries. Instead, as I elaborate in chapter 4, I merely consider the presence of norms/commitments and the range of previously adopted policies as an indicator for the climate policy (discursive) environment.

Fig. 2.3: Effect of a more restrictive discursive environment



To summarize this discussion, we can formulate a final hypothesis. H6: When the discursive environment is restrictive in a particular sector at a particular point in time, the EU will adopt more ambitious climate policies than under a permissive discursive environment. In effect, a restrictive discursive environment makes certain positions "socially unacceptable" because governments cannot justify them to their electorates. This does not alter the fundamental distribution of preferences among actors, yet it leads actors to put forward more ambitious positions than they would otherwise prefer. Figure 2.3. represents this graphically: by making the low-ambition policies socially unacceptable, the restrictive discursive environment shifts the distribution of actor positions and thus the maximum ambition level under QMV (or unanimity for that matter) to the right.

We can test this hypothesis by spelling out the elements of the discursive environment described in the previous paragraphs. We can then compare either how policy ambition developed over time within particular sectors as the discursive environment changed or how different discursive environments in different

sectors affected policy-making. In addition, we can consider whether the proponents and opponents of particular sectoral policies made some version of the generic arguments outlined above to exploit the rhetorical possibilities offered by the discursive environment.

2.4 Conclusion – a simple and coherent explanatory framework

In this chapter, I have developed a parsimonious explanatory framework for the variation in EU climate policy ambition between different sectors. I have formulated hypotheses about the main actors' preferences concerning climate policies, about bargaining outcomes, and about the potential effects of strategic arguments. I expect EU sectoral climate policy-making to be driven largely by the Commission and the European Parliament for whom climate change offers the opportunity to expand their competences. I expect member states to primarily defend the interests of large domestic interest groups as well as pre-existing policies: this will lead some member states to support more ambitious EU climate policies but often lead a majority of member states to oppose ambitious measures to reduce emissions. Thus, we would expect at most a low ambition policy to emerge in most sectors. A restrictive discursive environment can make certain positions "socially unacceptable", however, and thus lead the Council to adopt more ambitious policies than we would expect based purely on the actors' self-interest. Greater climate policy ambition can thus develop through two pathways: a shift in member state interests, i.e. because industries that benefit from climate policies become stronger relative to those who lose, or because the discursive environment becomes more restrictive and hence makes certain arguments unattractive. Both interests and arguments thus determine the ambition level of the EU's sectoral climate policies. In the following chapter, I outline my methodology to test this framework on concrete cases of EU sectoral climate policy-making. Before that, however, let me address two potential criticisms of my theoretical propositions.

First, critics might ask whether this framework is compatible with what we know about the EU member states' behavior in international climate negotiations. If governments are as afraid of the electoral backlash from the losers of climate policy as I suggest, why would they ever demand such tough targets in the context of international negotiations (see chapter 2)? Wouldn't the governments described in this chapter lay low and hope that little is demanded of them? While this seems like a plausible criticism, it does not undermine my theoretical framework. Supporting tough targets and being perceived as a leader at interna-

tional conferences about climate change can be quite attractive to governments: it is – at least in the short term – relatively costless to announce good intentions without at the same time announcing concrete measures to realize them. Moreover, given the more limited ambition of other developed countries, some of the EU's suggested targets clearly fall into the category of "cheap talk." Thus, myopic governments may hope to score political points in the short term when international conferences raise public attention to the issue, and to hope to deal with implementation through concrete policies at a later point in time (if at all). Of course, rational governments should expect that they create the conditions for rhetorical entrapment by agreeing to headline targets: this is why the adoption of such targets is always contentious. Yet getting agreement on overall headline targets that are not backed up by concrete policies is always "cheaper" for governments than policies that create specific losers that might be mobilized.

Critics might also argue that my explanation is too parsimonious. It pays no attention to transnational industry associations, it does not consider environmental NGOs at any level of governance, and it does not consider the effects of party politics in the European Parliament or the member states. It does not consider the beliefs of actors about costs and benefits of climate policy measures, nor does it account for the scientific uncertainty surrounding climate change. It treats all the main actors as unitary. It merely posits that the European Commission and the European Parliament have an institutional interest in ambitious EU climate policy. "Aren't we being too simple if we just focus on the narrow set of factors identified in the framework?" the critics night ask.

My first response to this question would be that the point of theory is to reduce complexity and to abstract from reality. It should be internally coherent, it should be falsifiable, and it should identify those factors that have the most explanatory leverage for a particular problem or question. The theoretical framework I outlined in this chapter tries to achieve coherence by working from a set of assumptions that are widely applied in social science and to derive specific testable hypotheses from them. I do not deny that other factors may be important in explaining particular cases of climate policy-making. In each of my case studies apart from the "negative case" of agriculture I explicitly control for such additional factors. Whether the factors identified in the explanatory framework are indeed central to explaining EU sectoral climate policy ambition is ultimately an empirical question. How I approach this question is the topic of chapter 3.

Chapter 3: Analyzing Eu Climate Politics – Research Design and Data Requirements

3.1 Introduction

In the previous chapter, I outlined an explanatory framework to analyze and explain variation in EU sectoral climate policy ambition. In this chapter, I describe my approach to testing the various hypotheses contained in the framework. The chapter consists of four main parts. I start by developing a measurement scheme for my dependent variable, sectoral climate policy ambition. Next, I outline and justify my research design, a series of five cases of sectoral EU climate policy-making, defend my case selection, and broadly identify the procedures I employ to analyze my cases. In the third part, I discuss in greater detail the operationalization of my two key independent variables, national interest group constellations and the discursive environment. Finally, I discuss a number of alternative explanations, which serve as control variables in my case studies.

3.2 The concept of "Sectoral Climate Policy Ambition"

As stated briefly in the introduction to chapter 2, I define sectoral climate policy ambition as the degree to which a state or state-like entity commits itself to use its financial and coercive means in order to limit or reduce GHG emissions from a particular sector or set of economic or societal activity.[73] This definition makes clear that ambition is a "commitment" and does not necessarily tell us much about implementation and enforcement. In the language of policy analysis, the

73 The definition is mine, as I found no equivalent concept in the existing literature. The only definition of "policy ambition" I have found in the political science literature exists in the context of spatial models of political party interactions, where policy ambition is defined as the distance between an actor's ideal point and the status quo ante (Ganghof 2003, p. 16; Ganghof/ Bräuninger 2006, p. 529).My definition refers to the quality of a particular policy output. It is very similar to the notion of "environmental policy stringency" in the economics literature on environmental regulation (e.g. Cagatay/Mihci 2003, Dasgupta et al. 2001, van Beers/vn der Bergh 1997) – it differs, however, as climate policy ambition may also include positive incentive policies, which "stringency" does not.

ambition level describes a qualitative aspect of "policy outputs", while it does not carry information about policy outcomes or policy impacts (e.g. Windhoff-Héritier 1987, p. 19). Ambition thus says nothing about actual emission reductions. Moreover, my definition points out that ambition is a matter of degree, i.e. of how serious a government is about intervening in "normal" economic or societal activities to reduce the GHG emissions resulting from that activity. The word "sectoral" in sectoral climate policy ambition indicates that I am interested in policies aimed at particular sets of economic activities, rather than climate policy in general. I use the term sector rather loosely to refer to a set of similar GHG emission sources that perform similar economic functions.

3.2.1 Measuring sectoral climate policy ambition

Measuring climate policy ambition as defined here constitutes a particular challenge, especially when our goal is to compare ambition levels in different sectors.[74] Comparing targets or limit values would be inaccurate as a seemingly high level of emission reductions in one sector may in fact be relatively un-ambitious, if these reductions were taking place anyway as a result of changing demand patterns or new technologies. Another sector might have great difficulty in making a much smaller reduction for the same reasons. Moreover, we have to distinguish target setting alone from actual policy measures that can "cause" emission reductions. Thus, we cannot attest a government a strong commitment to reducing emissions if it sets ambitious targets (say a 30% reduction in GHG emissions within 10 years) but fails to adopt laws to achieve these goals.

While the previous literature contains measurement schemes for similar concepts[75], no scheme exists to measure climate policy ambition as defined here.

74 For a more general discussion on the difficulties of comparing environmental policies, see Holzinger 2006.

75 Trade economists have developed a number of indicators of environmental policy stringency, usually combining a number of sub-indicators. Thus, Van Beers/van den Bergh (1997, p. 34) measure environmental stringency based on seven indicators including "protected areas as a percentage of national territory" and the "recycling rate of paper". Dasgupta et al. (2001) construct their index based on countries' reports to the United Nations Conference on Environment and Development (UNCED), evaluating different aspects of environmental policy based on a detailed questionnaire. Vale University's Environmental Performance Index measures a broad range of environmental policy outcomes (Emerson et al. 2010). Regarding climate policy more specifically, Dolsak (2001) measured countries' commitment to mitigating climate change on a nine-part ordinal scale ranging from the mere signature of the UNFCCC to the introduction of carbon and energy taxes (the latter indicating strong climate policy). The environmental NGO

Hence I developed my own measurement approach. Like other measures of environmental or climate policy performance, I rely on a combination of sub-indicators to arrive at an overall score. More concretely, I score climate policies on a three-part ordinal scale ranging from *low* to *high policy ambition*, with *medium* policy ambition in between. These scores are based on five sub-indicators of climate policy ambition, namely the (1) *nature of targets*, the (2) *extent of behavioral prescriptions*, the (3) *strength of financial incentives*, the (4) *strength of the compliance mechanism* and the (5) *degree of flexibility*.

The logic underlying my sub-indicators is as follows. Basically, there are three ways in which governing bodies can interfere in "normal" societal or economic life in order to effect GHG emission reductions: (1) they can make quantitative prescriptions by setting absolute or specific emission targets, (2) they can make specific (non-quantitative) behavioral prescriptions, e.g. no driving on Sundays, or (3) they can set financial incentives, both positive ones like subsidies or negative ones like carbon taxes.[76] Governing bodies can do each of these in a more or less ambitious manner and usually combine elements of them in concrete pieces of legislation, as I elaborate below. In addition, governing bodies have two ways in which they can signal how serious they are about actually achieving emission reductions. They can (4) demonstrate their commitment by setting up enforcement systems and severe penalties for non-compliance, and they can (5) offer or refuse certain escape routes to the addressees of a policy, through exemptions, accounting tricks etc.

Germanwatch publishes a Climate Change Performance Index, a composite of countries' GHG emission trends, levels of emissions, and climate policies (e.g. Germanwatch 2006, 2008).

76 Other classifications of climate policy types tend to make more specific distinctions. Thus, Gupta et al's (2007, p. 767) contribution on climate policies to the IPCC's Fourth Assessment Report identifies 7 types of climate policy: regulations and standards, taxes and charges, tradeable permits, voluntary agreements, subsidies and other incentives, research and development, and information policies. My contention is that at a more fundamental level, governing bodies do one of three things: making quantitative prescriptions, making qualitative prescriptions, or setting incentives. All of Gupta et al's policy types can be primarily associated with one of these three types of action: regulation and standards fall under quantitative prescriptions, tradeable permits, taxes, and subsidies constitute financial incentives, information policies constitute qualitative prescriptions, research and development policies can either rely on financial incentives or on qualitative prescriptions, and voluntary agreements are weak forms of either quantitative or qualitative prescriptions.

Table 3.1: Measuring sectoral climate policy ambition

Sub-Indicator	0	1	2	3
Nature of targets	No per-unit or absolute targets defined	Voluntary or indicative targets, targets to be set by lower-level authority without control/approval from higher-level authority	Targets set by lower-level authority with central level control/approval	Mandatory per-unit or absolute targets
Extent of behavioral prescriptions	No requirements for particular activities	Reporting and information provision duties imposed on public/administrative authorities	Policies that require private actors to provide information about GHG emissions or energy efficiency in order to make transactions more transparent	Prescription of specific activities beyond information provision, imposed on public/ administrative and/or private actors
Strength of financial incentives	*Negative:* No cost imposed on carbon emissions *Positive:* No form of subsidy included in policy	*Negative:* Financial penalties for non-compliance with CO2-limit values *Positive:* Higher level authority asks lower level to provide financial support but does not specify type or amount	*Negative:* Cost imposition on each marginal ton of GHG emissions beyond specified level *Positive:* Provision of subsidies (grants, soft loans, tax credits, price support) up to a fixed amount	*Negative:* Cost imposition on each ton of GHG emissions caused by a particular activity *Positive:* Provision of subsidies (Grants, soft loans, tax credits, price suport) without fixed cap
Strength of the compliance mechanism	No compliance mechanism	Annual naming and shaming	Compliance mechanism without fixed moetary penatlies	Clear financial penalties spelt out at the European level
Degree of flexibility	Score of <3 on nature of targets or strength of financial incentives	Significant cost containment measures and exemptions	Either cost containment measures or exemptions	Neither cost containment measures nor exemptions
Overall score	**No policy (0)**	**Low ambition (1-5)**	**Medium ambition (6-10)**	**High ambition (11-15)**

The five sub-indicators capture these five elements. Each sub-indicator can take on values on a scale from 0 (no policy) to 3 (high ambition). Overall, we can thus score climate policy ambition on a scale from 1 to 15, with 1-5 indicating *low ambition*, 6-10 *medium ambition*, and 11-15 *high ambition*. Each of the five sub-

indicators gives us an idea of how committed a government is to reducing GHG emissions from a particular source. Yet individually, they are not sufficiently reliable, as their score depends to some degree on the type of policy for which they are calculated.[77] By aggregating five sub-indicators into a three-part scale, however, this effect should be mitigated, thus allowing us to compare ambition levels across different policy types in a transparent manner. Table 3.1 provides a summary of the five sub-indicators of climate policy ambition, the coding rules, and their relation to the three-part scale.

I code the five sub-indicators as follows:

1. The *nature of targets* measures the presence and type of GHG emission limitations or reduction targets included in a policy. It is coded as 0 if the policy contains no clearly stated target as to what level of (per unit or overall) GHG emission limits or reductions is intended by its application. I code voluntary or "indicative" targets as 1. The same score applies when lower levels of a political system are required to adopt targets, yet the central level has no say in their precise setting. In the EU, this means that a policy requires member states to develop targets without a mechanism of centralized approval through the Commission (and/or the EP). When mandatory targets are set by lower level entities (member states) but have to be approved centrally (i.e. by the Commission or the EP) or fall within a certain range specified centrally, we code the dimension as 2. Finally, a 3 applies where there are mandatory or legally binding targets, as long as they require changes to the status quo.[78] While certainly important, I do not consider the levels of targets (i.e. 10% reduction vs. 40% reduction) as they often cannot be meaningfully compared between different sectors.[79]

2. The *extent of behavioral prescriptions* indicates the degree to which a governing body requires that administrative or private actors engage in certain activities with the aim of reducing GHG emissions. These activities can be rather limited in

77 An example might clarify this point: a carbon tax applied to all emissions from a particular sector would score high on four of the five sub-indicators, but potentially very low on the "nature of targets", simply because the government might have left the precise level of the reductions to market forces without specifying even an indicative target. This policy would, however, still be considered ambitious overall.

78 The status quo here refers to the level of overall emissions (in the case of absolute targets) or average specific emissions for a sector (in the case of specific emission targets).

79 For some sectors, large reductions are relatively easy to achieve (e.g. substitution of energy sources in cement production, capturing methane from landfills) while there are other areas where emissions reductions are much more difficult (e.g. reducing process emissions from steel or cement production).

scope, e.g. administrative units publishing a report, or quite significant, e.g. a requirement that electricity grid operators give priority access to electricity generated from renewable energy sources. The more extensive such prescriptions are, the more ambitious we can consider the policy to be. Specifically, I suggest the following coding rules. Where a policy text merely states that certain activities could or should be pursued, but no particular activity is required, we code this dimension as 0.[80] A policy that imposes reporting duties or information provision requirements[81] on administrative actors is coded as 1. Within the EU, this would refer to requirements placed on the Commission or on member state administrations. Policies that require or facilitate greater transparency in interactions between private actors, e.g. through carbon or energy labels, guarantees of origin or other information provision, are coded as 2. The same score applies when private actors have to submit information on carbon emissions to authorities so as to make possible the charging of a tax or a similar instrument. Finally, when administrative and/or private actors are required to undertake activities or change their behaviors in ways that go beyond information provision, we code this dimension as 3.

3. The third sub-indicator of policy ambition is the *strength of financial incentives*. Such incentives can be either negative, in the sense of imposing a cost on carbon emissions, or positive, in the sense of subsidizing activities that reduce GHG emissions. In either case, we can code this sub-indicator on a scale from 0 to 3. Where policies contain both negative and positive financial incentives, we score the sub-indicator based on whichever yields a higher score. Let us first consider negative financial incentives. Policies that impose no cost on carbon emissions are coded as 0. Where a policy specifies a financial penalty for non-compliance with CO2 limit values, e.g. product regulations, we code the financial incentive dimension as 1. A score of 2 applies to policies that impose a cost on marginal GHG emissions above a certain level, e.g. when emissions trading permits are handed out for free up to a certain number, but emissions above that level require the purchase of additional permits. A score of 3 applies to those policies that impose a cost on each ton of CO2e emitted by a certain activity. The presence or absence of positive financial incentives can also be coded on a scale from 0 to 3. Again, a 0 indicates no incentives at all. A 1 is applied where a governing body asks lower levels of government to provide subsidies for certain GHG-reducing activities, but neither prescribes the precise form nor the total

80 While this may seem obvious, there are a number of EU legislative documents that are held entirely in "should" form, usually the result of lowest common denominator bargaining.

81 E.g. campaigns on energy-efficient driving administered by the government.

amount. Policies that prescribe specific positive financial incentives, but cap the total amount to be spent on these subsidies, are coded as 2. Where there is no cap on the subsidies, I code the sub-indicator as 3.

4. *Compliance and enforcement mechanisms* are a fourth dimension by which we can judge climate policy ambition. It is coded as 0 if there simply is no compliance mechanism; it is 1 if the performance of relevant actors (whether private or public) is published so as to "name and shame", e.g. through a Commission Communication in the case of the EU. A score of 2 indicates that the policy prescribes some mechanism to ensure compliance and enforcement, though no specific amounts of monetary penalties are centrally set – in the EU case, member states would be required to set up enforcement systems without specific guidelines. We code the dimension as 3 where there are clear financial penalties for non-compliance spelt out at the central (EU) level.

5. The *degree of flexibility* refers to two things: cost containment measures and exemptions. A cost containment measure is a mechanism through which actors targeted by a particular policy can reduce their cost of compliance. Examples include the use of credits from the Kyoto mechanisms for compliance with the EU ETS (by increasing the number of allowances in the market, these lower the cost of individual allowances) or possibilities to pay reduced rates of carbon taxes or levies in return for commitments to improve energy efficiency.[82] Exemptions refer to provisions that spell out criteria, which allow certain actors within a sector to not be subject to the policy at all. The greater a governing body's willingness to reduce emissions, the fewer cost containment measures or exemptions we should expect it to allow and vice versa. In terms of coding, a 0 applies to all those policies that don't score "high" on either targets or financial incentives or at least medium on both. The reason is simple: flexibility only makes sense if there is some ambitious element in the policy.[83] If a target or financial incentive is un-ambitious to begin with, applying it without exception does not make it any more so. A score of 1 applies to policies that contain both cost containment measures and exemptions, while a score of 2 applies to policies

82 Such exemptions exist for example for the UK's climate change levy and the Swiss carbon levy for heating fuels.

83 One might ask why a score of 3 on behavioral prescriptions does not suffice to "get additional points" for applying without exemptions. The reason for this is that even relatively simple activities with little impact on GHG emissions might lead to a 3 on behavioral prescriptions (e.g. inspections of boilers). Rewarding such policies with "extra points" would lead one to score them too high relative to policies that set out mandatory targets or financial incentives.

that only contain one of the two. Finally, a score of 3 requires that there be virtually no cost containment or exemption measures in the policy.

Table 3.2: EU climate policies and their ambition levels

Policy	Year of Adoption	Affected Sector/s	Ambition level
"Boiler"-Directive (92/42/EEC)	1992	Buildings	Medium
Energy Labelling Directive (92/75/EEC)*	1992	Electricity	Low
SAVE-Directive (1993/76/EC)	1993	Buidlings, Industry,	Low
Voluntary Agreements with ACEA and JAMA/KAMA	1998/1999	Passenger Cars	Low
Landfill Directive (1999/31/EC)	1999	Waste	Medium
Car-labeling Directive (1999/94/EC)	1999	Passenger Cars	Low
Renewable Electricity (RES-E) Directive (2001/77/EC)	2001	Electricity	Low
Energy Performance of Buildings Directive (2002/91/EC)	2002	Buildings	Low
Biofuels Directive (2003/30/EC)	2003	Transport	Low
EU ETS Directive (2003/87/EC)	2003	Electricity, Iron/Steel, Paper, Oil Refining, Construction Materials, other Combustion Installations	High
Energy Taxation Directive (2003/96/EC)	2003	All energy-related activities	Medium
Cogeneration Directive (2004/8/EC)	2004	Electricity, heat	Low
Ecodesign Directive (2005/32/EC)	2005	Energy-using appliances	Medium
Energy Efficiency Directive (2006/32/EC)	2006	Various energy-using activities	Low
Renewables Directive (2009/28/EC)	2009	Electricity, transport, heating/cooling	Medium
Passenger Car CO2-Regulation (443/2009)	2009	Passenger Cars	Medium
Revised EU ETS Directive (2009/29/EC)	2009	As above, also certain chemical activities, aluminum, aviation	High
Energy Performance of Buildings Directive Recast (2010/31/EU)	2010	Buildings	Medium

** This directive was repeatedly revised subsequently, most recently in Directive 2010/30/EU, though none of the subsequent directives reached a higher level of ambition – hence I do not list the policy here.*

We can apply this measurement scheme to individual climate policies as defined above. To do so, we need look at the legislative or quasi-legislative texts that lay

out a particular policy. At the EU level, this is usually a particular directive or regulation or in some cases a set of directives or regulations that together make up a particular policy[84]. In Appendix I, I have coded all relevant EU directives, regulations, and other policies to date according to my measurement scheme. Table 3.2 presents the ambition scores of all existing EU climate policies. It thus provides us with a more detailed picture of EU climate policy. In the 1990s there was virtually no EU climate policy and those activities that were undertaken had very low ambition levels. The Boiler Directive and the Landfills Directive are exceptions, though the former was very limited in terms of its potential impact, while the latter's primary aim at the time was not to reduce GHG emissions but to limit local pollution. After the turn of the century, however, the EU introduced several new pieces of legislation. Most of them were initially of a low ambition level, though the EU ETS constituted a high ambition policy when it was passed. After 2007, more ambitious policies also emerged in a number of sectors, which previously had only faced low-ambition policies.

3.2.2 Addressing potential criticisms of the measurement scheme

Having outlined my measurement scheme for sectoral climate policy ambition, let me now address a number of potential criticisms. First, some critics might argue that the system is inaccurate or unfair because certain types of policy are inherently unable to score high on some of the five sub-indicators. To this I would respond that these policies are either inherently un-ambitious or "soft" (e.g. voluntary measures, information provision requirements), or that the effect should "wash out" through the combination of sub-indicators in the overall score on the three-part scale. Thus, a carbon tax might score low on targets, which might just be indicative or non-existent at all, but still receive an overall "high ambition" score if it doesn't allow exemptions, is clearly enforced, and properly administered. What matters is not the numerical score, only the ordinal categories of low, medium, and high ambition.

Another objection might be that the aggregation of scores for individual dimensions into one measurement scheme implies the highly unrealistic assumption that the units of the five sub-indicators are homogenous. For the scheme to make sense, we would have to assume that an increase from 1 to 2 in one dimension (e.g. nature of targets) indicates an absolutely equivalent increase in policy ambition as an increase from 2 to 3 in some other dimension (e.g. compliance

84 An example of this is the EU ETS Directive (2003/87/EC) and the Linking Directive (2004/101/EC). The latter spells out how credits from the Kyoto Protocol's flexibility mechanisms. By itself, the latter Directive would make no sense at all.

and enforcement). Such equivalence can obviously not exist. Nevertheless, it is a "helpful fiction". Any measure of ambition levels is going to be inexact. Yet by breaking the phenomenon of policy ambition down into smaller parts and coding sub-indicators according to clearly specified rules, we at least achieve transparency in our measurements and allow other scholars to replicate them.

A third objection might be that my measurements do not take into account precise policy settings: I merely ask whether there is a mandatory target, whether there are financial penalties, or whether a cost is imposed on carbon emissions. I do not consider the precise level at which these are set. Yet that is the price we have to pay if we want to compare different policies in different sectors. For reasons discussed above, policy settings (e.g. level of targets) are fairly meaningless when compared between different sectors. Once we are comparing similar policies, however, they become very relevant. Thus, it is perfectly compatible with my definition to say that country X favors a more ambitious policy than country Y, if X, for example, favors a car emission standard of 120g CO2/km while Y advocates 140g CO2/km. This presupposes, of course, that X and Y favor policies that score the same on the other sub-indicators: if X favored a target of 120 g/km under a voluntary agreement, while Y favored a 140 g/km target under a regulation with penalties for non-compliance, I would still hold Y to be advocating the more ambitious policy.

Finally, critics might argue that my concept of climate policy ambition is essentially the same as the degree of "European integration" or "harmonization" used in many other studies on EU politics. Against this objection, I would offer two lines of defense. First, I believe that the concept of sectoral climate policy ambition can apply to political systems beyond the European Union (and beyond other instances of regional integration). Secondly, and more importantly, I would concede that high levels of climate policy ambition do correspond to high levels of European integration, yet point out that the reverse is not the case. Thus, we might find high levels of European integration in a particular sector yet not find any constraints on GHG emitting activities. We might also observe highly integrated EU climate policies such as the voluntary agreement on car CO2 emissions, which only score low in terms of climate policy ambition.

While far from perfect, my measurement scheme for climate policy ambition does provide a useful operationalization of an oft-used but rarely defined term. Once we have defined and measured climate policy ambition, we can turn to analyzing its causes. In the previous chapter, I have outlined a theoretical approach to doing so. Let me now turn to the research design I employed to test the explanatory framework against concrete data.

3.3 Research design – climate policy in five sectors

My explanatory framework draws on a variety of existing theories of EU and environmental policy-making to arrive at a parsimonious explanation of variation in climate policy ambition across sectors and over time. To test the hypotheses contained in my framework, I analyzed and compared the development of four sectoral EU climate policies as well as one sector that has not yet faced political pressure to reduce emissions. I mainly considered developments between the adoption of the Kyoto Protocol in 1997 and the Copenhagen Climate Conference in 2009, though I also included observations from the first half of the 1990s and since 2009 where necessary. More specifically, I analyzed the development of the following policies:

- The voluntary agreement on car CO2 emissions of 1998 as well as the Regulation ((EC)No. 443/2009) on car CO2 emissions negotiated during 2008
- The Directive (2003(/87/EC) establishing the emissions trading scheme (EU ETS)
- The Energy Performance of Buildings Directive (2002/91/EC) and its recast (2010/31/EU)
- The Directive on the Promotion of Electricity from Renewable Sources (2001/77/EC) as well as the Renewable Energy Directive (2009/28/EC)
- Efforts (or the lack thereof) to address agricultural GHG emissions.

3.3.1 Justification of Case Selection

As my work is motivated by an empirical puzzle, my case selection is by definition partly based on the dependent variable. Some methodologists warn against doing this, as it might bias inferences, though others maintain that the problem is limited and, depending on our research questions, cannot be avoided ((King/Keohane/Verba 1994, pp. 129-137, Ragin 2004). I did select my cases with a view to variation in the dependent variable[85], i.e. I consider cases with different ambition levels and different developments over time. Thus, we can observe both between and within-case variation in the dependent variable, of which we have a total of eight observations. The cases also allow for variation in the main independent variables and in the combination of independent variables.

Methodology texts tell us to test theories on "crucial" cases so as to strengthen confidence in our inferences (Eckstein 1975; George/Bennett 2005, p. 75; van Evra 1997, p. 31-32). If a theoretical prediction holds for a "least likely" case, this

85 Thus following King/Keohane/Verba's (1994) advice.

counts as strong evidence in favor of the theory; if it fails even a "most likely" case, the theory is probably not good at explaining at least this particular category of phenomena. Specifying crucial cases in relation to my explanatory framework is somewhat tricky. After all, the framework breaks down the problem into smaller parts, which means that only two of my hypotheses directly concern the dependent variable, i.e. the preferences of the pivotal member state and the restrictiveness of the discursive environment. I expect interest group constellations and pre-existing policies at the national level to shape member state preferences, but not necessarily overall EU climate policy ambition (as member states can be outvoted in the Council). Finally, two of my other hypotheses are in fact about invariance – for reasons of institutional self- interest, I always expect the Commission and the EP to pursue ambitious climate policies.

Nevertheless, we can identify such cases for specific aspects of the framework. Thus, one central claim it makes is that a restrictive discursive environment leads to more ambitious policies even in the face of very unfavorable interest group constellations. For this proposition, the regulation of car CO2 emissions constitutes a "least likely" case: given the importance of the car industry in key member states and the industry's opposition to such limitations, the rational choice baseline would lead us to expect at most a very low ambition policy. If a more restrictive discursive environment can bring about an ambitious policy here, this constitutes strong evidence in favor of the theoretical framework. While the other cases don't provide as strong a test of the hypothesis concerning the discursive environment, there are no cases where the rational choice baseline clearly predicts an ambitious sectoral climate policy: thus, none of the tests concerning the discursive environment is "easy."

My hypotheses concerning member state preferences are that governments strongly defend industry interests and pre-existing domestic policy arrangements. A strong test (least-likely case) for these hypotheses would consist of countries that are generally known for their leadership on climate issues. Hence I pay particular attention to the positions of Germany and the UK, the two EU-15 member states that have made the most significant reductions in GHG emissions since 1990. Both of them have publicly portrayed themselves as leaders in addressing climate change, and both have been designated as such in the academic literature. Germany was one of the first countries to push the EU to adopt strict targets; it hosted the UNFCCC's first Conference of the Parties, under its Presidency the European Council adopted the 2020 targets, and by itself, it accounts for most of the emission reductions that have taken place within the EU-15 (e.g. Jänicke 2011; Watanabe/Mez 2004). The UK managed to reduce its emissions quite significantly during the 1990s, it was the only EU country that took on a tougher reduction target under the EU's post-Kyoto burden-sharing agreement than it had

been assigned in the EU's pre-Kyoto negotiating position. It was one of the first countries to set up a domestic emissions trading system, and it set climate change on the agenda of the G8 when it held that body's rotating presidency in 2005 (e.g. Darkin 2006; Rayner/Jordan 2011). Though few serious analysts would uncritically qualify these states as leaders[86], they are probably as close as we get to identifying "least-likely" cases for my theoretical framework. If Germany and the UK, the alleged leaders on climate protection, pursued national industry interests and the avoidance of administrative adaptation costs, this is strong evidence for my account of preference formation.

In addition to this "strong" test of particular countries' preferences, I also investigate the overall distribution of preferences among the member states. I do so by compiling data on the share of the workforce employed in the sectors affected by a particular policy in the different member states. Those member states where affected industries employ a larger share of the workforce (and hence of the electorate) should take a stronger position against (or in favor) a policy than those member states where only a small share of the workforce is affected. Thus, we can identify member states where we would expect the greatest reluctance and the greatest support for a policy. By looking at how these member states behaved in the negotiations of that particular policy, we can test whether interest constellations matter as hypothesized. Yet this test is weaker, in that it looks at "most likely" cases: where the most people are affected by a policy, we would also expect the most resistance (or support). Nevertheless, if the theory passes a series of such "hoop tests" (Van Evra 1997, p. 31), this provides further evidence for its validity.

Concerning the Commission and the EP, my hypothesis is one of invariance. A large number of cases that are diverse in other aspects provide the best opportunity to test this proposition. The five cases (and eight instances of sectoral climate policy making) should provide such a test: they concern policies that were prepared in different Commission DGs in sectors with varying transnational interest group constellations. They allow us to observe EP resolutions adopted by three[87] different parliaments (and party constellations).

In addition to these considerations, a number of other reasons motivated me to study the five identified cases. First, any explanation of sectoral EU climate policy must be able to account for the establishment of the EU ETS, which is the

86 Their initial emission reductions were essentially "windfalls" from reunification and the "dash to gas", Britain also torpedoed the Commission's carbon/energy tax plans in the early 1990s.

87 Most of the policies I investigate were negotiated under the fifth (1999-2004) and sixth p (2004-2009) parliament, though resolutions in relation to the voluntary agreement with the car industry were passed by the fourth (1994-1999) parliament.

most important EU policy and the most discussed case in the previous literature. Hence my second case study after the crucial case on car emissions deals with the EU ETS. The cases of energy efficiency of buildings and renewables promotion are interesting because of the particular constellations of the independent variables. In the former case, interest group constellations in most member states are relatively indeterminate and we would hence expect administrative adaptation costs to be the main determinants of member state preferences. In the latter case, interest group constellations were relatively unfavorable during 2001, but became more favorable over time. The agriculture case is somewhat over-determined according to my framework: both interest group constellations and the discursive environment were unfavorable towards ambitious policies. Nevertheless it allows a number of insightful comparisons to the other cases.

3.3.2 Approach to Case Analysis

In order to investigate the five identified cases, I apply three common case study procedures: in chapters 4 to 8, I analyze each case based on congruence tests and causal process evidence, i.e. two "within-case" methods, and follow these up with controlled comparisons between cases in chapter 10 (George/Bennett 2005, ch. 8-10). In the congruence tests, I formulate expectations about the value of the dependent variable based on the value of each independent variable in each case. I then compare this expectation to the actual outcome. For the Commission and the EP, of course, this expectation is always the same, whereas I need to specify hypotheses on member state preferences and the effect of the discursive environment based on specific data for each case. In order to further strengthen our confidence in these results, I also systematically analyze alternative explanations, as I outline in the last part of this chapter.[88]

In addition to measurements of specific independent and dependent variables, I also consider what Collier, Brady, and Seawright (2004) call "causal process evidence", i.e. evidence about the process through which the independent variable caused the dependent one. While I use such evidence to increase confidence in my results, I do not explicitly engage in what George and Bennett (2005) call "process tracing", i.e. the attempt to "identify the intervening causal process – the causal chain and causal mechanism – between an independent variable (or variables) and the outcome of the dependent variable" (George/Bennett 2005, p. 206). The difficulty of process tracing is that it can only provide strong evidence if evidence on all the steps in a causal chain can be gathered. While I was

88 I do not directly test competing hypotheses in my case chapters as this would make them less readable. Instead, I consider the alternative explanations at the end of each chapter.

able to collect some causal process evidence, I was not able to comprehensively trace all the relevant causal processes in all my cases. This is why I refer to my approach as considering causal process evidence rather than full process tracing.

In chapter 9, I then employ a third procedure, namely that of focused, controlled comparisons. In other words, I compare the effects of independent variables across cases. Such comparisons are obviously beset with difficulties, as methodologists since John Stuart Mill have pointed out (George/Bennett 2005, ch. 8). Most importantly, it is very difficult to identify cases that are constant (or vary) in all but one independent and dependent variable. Moreover, in the case of climate policy, the five sectoral cases I study are not truly independent observations of some phenomenon – they all developed in a similar context and were sometimes part of the same package deals. Nevertheless, I believe that comparisons across cases can strengthen our inferences about sectoral EU climate policy.

In terms of data sources, I tried to rely as much as possible on the previous literature on the cases under investigation. Yet for three of my cases (cars, buildings, agriculture), this literature is very limited. Hence I also extensively used media articles, publicly available documents from the European institutions and the member state governments, reports by think tanks, and documents from lobby groups and environmental NGOs in order to retrace the policy-making process in each of the cases. In addition, I conducted 71 phone interviews with relevant stakeholders.[89] For each case, I tried to speak with the relevant Commission officials, lobbyists in Brussels and the member states, MEPs or staff members of MEPs, and member state government officials, though the relevant stakeholders were not equally accessible in all cases. For the EU ETS and agriculture, I conducted fewer interviews than for the other cases as there is already an extensive secondary literature on the EU ETS and because simply not much has happened in the agricultural sector. Several of my interviewees, usually those working for the European Commission or member state bureaucracies, spoke under the condition of anonymity. While this makes it more difficult to replicate the results of my research, I found the information they provided to be useful. Nevertheless, I avoided basing any substantial claims on only one unnamed source throughout. The quality of the information I gathered from interviewees varied greatly. Those talking about events that took place almost a decade or longer ago, obviously had to dig deeply in their memories. Yet even discussions that took place from 2007 to 2009 were often difficult to recall. Moreover, subsequent events or the interpretations of others may have tainted people's memories. Thus, the main

89 Interviewees are listed in Appendix II. For each interview, I prepared a questionnaire tailored to the particular case and person, asking both for specific information regarding the person's organization, and for the person's observations on the wider policy-process.

value of the interviews was to confirm what could be inferred from documents, to connect some dots, to be made aware of additional important factors, and sometimes of additional information sources.

Having laid out my general approach to analyzing cases, we can now turn to the operationalization of my key independent variables as well as my data sources. They are the subject of the next section of this chapter.

3.4 Operationalization of independent variables

In chapter 2, I outlined the two parts of my explanatory framework, the rational choice baseline and the analysis of rhetorical possibilities. I also broadly described how I operationalize my variables. Here I only focus on the operationalization of two independent variables, which are relatively complicated to measure and which do most of the "explanatory work" in my theoretical framework[90]: national interest group constellations and the discursive environment.

3.4.1 Measuring National Interest Group Constellations

My central theoretical claim about member state preferences on sectoral climate policy-making is that governments face strong incentives to defend the interests of economic actors located within their borders. Given the highly technical nature of sectoral EU climate policies, governments' actions in this regard are unlikely to catch the attention of most voters or influence their voting decisions. The only group of potential voters that is likely to have a strong interest in particular policies consists of those employed by or owning companies affected by these policies. Thus, governments will care most to avoid losing their votes.

While the claim as such is rather unspectacular, it is not easy to operationalize. For the purpose of my congruence procedure tests, I proceeded as follows. First, I identified the basic interest group constellations in the member states. In other words, I specified which economic groups a particular policy affects and how. To do this, I relied on the relevant policy-oriented literature and submissions to Commission or member state government consultations. I also asked participants in the policy-process to get a more precise understanding of how particular policies and variants thereof affected different groups. Next, I analyzed data on employment in the relevant sectors, drawing on Eurostat's Structural Business Sta-

90 The hypotheses on the Commission and the EP are also important as they explain how the issue remains on the agenda even where interest group constellations are quite unfavorable – yet the expectation is invariance; measurement is thus less of a problem.

tistics, which provide data on employment by sector for each of the EU's member states. To calibrate the data I divided the number of employees in the particular sector by the total employment in each member state. This allows us to compare the share of affected employees in those industry sectors that lose from a particular policy to the share in those sectors that benefit. On this basis, we can then make two kinds of predictions. First, we can predict whether member states overall will be favorably or unfavorably inclined towards a particular EU policy. Secondly, we can identify those member states that are likely to be most strongly opposed and those that face less of an electoral incentive to resist a policy.

By itself, this is a rather crude measure of member state interest constellations, as it does not capture the possibility that companies in the same sector or that the same sector in different member states may have different interests regarding a policy. Hence, I complemented the data on employment with other relevant cross national data that capture important aspects of a policy's effects. Thus, when predicting member state positions on the EU ETS, I also included data on the share of non-fossil electricity generation to capture differences in electric utilities' interests. For cars, I considered whether countries produced primarily small or large cars; for buildings I considered ratios of homeowners and tenants. Moreover, I looked at causal process evidence to validate whether the affected sectors lobbied as predicted by the baseline data. As noted above, I test the predictions thus derived on the "hard cases" of Germany and the UK, and also look at the member states identified by the baseline as "extreme" cases in order to verify that the overall pattern is correct.

3.4.2 Measuring the restrictiveness of the discursive environment

The second part of my explanatory framework concerns the analysis of rhetorical possibilities. What kinds of arguments opponents of particular policies can make, I conjectured, depends on the discursive environment or the set of rhetorical commonplaces available at specific moments in time. As elaborated in chapter 2, we can break down the relevant discursive environment into three parts, a general policy environment, a climate policy environment, and a sectoral policy environment. I discuss the operationalization and data sources for each in the following sub-sections.

3.4.2.1 General Policy Environment

The general policy environment captures how high climate change was on the public agenda and how concerned people were about it at particular points in time. Two data sources help us to measure this part of the discursive environment:

public opinion surveys and frequency counts in major news media. Since the early 1990s, a number of cross-national public opinion polls have measured people's perceptions of climate change. Most of these polls were not explicitly conducted on the salience of climate change as a political issue, but on some wider topic such as the environment, energy, or transatlantic relations.[91] Accordingly, the precise questions asked varied between the different polls and we don't have exactly comparable data over time on the public's attention to climate change. Nonetheless, as I show in the individual case study chapters, the data suffices to establish that climate change was an issue of latent concern in most EU states since the early 1990s; its salience saw a peak in 2007 and 2008, and has fallen on the agenda since then, though not to levels of before 2005.

This roughly corresponds to the findings from my second indicator for the general policy environment, i.e. the relative frequency with which the news media reports on climate change within a particular timeframe. By relative frequency I mean the share of news coverage in which climate change is discussed or at least mentioned. I measure it by calculating the share of articles published in certain print media news sources that contain the word climate change or some variation thereof. The logic underlying the indicator is that the coverage of the news media reflects societal debates and political agendas. In issue areas that receive a lot of public attention, political actors need better justifications for their policy positions. Hence, the more often climate change is mentioned in the media, the greater the pressure on political actors will be to provide acceptable justifications for their policies.

I collected the data on media coverage for news sources from four important member states: Germany, the UK, France, and Spain. I collected data from four news publications covered in the Factiva database at the University of St. Gallen per country. For each country, I considered the newswire service from Reuters, as well as daily newspapers or weekly news magazine. I tried to vary the political bent of the sources within each country, but also had to compromise somewhat because for many sources the Factiva database does not offer coverage going back to the 1990s. I list the selected sources in Table 3.3, where I also provide information on Factiva coverage for the respective source.

91 Most of the data I considered comes from standard and special Eurobarometer surveys, which cover all EU member states. Moreover, I consider cross-national data from Gallup, the Pew Center, Globescan/Environics, and the German Marshall Fund of the United States for the EU-member states covered by their polls.

Table 3.3: Sources considered for news media frequency counts

Country	News Source	Coverage in the Factiva Database
Germany	Reuters – Nachrichten auf Deutsch	Since 1992
	Süddeutsche Zeitung	Since 12 January 1995
	Der Spiegel	Since 1 January 1996
	Focus	Since 8 January 1996
France	Reuters – les actualités en français	Since 9 May 1994
	Le Monde	Since 9 January 1995
	Le Figaro	Selected coverage since 31 October 1995, full text since 2 August 2001
	Les Echos	Since 1 June 1997
UK	Reuters Newswires	Since May 1987
	The Times of London	Since 1981
	The Guardian	Selected coverage until 4 October 1996, full coverage since then
	The Independent	Selected coverage until 1 June 1998, full coverage since then
Spain	Reuters – Noticias en espanol	Since 1994
	El Pais	Since 1995
	El Mundo	Since 2 January 1995
	ABC	Selected coverage since 16 May 1997, full coverage since 29 September 1997

For each news source and each available year, I searched[92] for the number of articles that mentioned the word climate change or some variation thereof (i.e., global warming, greenhouse effect). In order to count the total number of articles in the database from a given news source, I also searched for all texts in the database that contained definitive articles ("the") and the word "and" in the respective languages, assuming that no article would exist that did not contain at least one of these words. Finally, I searched for the word "unemployment" so as to have a number to compare the coverage of climate change to. For each of these terms I searched in the four respective languages. Based on the results from the frequency counts, I could then calculate for each source how many articles per 1000 articles contained a reference to climate change, and how many referred to unemployment. As an indicator of the general discursive environment, I calculated the median[93] relative frequency with which references to climate change and unemployment appeared in news articles in the four countries. I also calcu-

92 The Factiva Database indicates the number of articles at the top of the list of articles identified for given search criteria – it is this number that I collected for each search term, publication, and year.

93 The median seems to be the appropriate measurement of the average, as it is not distorted by extreme values – in fact, given that it is in most cases calculated based on four news sources, it is arithmetic mean of the middle two observations.

lated the median value for the four countries, which is presented in figure 3.1 along with the equivalent value for the search term "unemployment".

Fig. 3.1: Climate change and unemployment in EU-4 media coverage (median values)

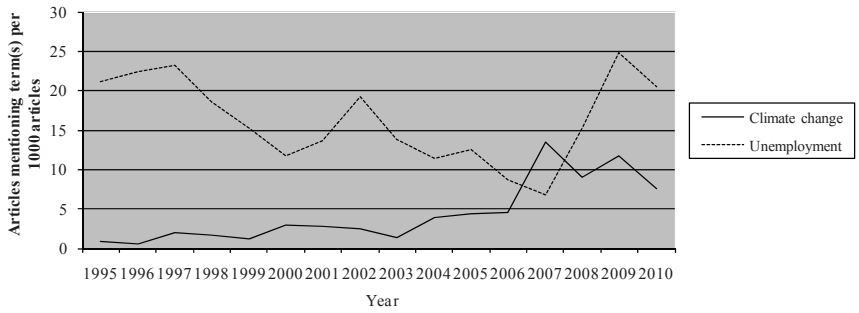
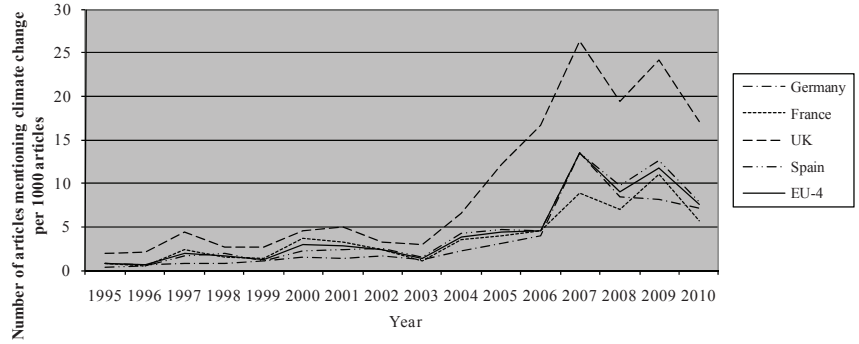


Figure 3.1 shows that climate change rose to a previously unknown prominence in media coverage around 2007 and even received more attention than unemployment in that year.[94] With the onset of the financial crisis in mid- to late 2008, the trend reversed somewhat, but climate change has continued to command more attention than it had at any time prior to about 2006. As mentioned in chapter 2, the year 2007 thus marked a water-shed in public attention to climate change, probably caused to a significant degree by the IPCC's fourth assessment report, former US Vice President Al Gore's film *An Inconvenient Truth*, as well as the publication of the *Stern Review*. Figure 3.2 shows that this pattern applied across the four countries considered.

Fig. 3.2: Newspaper coverage of climate change in four EU countries



94 This holds for the UK, Germany, and Spain individually as well, in France unemployment always was more present in the news media.

3.4.2.2 Climate Policy Environment

The climate policy environment represents elements such as scientific uncertainty, international commitments, and sectoral climate policies in other sectors. None of these are difficult to operationalize. The IPCC published its Assessment reports of the state of climate science in 1990, 1996, 2001, and 2007: while each report emphasized a variety of uncertainties, its statements indicated a continuously growing scientific consensus that global warming was a very real danger. In terms of the international policy environment, we can identify six "junctures." The first was (1) the entry into force of the UNFCCC in 1994, followed by (2) the signature of the Kyoto Protocol in 1997, (3) the U.S. withdrawal from the Kyoto Protocol in 2001 and the EU's affirmation to salvage the agreement nonetheless, (4) the EU's subsequent ratification of the Protocol in 2002, (5) the entry into force of the Kyoto Protocol in 2005, and (6) the EU's unilateral 2020 commitments in March 2007. The first step meant that an international norm to protect the climate had been established. The Kyoto Protocol specified what this meant numerically, yet the uncertainty surrounding its entry into force meant that the discursive environment became only slightly more restrictive after 1997. The U.S. rejection was important in that it spurred the EU into action, the EU's ratification and the Protocol's entry into force made the overall reduction targets binding under international law. While the 2020 targets do not have the same status under international law, the fanfare with which European leaders announced them made it at least very difficult to renege on them. Table 3.2 above gives an overview of the development of sectoral climate policies at the EU level – it thus allows us to identify to what degree a particular sector could argue that it was being unfairly singled out. Summing up, the climate policy environment has tightened gradually since 1990. Since around 2002, i.e. the ratification of the Kyoto Protocol and after the adoption of a range of sectoral policies, it has been quite restrictive.

3.4.2.3 Sectoral Policy Environment

The sectoral policy environment consists mainly of two elements – the trajectory of emissions in a sector and the previous policies in place to address emissions from that sector. The trajectory gives us a cue about how well an opponent can argue that he is already doing enough; the previously tried policies tell us to what degree the rhetorical strategy of suggesting an alternative solution might work. To measure emissions trajectories, I consider GHG emissions data submitted by the EU and the member states to the UNFCCC and published on the UNFCCC's website. Thus, the data is at the level of the source categories defined by the IPCC's (1996) Common Reporting Framework (CRF). The CRF data corresponds roughly to the economic sectors affected by different EU policies – where

it doesn't (e.g. buildings) I discuss the implications in the relevant chapter. Previous policies to address emissions from a particular sector are quite simple and straightforward to identify and deserve no further discussion.

Having outlined the operationalization of key variables of my explanatory framework, what remains is a discussion of potential alternative explanatory variables for which I need to control in my case studies.

3.5 Alternative explanatory factors

Based on few cases of a phenomenon, it is always difficult to draw inferences about the causal links between independent and dependent variables. The careful selection of "hard" cases and the consideration of causal process observations can somewhat alleviate this problem. Accounting for alternative explanations can further strengthen confidence in our results. In my case studies, I therefore systematically analyzed four additional factors that many scholars have identified as important in explaining EU policy-making: transnational non-governmental actors, party politics within the EP and the member states, general leader-laggard dynamics, as well as "package deals." I briefly outline the reasoning behind each of these factors in the following paragraphs and discuss how I control for them.

3.5.1 Transnational non-governmental actors

Transnational non-governmental actors play an important role in many analytical approaches to European integration and policy-making. Sandholtz and Sweet Stone's (1998) "supranational governance" approach, for example, explains increasing European integration as a result of increasing transnational transactions in particular economic or social sectors. These transactions in turn give rise to the formulation of political demands for further integration, often articulated through dedicated transnational organizations. A prominent argument in this vein is Maria Green Cowles' (1995, 2003) study of how the "European Roundtable of Industrialists" shaped the Single European Act in the 1980s. Similarly, accounts of the EU as a system of "multi-level governance" (Hooghe/Marks 2001) or as a system of "network governance" (Kohler-Koch/Eising 1999) see a range of possibilities for transnational non-governmental actors to shape legislation. The literature on EU lobbying (e.g. Coen 1997, 2007; Eising 2004, 2007; Greenwood 2003; Streeck/Schmitter 1991; Woll 2006, 2007) has mostly eschewed explicit analyses of lobbyists' influence on concrete policies[95], but has documented a

95 This was not because of a lack of interest in the subject but because of methodological difficulties. But see Dürr/de Bièvre 2007.

proliferation of transnational interest groups at the EU level. Previous accounts of EU climate politics have also identified transnational non-governmental actors as shapers of policy, notably of the EU ETS (e.g. Skjaerseth/ Wettestad 2008).

How can we control for the influence of transnational non-governmental actors (i.e. EU-level industry associations and environmental NGOs) when testing my explanatory framework for EU sectoral climate policy ambition? Fully controlling for this factor is quite difficult as transnational industry or environmental organizations might simply reflect the positions of national member associations from different member states. Or they might significantly shape the positions of national member companies and associations on a particular piece of legislation due to information asymmetries. By simply observing national and transnational actors' positions, we would thus be unable to tell the direction of causality.

Despite such methodological difficulties, however, it is useful to consider how transnational non-governmental actors positioned themselves relative to particular pieces of legislation and how they participated in the decision-making process. This allows us to gauge whether it is at least plausible that they played a decisive role in the process. Hence, in each of my empirical cases, I accounted for which transnational non-governmental actors were actively trying to shape a particular piece of legislation and what their demands were. I obtained this information from media articles, the documentation of Commission consultations, position papers, and interviews. On this basis, I could then evaluate to what degree the final legislation conformed to the preferences of particular transnational actors. Moreover, I investigated "causal process evidence" to see whether transnational actors were critical in shaping particular aspects of a policy. My goal was to provide sufficient evidence to the reader to allow a judgment about whether the presence of transnational non-governmental actor activity calls into doubt the explanatory power of my theoretical framework.

3.5.2 Party Politics in the European Parliament and the member states

When explaining the negotiating positions of the European Parliament and the member states we also need to control for the possibility that party politics influenced sectoral climate policy preferences. While environmental and climate protection is not a traditional left-right issue in most countries, we may still expect parties on the political left to be more favorably inclined towards ambitious climate policies than parties on the right (e.g. Carter 2007, ch. 4-5). The reason is simply that "green" parties and social movements typically tend to be located closer to the left of the political spectrum. Thus, any party on the left will have to do more to defend its "ecological flank" than parties on the right. We would hence expect MEPs from left-leaning parties to be more strongly in favor of climate pro-

tection measures than those from right-leaning parties. Moreover, we would expect those member states with left-leaning parties in power to be more positive about sectoral climate policy measures than those with right-leaning governments. In the following paragraphs, I specify how I control for these factors, focusing first on the EP and then on the member states.

A number of observations help us to test whether party politics better explain the EP's climate political positions than the EP's institutional self-interest. The EP's party composition at the time of negotiation of a particular legislative measure provides a first, rather crude measure. The time period I mainly consider coincided with the fourth (1994-1999), fifth (1999-2004), and sixth (2004-2009) European Parliament. As detailed in Table 3.4, the share of left-leaning parties represented in Parliament during this period declined from 47.3% in 1994-1999 to 38.7% in 2004-2009. Hence we would expect a continuous decline in the ambition level of sectoral climate policies taken by the European Parliament. A second, more specific measure consists of the specific voting records on particular pieces of legislation: it allows us to see whether party affiliations shaped voting decisions. Another piece of evidence that would support the relevance of party politics in shaping the EP's climate political positions concerns the Rapporteur. As the Rapporteur plays a decisive role in the drafting of the EP's reports and resolutions and negotiates with the Council Presidency, we might expect Rapporteurs from left-leaning parties to be pushing more ambitious climate policies than those from right-leaning parties.

We can test the relevance of party politics to member state governments' negotiating positions in three ways. First, we can look at the ideological positioning of the governments in power when a sectoral EU climate policy was negotiated. We can then compare whether those farthest to the left were indeed the most supportive of ambitious measures and vice versa. In order to conduct this test, I retrieved data on the composition and ideological positioning of member state governments from the "ParlGov – Parliament and government composition database" (Döring and Manow 2010). This database contains information on election results and cabinet composition of all European (and selected other) countries. It also contains indicators of the ideological position of most of the parties included on a 0-10 scale based on expert ratings compiled by a number of other scholars. Based on the ratings provided by Döring and Manow (2010), I calculated the ideological orientation of governments in the countries under investigation for governments from the early 1990s to today, weighting the ideological score of parties by their share of votes in the most recent parliamentary elections.

Table 3.4: Distribution of European Parliament seats among parties, 1994-2009

Party Group	Party Position*	Share of seats** 1994-1999	1999-2004	2004-2009
PES - European Socialists	Left	34,9%	28,8%	27,3%
GUE - European United Left	Left	4,9%		
Greens/EFA - Greens/European Free Alliance	Left		7,7%	5,7%
GUE-NGL - European United Left/Nordic Green Left	Left	0,0%	6,7%	5,6%
V - Greens	Left	4,1%		
ARE - European Radical Alliance	Left	3,4%		
ELDR - European Liberal, Democrat, and Reform Party	Liberal	7,8%	8,0%	
ALDE - Alliance of Liberals and Democrats for Europe	Liberal			12,0%
EPP-ED - European People's Party/ European Democrats	Right	27,5%	37,2%	36,6%
FE - Forza Europa Group	Right	4,8%		
RDE - European Democratic Alliance	Right	4,6%		
UPE - Union for Europe	Right	0,0%		
UEN - Union for Europe of the Nations Group	Right		4,8%	3,7%
EDN - Europe of Nations Group	Right	3,4%		
IND/DEM - Independence/Democracy Group	Right			5,1%
EDD - Group for a Europe of Democracies and Diversities	Right		2,6%	
I-EDN - Independents for a Europe of Nations	Right	0,0%		
NI - Non-attached (+ Technical Group of Independent memers - mixed group)	N/A	4,8%	4,3%	4,0%
Left Total		47,3%	43,1%	38,7%
Right Total		40,2%	44,6%	45,4%

Source: European Parliament Website, http://www.europarl.europa.eu/parliament/archive/elections2009/en/hist_composition_en_txt.html, accessed 24 August 2010
* Classification is mine
** Share of seats for the incoming parliamnent, some regroupings took place over the course of hte period

In addition to the cross-national data on government composition and ideology, we can also consider two other pieces of evidence to evaluate the relevance of party politics to member state governments. We can follow the positions individual member states have taken over time to see whether a shift to the right led to less climate policy ambition and vice versa. In the case of Germany, a Grand Coalition in which the senior partner was the conservative Christian Democratic Party in 2005 replaced the Red-Green coalition government that had ruled since 1998. We would thus expect Germany to have been more favorably inclined towards ambitious EU policies before 2005 than after that year. As Labor was in power in the UK throughout, the UK is less instructive in this regard. Finally, we can look at how specific changes in government that took place during a negotiation affected individual member states' negotiating stance. My main "test" of the party politics hypothesis concerning member states is the cross-national evidence described above. I also consider the German case, however, as well as a number of specific examples from individual countries.

3.5.3 General leader-laggard-dynamics

We also need to consider another alternative that is quite present in the literature on environmental politics: leader-laggard dynamics. A variety of authors have argued that certain leader states have shaped the international spread (Jänicke 2005) and EU uptake of environmental policies (e.g. Héritier/Knill/Mingers 1996; Andersen/Liefferink 1997; Liefferink/Andersen 2005). The underlying logic of these arguments is that states with high domestic environmental standards have a strong incentive to internationalize or Europeanize their own standards. If others take up the same level of environmental regulations, this ensures a level-playing field for the countries' own industries affected by the regulation. In addition, it creates export opportunities for the providers of abatement technologies and it relieves the pioneers of the obligation to adjust to European or international rules themselves.[96] Yet, I do not expect this aspect to have been particularly important in EU sectoral climate policy-making for one simple reason. In other examples often cited in this literature, e.g. on clean air, reduce packaging waste, or drinking water, pioneers had a clear local benefit from tighter standards. In the case of GHG emissions, such benefits are much more ephemeral.[97]

Nevertheless, we might expect some level of leader-laggard differentiation between member states based on the logic of "post-material values". According to this logic, people's values change with growing income – the wealthier people become, the more they value non-material issues such as a clean environment (e.g. Carter 2007, p. 94ff.; Inglehart/Welzel 2005). By extension, they might also care more about preserving the climate for coming generations. To account for this possibility, I provide a list of EU member states ranked by per-capita income for the year of negotiation in each of the cases. The data is from Eurostat and is expressed in purchasing-power standards, a measure that compares the purchasing power of per-capita GDP of each member state to the EU-27 average. As it thus measures the degree of material well-being, it should be a good indicator as to where we can expect more or less post-material concerns. Based on the ranking of member states according to per-capita GDP, we can then identify those countries we would expect to be leaders and laggards and check whether they actually behaved as predicted.

96 Héritier, Knill, and Mingers (1996) even go so far as to make out a "first-mover-advantage" for those EU member states that regulate a particular environmental problem first and manage to export their policy approach to the EU level.

97 Policies that reduce GHG may, however, have positive ancillary benefits: more fuel efficient cars, for example, reduce air pollution and increase energy independence.

3.5.4 Package deals and case-specific factors

A fourth additional factor we need to control for is the possibility of "package deals". In return for concessions by some member states in one policy-area, other member states may be willing to make concessions in other areas. The literature on European integration and EU policy-making often identifies such package deals as important ways to "escape deadlock" (Héritier 1999). Yet Liefferink and Knill (2007, p. 96f.) argue that such deals are difficult to achieve in environmental politics because the cleavages between member states often repeat themselves across issue areas, leaving little room for an exchange of concessions across different environmental policies. As I argued above, however, climate policy-making is likely to differ at least partly from traditional environmental politics – hence we need to account for the possibility. I do so by considering evidence primarily from media articles and from interviews about the possibility that different pieces of climate legislation were negotiated together and that concessions by some actors in another area made possible the adoption of the policy under investigation (or vice versa).

The case study methodology allows us to not only control for specific previously identified factors such as the ones outlined above. The intensive analysis of a particular policy-making process also offers the opportunity to identify additional causal variables. Based on previous scholarship on environmental policy-making, these might include international developments (such as the introduction of emissions standards in other countries to which EU companies export, see Holzinger 1994), decisions by the European Court of Justice (as has been repeatedly the case, see Koppen 2005), or the work of epistemic communities (as was to some degree the case in acid rain policy, see Zito 2001). I do not systematically look for such factors but report them where relevant.

3.6 Conclusion

This chapter concludes the second part of the book. In chapter 2, I developed a parsimonious explanatory framework to account for the ambition level of sectoral EU climate policies. In this chapter, I presented a measurement scheme for the concept of "sectoral climate policy ambition", outlined my research design, discussed the operationalization of key independent variables, and described a number of alternative explanations, which I need to take into account as control variables. We can now turn to the third part, which consists of five "case" chapters, dealing with the development of EU efforts to limit CO2 emissions from cars (chapter 4), the emergence of the EU ETS (chapter 5), the energy perfor-

mance of buildings (chapter 6), the promotion of renewable energy (chapter 7), and the lack of policies to reduce agricultural GHG emissions (chapter 8). Each chapter is structured in a similar fashion. It starts with a description of the relevant emission sources and the historical development of EU climate policies to regulate them. After that, I first develop rational choice baseline predictions about the case and test them against the evidence. I then describe the discursive environment and discuss evidence about its relevance. Finally, I consider the alternative explanatory factors described above, before a brief conclusion sums up the main findings of each chapter.

Part III
– Empirical Observations –
Five Cases of EU Sectoral Climate Policy-Making

Chapter 4: Reducing CO2 emissions from passenger cars – climate policy by rhetorical entrapment

4.1 Introduction

The empirical part of this book starts with a "least likely" case of ambitious sectoral climate policy-making, namely EU efforts to limit CO2 emissions from passenger cars. The car industry plays a critical role in many European countries: it is a major employer and a focal point for a whole range of other industries, from metals and chemicals to electronics and communication technologies. The car itself has assumed a central role in modern life and the global economy (e.g. Paterson 2000): it has shaped the design of entire cities and nationwide transport systems; it has enhanced personal mobility and created much larger, more flexible labor markets; it has become a status symbol and a source of identity for many people. Any legislation with major effects on the car industry is thus bound to raise political difficulties.

While the EU has repeatedly overcome car industry resistance to environmental and other regulation (e.g. Holzinger 1994, McLaughlin/Maloney 1999), limiting CO2 emissions from passenger cars posed a particularly complex political problem. Contrary to the "traditional" air pollutants from cars, it is not possible to simply filter CO2 from exhaust pipes. Moreover, limitations on CO2 emissions from cars have very different implications for the producers of smaller and larger vehicles. As the manufacturers of small and large passenger cars tend to cluster in different EU member states, any attempt to limit CO2 emissions would thus appear like a perfect recipe for deadlock in the Council. Nevertheless, in December 2008, the EU passed what were at the time among the most stringent fuel efficiency (and hence CO2 emission) rules for passenger cars worldwide. Even though I code this Regulation as "only" a "medium ambition" policy, its adoption was a very substantial political feat.

In this chapter, I argue that it was possible because the advocates of more stringent rules exploited a restrictive discursive environment. In 1998, the European car industry association ACEA had concluded a voluntary agreement with the Commission, in which it committed itself to reduce specific passenger car

CO2 emissions to 140 g/km by 2008. Yet by 2006 at the latest, it was clear that the industry would not honor its commitments. This failure as well as the rapid rise in transport emissions made it virtually impossible for the defendants of the car industry to argue in favor of low ambition policies. Thus, from the beginning of the debate about the policy in 2007, a continuation of a voluntary or "soft" approach was essentially off the table: the question was mainly by how much and how quickly specific emissions would have to be reduced, not whether mandatory regulation would be adopted or not.

This chapter is divided into four parts. First, I provide a descriptive historical overview of EU efforts to address CO2 emissions from passenger cars. After that, I develop rational choice baseline predictions about the main actors' preferences as well as the negotiating outcome. I also show that they cannot fully account for the development of car CO2 policy. I then describe in detail the discursive environment in the mid-1990s, when the voluntary agreement was negotiated, and in 2008, showing that by 2008 it was much more restrictive. It can thus account for the increase in climate policy ambition. Finally, I discuss the alternative explanatory factors outlined in chapter 3 and show that they add relatively little to the explanation. As the literature on EU policy concerning car CO2 emissions is quite limited (Keay-Bright 2000; ten Brink 2010; Hey 2010), much of this chapter is based on original research. It draws on a variety of primary documents from EU, member state, and private sector institutions, media articles, and interviews with 19 stakeholders.

4.2 Making cars less thirsty – EU policies to reduce CO2 emissions from cars

As soon as global warming entered the political agenda in the late 1980s, policymakers identified passenger cars as a prime target for a political response. Transport accounted for around 25% of the Community's CO2 emissions in 1989. These emissions were expected to grow further as a "consequence of … further growth in the volume of road traffic" (European Commission 1991, p. 5). Thus, Council Directives[98] in 1989 (89/458/EEC) and 1991 (91/441/EEC) called on the Commission to make appropriate legislative proposals on CO2 emission limitations. In response, the Commission started to collect and discuss proposals for car CO2 reduction measures in the Motor Vehicle Emissions Group (MVEG), a committee of member state officials and industry experts it had originally set up

98 The directives were primarily concerned with traditional pollutant emissions. The only provisions on CO2 were to ask the Commission for legislative proposals.

to develop air pollution rules. Yet within the MVEG, it quickly became clear just how divergent participants' opinions were. Germany, France, Italy, and the UK all presented largely incompatible proposals for how car CO2 emissions should be addressed (Keay-Bright 2000, p. 17). A sub-group of the MVEG eventually worked out a proposal for a purchase tax graduated according to cars' specific CO2 emissions, but the proposal was neither accepted by the full MVEG, nor did it make it through Commission inter-service consultations (e.g. ENDS Report December 1992; Environment Watch Western Europe, 6 August 1993).

The Commission did reach a consensus, however, that non-fiscal regulatory measures, namely CO2 limit values, would be very hard to establish, both at a technical and at a political level (Keay-Bright 2000, p. 17-18). As limits on specific CO2 emissions are essentially fuel economy standards, they cannot be applied uniformly to all cars or all car manufacturers without causing significant competitive distortions.[99] Instead, some formula needs to differentiate targets for differently sized cars according to some utility parameter (e.g. weight, footprint[100], engine size, etc.). In other words, heavier, larger or stronger cars would have to face less stringent targets than smaller ones if significant distortions of relative prices were to be avoided. This made CO2 much more difficult to regulate than "traditional pollutants" such as CO, SO2, NOx, or particle emissions. For these pollutants, uniform limit values lead to approximately proportional cost increases, which meant that no competitive distortions between producers in different segments were likely. While it is possible to write CO2 emission regulations with differentiated targets, it proved difficult at the time because the Commission lacked the necessary data to set individual targets at a level that would reach a specific overall reduction goal[101] (Interview Arp 2010). Moreover, the specific targets for individual models had specific distributional implications for carmakers. Hence, reaching an agreement in Council that was acceptable to member states with very differently specialized car industries would have been extremely difficult if not impossible (Interviews Henningsen 2010, Arp 2010).

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99 Moving a larger car always requires more energy and thus higher fuel consumption and higher CO2 emissions. As long as car manufacturers produce only limited model-ranges (e.g. mainly/only small or mainly/only large cars), a uniform target would either be toothless or strongly favor the makes of smaller cars. In the United States, CAFE (Care Average Fuel Economy) standards in the 1970s were set at a uniform level for all manufacturers – yet the three U.S. manufacturers General Motors, Ford, and Chrysler at the time produced very similar model ranges (from small to large), which meant that the distributional consequences of the legislation were modest.

100 Footprint is defined as the wheel-base multiplied by the track width.

101 In order to reach a particular sales-weighted average level of specific emissions of new cars (e.g. 140 g/km or 120 g/km), the utility based targets for individual models need to take into account the relative quantities sold of different models. Yet these quantities were not known to the Commission at the necessary level of detail to write appropriate legislation

4.2.1 A strategy for CO2 emissions from cars emerges

Despite the described divergences, there was consensus within the Council (at least in the constellation of environment ministers) that "something" had to be done about car CO2 emissions. Within the Environment Council, a "Community target" of average CO2 emissions of 120 g/km from new cars emerged in 1994 as the result of a Franco-German initiative. This target corresponded to fuel consumption of 5 liters/100 km for gasoline-fuelled cars and of 4.5 liters/ 100 km for diesel cars. By the end of 1994, twelve member states had endorsed the target, only Greece, Italy, and Spain opposed it (Environmental Watch Western Europe, 6 January 1995). At that time, the Environment Council also asked the Commission to develop a strategy to significantly reduce emissions, though there was no agreement about what it should look like (European Commission 1995, European Report, 8 October 1994).

Within the Commission, the idea of pursuing a voluntary agreement then emerged because of a lack of alternatives. Such agreements were "*en vogue*" at the time, with examples in multiple member states.[102] In its Fifth Environmental Action Program, the Commission had indicated that it wanted to give voluntary or negotiated agreements with industry a larger role in EU environmental policy going forward (European Commission 1993) and it was working on a Communication about negotiated agreements in the mid-1990s (European Commission 1996a). Given the need to "do something" about passenger car CO2 emissions, putting the idea into practice in this sector seemed like a rather attractive option.[103]

In its strategy for CO2 emissions from passenger cars, published in late 1995, the Commission accordingly identified the negotiation of a voluntary agreement with ACEA as the central element (European Commission 1995a). In addition to the envisioned agreement, the strategy would include a framework directive for CO2-based registration and circulation taxes for cars as well as a CO2- and energy efficiency labeling scheme for new cars (European Commission 1995a). While the ACEA agreement would address the supply side, the latter two measures would induce changes in demand. At the same time, the Commission would continue to fund research into low-emission cars. The Environment Council endorsed the strategy in June 1996, asking the Commission to negotiate an agreement to achieve the target of 120 g/km by 2005 or later "but in no case [after] 2010" (Reuters News, 2 July 1996).

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102 Notably the German car industry had made a voluntary commitment to reduce specific CO2 emissions of new cars by 25% by 2005 relative to 1990 (e.g. BDI 2004; Rupp/Bailey 2003)

103 The car industry and the issue of CO2 emissions was seen as particularly well-suited for such an agreement because of the limited number of carmakers and the clear need for flexibility in reaching the target.

Because of the member states' divergent views and the Commission's own internal differences, the Commission was in a weak negotiating position. It did not really have an alternative to the voluntary agreement. Accordingly, ACEA initially dragged its feet during the negotiations. This was at least partly the case because it could not agree internally what any agreement should look like, with the fault lines arising between the producers of large and luxury cars (Mercedes, BMW, Volvo) on the one hand, and volume producers (PSA, Renault, Fiat, VW[104]) on the other (Automotive News 11 November 1996). Yet after there was little movement for about a year, Commissioner Bjerregaard repeatedly threatened the introduction of binding CO2 limit values (Agence Europe, 17 October 1997, ENDS Report October 1997, European Voice, 5 February 1998). In February 1998, i.e. shortly after the Kyoto Protocol was agreed, the Commission held a stakeholder workshop at the European Parliament with Bjerregaard, Transport Commissioner Kinnock, and Enterprise Commissioner Bangemann in attendance, at which the Commission tried to convey the idea that alternatives to a voluntary agreement were possible if ACEA did not make a better offer (European Commission 1998b, Interview Arp 2010). Even though the Commission's "threats" were hardly credible, given the political and technical difficulties outlined above, the negotiations started to move shortly after the workshop. In March, ACEA offered the 140 g/km target for 2008 and the negotiations went smoothly thereafter. The conclusion of the Kyoto protocol and the advent of Bernd Pischetsrieder, the CEO of BMW, as the (rotating) president of ACEA in early 1998 were key factors in reaching the agreement (Keay-Bright 2000, p. 25, Interview Arp 2010, Interview Kendall 2010). Pieschetsrieder was in direct contact with the Commissioners Bjerregaard and Bangemann and, as the CEO of a German car company, was probably better able than others to ensure the commitment of the German car industry. The agreement, as outlined below, was signed in the summer of 1998.

4.2.2 The Agreement with ACEA

Overall, as detailed in Table 4.1, the 1998 voluntary agreement constituted an instance of "low climate policy ambition": its targets were entirely voluntary and there was no enforcement mechanism. In the agreement, ACEA and its members[105],

104 Though it was the largest producer by volume, VW does not fit the scheme as well, because of its premium brand Audi.

105 In order to avoid competitive disadvantages vis-à-vis importers, the Commission also concluded similar agreements with Japanese and Koren car manufacturers' associations, JAMA (Japanese Automobile Manufacturers Association) and KAMA (Korean Automobile Manufacturers Association), in 1999. As their contents are virtually the same as the agreement with ACEA (except for a target year 2009 rather than 2008), I do not further discuss them here.

i.e. all major European car manufacturers, committed themselves to reducing average per-km CO2 emissions of all new cars sold in the EU to 140g by 2008 (European Commission 1998c[106]). This target would apply to all cars in the so-called M1 category, which excluded vans, and represented a 25% reduction relative to the 1995 level of 186 g/km. Much of this reduction, "to a point of 90%", would come from the introduction of gasoline and diesel direct injection engines (European Commission 1998c, p. 13). Moreover, ACEA promised that some of its members would introduce models with specific emissions below 120g CO2/km by 2000. ACEA as a whole would aim for an "estimated target range" of 165-170 g/km by 2003, though this range was no firm commitment. By 2003, ACEA would also further investigate whether reaching a target of 120g CO2/km by 2012 would be feasible, thus exploring the possibility of extending the voluntary agreement. The Commission and ACEA would jointly monitor compliance with the agreement, but no data on individual car makers' performance would be published.

Table 4.1: Coding of the ambition level of the Voluntary Agreement between the Commission and ACEA 1998 (as well as analogous agreements with JAMA and KAMA 1999)

Dimension	**Description**	**Score**
Nature of targets	Voluntary commitment by car makers to achieve average specific emissions of 140 g/km for new cars by 2008/2009	1
Behavioral prescriptions	Member states had to provide Commission with car registration data on specific emissions of newly registered cars for monitoring mechanism	1
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	No enforcement mechanism	0
Degree of flexibility	Low scores on targets, behavioral prescriptions, and financial incentives	0
Overall score:		**2 (Low)**

Furthermore, the agreement contained a number of so-called "assumptions", which NGO-representatives interpreted as "catch-all" provisions (Keay-Bright 2000, p. 37), and which car manufacturers would later use to justify their failure to meet the 140 g/km target. These included in particular the availability of low-sulfur fuels, which were prerequisites for the introduction of direct-injection engine. Moreover, the Commission would negotiate equivalent agreements with Japanese and Korean manufacturers. Similarly, the commitment "assumed" no new regulatory measures

106 The Annex of this European Commission Communication contains a copy of ACEA's commitment

such as safety rules that required greater vehicle weight or air quality legislation that led to lower engine efficiencies.[107] The agreement was not legally binding. Instead, ACEA summarized its commitment in a letter to Environment Commissioner Ritt Bjerregard. The Commission then issued a "Recommendation" addressed to ACEA, summarizing the main points of the agreement (European Commission 1999b). As agreed in the assumptions, the Commission concluded equivalent agreements with JAMA and KAMA, the Japanese and Korean car manufacturers' associations in 1999.

4.2.3 Failure to meet the targets – movement towards binding rules

After the conclusion of the voluntary agreement and the 1999 passage of the CO2-labeling directive for cars, there was little discussion of the issue at EU level for several years. The Commission's 2000 Energy Efficiency Action Plan merely listed the voluntary agreement as one of the EU's achievements (European Commission 2000b). In its 2001 White Paper on Transport Policy, the Commission repeatedly mentioned the importance of reducing GHG emissions from road transport. It also stated its intention to extend the targets of the voluntary agreement with ACEA beyond 2008 and that light utility vehicles should be included in the accord (European Commission 2001a, p. 86). Initially, the voluntary agreement seemed to be relatively successful. Average emissions of new cars in Europe dropped by 10.8% between 1995 and 2002. The automotive industry thus easily achieved its interim target.[108] After that, however, progress slowed down and as early as December 2003, ACEA informed the Council of Ministers that it would probably not be able to meet its commitments for 2008 (European Report, 18 February 2004). Accordingly, the Commission's DG Environment began to study options for a regulatory approach (Interview Zierock 2010). In its second Energy Efficiency Action Plan, published in 2006, the Commission vowed to introduce "if necessary" legislation by 2007 "to ensure that the 120g CO2/km target is achieved by 2012" (European Commission 2006a, p. 15) and tied this pledge to the achievement of the voluntary agreement.

While DG Environment was thus beginning to develop legislation on car CO2 emissions, DG Enterprise established a "High-Level Group" of stakeholders from the automotive industry, civil society, member states and the European Parliament.[109]

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107 The word "assumed" was never clearly defined, meaning that the Commission and ACEA would later interpret it differently.

108 Much of the reduction seems to have been caused by an increase in the share of diesel-powered vehicles, which consume less fuel than petrol-fueled ones, see Fontaras/Samaras 2007.

109 Representation on the "high level group" was quite skewed towards the automotive industry and industry rather than environment ministries (see European Commission 2006b, p. 72-73), which

Operating under the title "CARS 21", this group took stock of the state of the automotive industry and discussed ways to improve its competitiveness. Its final report, published in 2006, endorsed an "integrated approach" to CO2 emission reductions: it did not specifically mention the 120 g/km target and argued that any Community targets should not be achieved through motor technology alone (European Commission 2006b). The emphasis on an "integrated approach" would henceforth be the rallying cry of the automotive industry and its supporters.

At around the same time, DG Environment prepared a White Paper on the future of the strategy for CO2 emissions from cars, aiming to introduce legislation that would make the 120 g/km target for 2012 binding. The German Industry Commissioner opposed the target as too strict, as did a number of member state governments, primarily Germany (e.g. European Report, 24 January 2007). The ensuing turf war between DGs Environment and Enterprise led the Commission to propose a lower overall target for car manufacturers, namely 130 g/km by 2012. The remaining 10g would come from additional measures adopted under the "integrated approach": the increased uptake of biofuels, improved mobile air-conditioning systems, tire pressure monitoring systems, and limit values for tire rolling-resistance[110] (e.g. EUObserver.com, 6 February 2007; European Commission 2007c). The Commission did not yet state how the burden of achieving the target would be distributed between different car makers, but promised in a convoluted fashion that the regulation would be competitively neutral.[111] On the same day, the Commission also published a Communication in response to the CARS 21 final report (European Commission 2007d), endorsing many of its recommendations, a fact on which the automotive industry would seize in its argumentation over the following months.

The White Paper caused a barrage of lobbying from car manufacturers and exposed the fault lines of the Council deliberations to come. Most of the debate revolved around the distribution of targets across manufacturers, the target date, the degree of flexibility car makers would have in achieving their targets, and the level of penalties for non-compliance. In terms of the distribution of targets, the French and Italian manufacturers and their governments stood against the German

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was frequently pointed out by environmental NGOs (e.g. Transport & Environment 2006a, BEUC 2007).

110 These additional measures are not part of the test-cycle for vehicle fuel efficiency and hence could be said to be "complementary" to the improvements in engine technology.

111 The full original sentence reads: "The Commission agrees that the legislative framework implementing the average new car fleet target will be designed so as to ensure competitively neutral and socially equitable and sustainable reduction targets which are equitable to the diversity of the European automobile manufacturers and avoid any unjustified distortion of competition between automobile manufacturers" (European Commission 2007c, p. 8).

car manufacturers and government. While the former preferred a flat target for all cars, the latter, aided by Industry Commissioner Verheugen preferred an approach that set targets based on the average weight of a manufacturers' new vehicles, thus requiring improvements in all classes of vehicles (e.g. Frankfurter Rundschau, 18 September 2007). The car industry was more united in stating that overall targets should be lower and apply at a later point in time. ACEA's main argument in this regard was that the product development cycles were somewhere between five and seven years, making an achievement of the targets before 2015 very difficult (e.g. ACEA 2007a, 2008).

4.2.4 The regulation to limit passenger car CO2 emissions

The Commission's proposal of 19 December 2007 tried to find a balance between the French and Italian as well as the German position (European Commission 2007e). According to the draft regulation, each car manufacturer would have to achieve an individual target for average per-km CO2 emissions per car sold. These targets would be based on a "utility curve"[112], meaning that targets were differentiated based on the average weight of the manufacturer's cars. This curve would be set in a way that allowed for the achievement of a target value of 130 g/km across all manufacturers by 2012. The slope of the "curve" of targets was to be set at 60% of the current slope, meaning that producers of larger cars would have to make greater efforts than those of smaller cars.[113] Germany had favored an 80% slope line, meaning a more equal distribution of reduction efforts, while France and Italy had argued for 30%, thus strongly favoring small car manufacturers. To enforce the regulation, the Commission's draft provided for penalties of between 20 and 95 EUR for each gram of average emissions by which a manufacturer exceeded its emissions. Within the Commission, the German, French, and Italian Commissioners had expressed skepticism towards the proposal, as they saw it as harmful to the automotive industry (Le Monde, 21 December 2007). ACEA and the German government immediately opposed the proposal, especially the stiff penalties it included, while environmental NGOs denounced it as too un-ambitious (European Report, 21 December 2007).

112 The "utility" of different cars could be measured according to various parameters, e.g. weight, footprint (track width times wheel base), engine size, etc.

113 The 100% curve resulted from an equal relative (percentage) reduction of emissions for any value of the utility parameter (weight) from the regression line of specific CO2 emissions on the utility parameter in the reference year 2006. Assuming a stable distribution of new cars sold across the utility spectrum, this would guarantee the achievement of the overall target based on the individual targets based on the utility parameter.

During the following months, the European automotive industry, in particular in Germany, campaigned vigorously against the Commission plans. Yet to the surprise of many, German Chancellor Merkel and French President Sarkozy reached a compromise agreement in June 2008. While Germany accepted the slope line of 60%, the 130 g/km target was "phased-in" and thus delayed until 2015. Moreover, car manufacturers would receive credits of 6 to 8 g/km through so-called eco-innovations, i.e. measures that improved energy efficiency but were not captured in the standard test cycle[114] (Deutsch-französisches Internet-portal 2008). France then introduced this compromise as the Presidency's proposal for a compromise in the relevant Council Working Group (European Report, 2 October 2008). On this basis, the Council negotiated with the European Parliament, but made it quite clear that it was unwilling to significantly alter the Franco-German compromise. In December 2008, the EP and the French Council Presidency reached a political agreement containing small concessions to the EP (notably on a long-term target for 2020).

As summarized in Table 4.2, I code the agreed Regulation (No. 443/2009) as a medium ambition policy. It prescribes a target of average emissions of 130 g/km for newly registered cars in the EU by 2015 and sets a "long-term target" of 95 g/km for 2020, subject to a review process in 2014. Car manufacturers face individual targets based on the sales-weighted average mass (utility) of their vehicles, with manufacturers of larger vehicles facing higher percentage reduction targets than those of smaller vehicles. From 2012, 65% of a manufacturers' fleet have to comply with these targets, rising to 75% in 2013 and 80% in 2014. Penalties for non-compliance amount to 95 EUR per gram per vehicle, though until 2019 the first three grams above the target level face a lower rate (5, 15, and 25 EUR for the first three excess grams respectively). Thus, there is a strong compliance mechanism with specific financial penalties. There are significant elements of flexibility, including so-called "super-credits" for fuel-efficient vehicles and extra credit for so-called eco-innovations, as well as the option to pool fleets between manufacturers. Moreover, small manufacturers, making less than 10,000 vehicles per year could apply for individual targets from the Commission, while manufacturers of between 10,000 and 300,000 vehicles per year could opt to take a 25% target reduction for its fleet average instead of the utility-based target.

114 As mentioned in above, the test cycle does not include all energy-consuming aspects of a car. Essentially the "eco-innovations" constitute an additional measures beyond the measures identified for the 10g to be achieved under the "Integrated Approach" first suggested by the Commission in its White Paper.

Table 4.2: Coding of the ambition level of Regulation (EC)No. 443/2009 of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO2 emissions from light-duty vehicles

Dimension	**Description**	**Score**
Nature of targets	Target for average fleet emissions of car manufacturers selling cars in Europe of 130 g/km by 2015, 95 g/km by 2020, applies to all passenger cars (M1)	3
Behavioral prescriptions	Member states have to provide data on specific emissions for newly registered cars to the Commission	1
Financial incentives	Financial penalties for exceeding targets	1
Enforcement and compliance	Specific penalties per gram of excess emissions per car (95 EUR per g, lower penalties for small deviations, phased in over time)	3
Degree of flexibility	Manufacturers can pool, there are super-credits for particularly fuel efficient cars, there are derogations for small car manufacturers, additional credit (7g) for eco-innovations	2
Overall score:		**10 (Medium)**

How can we explain this development? Why did the EU adopt a low ambition voluntary agreement on passenger car CO2 emissions in the 1990s, but move to binding legislation in 2008? And how can we account for the specific nature of the compromises reached? My description of the policy process already hinted at some of the key factors. In the following paragraphs, I develop them more systematically. I first show that the rational choice baseline does a good job of accounting for the opposing interests of different member states and the resulting deadlock. Changes in the discursive environment then helped to overcome this deadlock.

4.3 Explaining EU Policies on CO2 emissions from passenger cars – the rational choice baseline

In the following three sub-sections, I first develop theoretical predictions on actor preferences and bargaining outcomes based on the rational choice baseline, showing that interest group constellations and the resulting member state positions remained largely stable over time. I then present empirical evidence to show that in terms of the negotiating fault lines, the rational choice baseline offers correct predictions. Yet in terms of the overall ambition level member states were willing to accept, in particular in 2007/2008, the rational choice baseline turns out to be incorrect.

4.3.1 Theoretical Predictions

The rational choice predictions for the European Commission and the EP are straightforward. We would expect the European Commission to favor as ambitious a policy as it may reasonably expect the Council to accept and to continually push the Council in that direction. The precise ambition level of its proposals is thus dependent on our prediction of Council constellations. The European Parliament would generally favor a medium or high ambition policy according to the rational choice baseline. Predictions for the member states and thus the Council are more complicated, as they depend on specific national interest group constellations. As I try to demonstrate in the following paragraphs, we can expect member states to pursue the interests of their national car manufacturers.

To see why, let us consider the four groups of actors that might potentially affect member state governments' positions on CO2 emission limitations for cars: car manufacturers, automotive industry suppliers, fuel producers and distributors, and consumers. Car manufacturers are most decisively affected: they have to modify car designs in ways that require less fuel per distance traveled while at the same time satisfying regulatory and consumer demands regarding safety, comfort and driving experience. Realizing this goal causes additional costs, which make cars more expensive. Automotive suppliers can benefit from CO2 emission limitations if they supply the technologies needed to lower emissions. Yet they also lose if higher overall prices for cars lead to lower demand for their inputs. Moreover, lobbying in favor of CO2 emission limitations against the wishes of car manufacturers would likely have a negative impact on suppliers' relationships with their customers. Hence it is quite rational for the supply industry to lay low on the issue. The oil industry clearly stood to lose from limitations on CO2 emissions: as more efficient cars consume less fuel, demand for their product (gasoline, diesel) would decline. At the same time, continued growth in mobility (i.e. in km traveled) and growth in demand from other regions of the world meant that limits to specific CO2 emissions did not constitute a grave threat to their interests. Moreover, as oil-companies' customers would benefit from more energy efficient cars, it would be awkward for oil companies to be seen as promoting policies that were detrimental to their own customers. In addition, most oil is imported, which usually makes lobbying slightly more difficult. Finally, car-users clearly benefit from limits on CO2 emissions because of lower fuel consumption, even though they would face higher up-front prices for new cars. Yet, consumers are widely dispersed and their individual benefits from CO2 emission limitations are quite small (and spread out over time) so that we should not expect their interests to matter much to governments adopting a negotiating position. Only in member states without a car industry would we expect energy efficiency

considerations and the opportunity of lowering fuel consumption to influence government policy. All other governments can be expected to favor their own car manufacturers.

In order to understand the precise interests of car manufacturers in CO2 emission limitations, we need to recall that CO2 is unlike pollutant emissions. The laws of physics dictate that heavier vehicles consume more energy to achieve the same speed as lighter vehicles, which makes it inherently more difficult for producers of large cars to comply with CO2 emission limits than for producers of small cars. Depending on the specifics of CO2 emission regulations, we can thus expect different effects on the car industry as a whole and on particular manufacturers. A flat average specific CO2 target[115] that applies to the fleets of all manufacturers, regardless of the types of cars they produce, would thus favor the producers of smaller cars. Producers of larger cars would face more than proportionally higher costs as a percentage of the sales price than producers of smaller cars, leading to a shift in market share towards the producers of smaller cars. Differentiated targets on the other hand, e.g. based on different weight classes, would favor the most technologically savvy manufacturers. While such technological savvy is often associated with the producers of premium and luxury cars, a priori there is no reason why it should be so – volume manufacturers (making smaller cars on average) can after all spread their research and development budgets over a larger number of vehicles. What we can say about differentiated targets is that they impose costs on all producers, while their impact on competitive advantages will depend on various specific factors.[116]

Table 4.3: Preference expectations for different hypothetical coalitions

Country Group	**Preference Ordering**
Large car manufacturers	No target > differentiated target > flat target
Small car manufacturers	Flat target > no target = differentiated target
Mix of car manufacturers	No target > flat target = differentiated target
No car manufacturers	Flat target = differentiated target > no target

Based on these considerations we can describe actor constellation concerning car CO2 emission policies as a negotiation between four "hypothetical coalitions" of member states with varying preference orders. These "hypothetical coalitions" consist of countries with large car manufacturers, countries with small car manu-

115 This discussion assumes that any target is below the status quo for the industry as a whole or at least for most manufacturers, otherwise there would be no difficulty of compliance.

116 The most important factor is, of course, how the targets are differentiated. Moreover, the particular technological capabilities of different car manufacturers will play a role in determining the competitive impact of such rules.

facturers, countries with a mix of car manufacturers, and countries without a car industry (see Table 4.3). Countries with large car manufacturers can be expected to favor differentiated targets over flat targets for CO2 emissions. Yet their car manufacturers would be even better off without any target. As such a target implies a cost it will always make cars more expensive relative to other products and thus have a negative impact on demand. Countries with small car manufacturers, on the other hand, will favor a flat target to differentiated ones. In addition, they will favor a flat target over no target at all, as the flat target promises to increase their market share. Countries with both small and large car manufacturers are "caught in the middle": they will favor no target and be indifferent between the differentiated and the flat target. Finally, countries without a car industry can be expected to be indifferent between flat and differentiated targets, but to prefer either version of the target to no target at all because of the ancillary benefits of energy efficiency. To derive empirically testable predictions on EU car CO2 policy, we need to identify the countries that fall into the described categories. To do so, I compiled data on the car industry in the EU member states, both for 1994, the year before the Commission published its "Car Strategy", and for 2007, the year in which discussions about the regulation started. Based on this data, we would not expect any group of countries to muster a qualified majority in favor of a CO2 emissions target for passenger cars. At most, we might expect agreement on a range of "soft" measures to improve fuel efficiency.

4.3.1.1 Predictions for the 1990s

Let us first consider the situation in the mid-1990s. Table 4.4 lists the number of passenger cars produced in the different EU-15 member states in 1994, the share of employment in the automotive industry, as well as the manufacturers producing in the various countries. Based on this table, it is quite clear which member states would have the most interest in car CO2 emission legislation: Germany, France, Belgium, Spain, and Sweden, with Italy, Austria, and the UK as close runners-up. While the percentages may look relatively small, they are quite important. They do not include automotive suppliers. Moreover, the car industry tends to cluster in particular regions, where many more employees are ultimately dependent on the health of the car industry.

In order to categorize these countries according to the size of the cars they produce, however, we need additional information. Unfortunately, the data on car sizes or weights at the time was quite limited (as the Commission also experienced). The names of the car manufacturers do give us some cue. Other than that, the best proxy for which data is available is the share of exports of cars with different engine-sizes. As engine-size correlates strongly with vehicle size, this is a decent measure,

though the distribution of exports between different size categories is *not necessarily* congruent with the distribution of small and large vehicles produced in a member state. Domestic demand may differ from international demand for cars produced in a certain member state. Moreover, the export figures also contain used cars. Table 4.5 presents data on cars with spark-ignition engines, i.e. petrol-fueled ones, and with compressed-ignition engines, i.e. those powered with diesel. At the time, diesel still accounted for a relatively small share of total exports and almost all countries exported primarily larger diesel vehicles. For petrol-fueled cars, however, the picture is quite clear: Germany, the UK, Belgium, Sweden, Austria and the Netherlands can be expected to support larger car manufacturers, while France, Spain, Italy, Portugal, and Finland fit more closely into the "small car" category. The countries without a car industry, i.e. Denmark, Greece, and Ireland, can be expected to support ambitious car CO2 emissions legislation. It is hence clear that no two groups of countries can muster a (qualified) majority in the Council – the rational choice baseline thus predicts that there will be no agreement or a very "soft" measure that appeases the Commission and the European Parliament. Germany and its allies would block medium or high ambition policies.

Table 4.4: Car production volume, industry employment and car manufacturers in EU member states

Member State	Number of passenger cars produced	Car industry employment as share of total*	Manufacturers of passenger cars
Germany	4.093.685	1,9%	VW/Audi, BMW, Mercedes-Benz, Ford, Opel, Prosche
France	3.175.213	1,4%	PSA, Renault, Sevel Fiat, Sevel Lancia
Berlgium	1.220.496	1,4%	Ford, Apal, Opel, Renault, VW, Volvo
Spain	1.821.696	1,2%	PSA, Renault, Ford, VW, GM
Sweden	352.951	1,0%	Saab, Volvo
Italy	1.340.878	0,8%	Fiat, Bertone, Lamborghini, Maserati, Innocenti, Rayton Fissore
Austria	45.776	0,8%	Steyr-Daimler-Puch
UK	1.466.823	0,8%	Power Group, Honda, Toyota, Nissan, Jaguar, Ford, GM, Lotus, Metrocab, Rolls Royce, Carbodies, others
Portugal	37.754	0,5%	PSA, Renault
Netherlands	92.044	0,4%	Volvo
Finland	17.872	0,3%	Saab-Valmet
Luxembourg	0	0,2%	
Denmark	0	0,2%	
Greece	N/A	0,1%	
Ireland	0	N/A	

* Values for Belgium, Denmark, and Portugal for 1993, for Sweden for 1991
Source: VDA 1995, Eurostat, own calculation

Table 4.5: Exports of motor vehicles by cylinder capacity, 1994

	Spark-ignition engine		Compressed-ignition engine		Share of spark-ignition cars
Member State	**<1500 cm3**	**>1500 cm3**	**<1500 cm3**	**>1500 cm3**	
Germany	16%	84%	1%	99%	78%
France	53%	47%	6%	94%	74%
Spain	79%	21%	15%	85%	74%
UK	34%	66%	1%	99%	85%
Italy	60%	40%	3%	97%	83%
Berlgium	41%	59%	2%	98%	78%
Sweden	1%	99%	3%	97%	99%
Portugal	99%	1%	88%	12%	81%
Austria	9%	91%	1%	99%	52%
Netherlands	19%	81%	4%	96%	84%
Finland	59%	41%	6%	94%	95%
Source: VDA 1995					

Table 4.6: The European car industry in 2007/2008

Member State	**Production of passenger cars (units, 2008)**	**Share of direct automotive employment in total employment (%, 2007)**	**Car manufacturers with plants in member state***
Germany	5.526.882	2,2%	Daimler (3), BMW (4), VW (8), GM Europe/Opel (3), Ford Europe (2), Porsche (2), Wiesmann (1), Bitter (1), Funke & Will (1)
France	2.144.957	1,0%	Renault (4), PSA (5), Fiat/PSA (1), Daimler/Smart (1), Toyota (1), VW/Bugatti (1), PGO (1), MDI (1), Heuliez Capital (1), Matra (1), Venturi (1)
Spain	1.943.049	0,8%	Ford Europe (1), Nissan (1), VW (2) , Santana Motors (1), PSA (2), Renault (2), GM Europe/Opel/Vauxhall (1)
UK	1.446.619	0,6%	Ford Europe, Toyota (1), Jaguar Land Rover (3), BMW (2), VW/Bentley (1), GM Europe (1), Nissan (1), Honda (1), TVR (1), Invicta (1), Manganese Bronze Holdings (1), Caterham (1), Bristol (1), AC Motor Holdings (1), Ginetta (1), Aston Martin (1), Lotus Group International (1), Tesla Motors (1), MG Motor UK (1), Morgan (1), Metrocab (1), McLaren (1)
Poland	944.500	0,9%	Fiat/GM Europe (1), GM Europe/Opel/Vauxhall (1), Fiat (1), Ukravto/Chevrolet (1)
Czech Republic	933.312	2,6%	Toyota/PSA (1), VW (3), Hyundai-Kia (1)
Berlgium	680.131	1,0%	GM Europe (1), Ford Europe (1), VW (1), Ford Europe/Volvo (1), Imperia Hybrid Sports Cars (1)
Italy	659.221	0,7%	Fiat (8), Pininfarina (3), Pagani Sportscars (1), VW/Lamborghini (1)
Slovak Republic	575.776	3,2%	VW (1), PSA (1), Hyundai-Kia (1)
Hungary	346.055	1,5%	Suzuki (1), VW (1), Dailmer (1, from 2012)
Sweden	252.287	1,9%	Volvo, GM Europe
Romania	231.056	0,6%	Renault (1), Aro (1)
Slovenia	180.223	1,2%	Renault (1)
Portugal	132.242	0,4%	VW (1)
Austria	125436	0,8%	Magna Steyr (1), BMW (1)
Netherlands	59.223	0,3%	Mitsubishi/PSA (1), Donkervort (1), Spyker (1)
Finland	18.000	0,3%	Valmet Automotive/Porsche (1)
Bulgaria	0	0,0%	None
Cyprus	0	0,0%	None
Denmark	0	0,2%	None
Estonia	0	0,4%	None
Greece	0	0,1%	None
Ireland	0	0,2%	None
Latvia	0	0,1%	None
Lithuania	0	0,2%	None
Luxembourg	0	0,0%	None
Malta	0	0,0%	None
* Only plants for passenger cars, not included are plants for engines and light-commercial vehicles/SUVs			
Sources: ACEA Website, Eurostat			

Ten years after the negotiation of the voluntary agreement, the underlying interest constellations in the member states' car industries remained very similar, as we can see from Tables 4.6 and 4.7. Table 4.6 lists the production of motor vehicles, direct automotive employment as a share of total employment, as well as the owners of automotive production plants within the different member states in 2007/2008. Table 4.7 lists the automotive producers according to the average specific CO2 emissions of their vehicles sold in the EU in 2006. The information contained in the two tables again allows us to distinguish member states according to the hypothetical coalitions described in Table 4.3.

We can distinguish between those countries with a car industry and those without one. In addition, we can distinguish countries with a "German" car industry, i.e. plants by Daimler, BMW, or VW, and with a "French/Italian" car industry, i.e. with plants by PSA, Renault or Fiat. While the "Germans" produced larger cars on average, the "French/Italians" produced mainly smaller vehicles. The countries with "German" car manufacturers would thus favor no target over differentiated targets over a flat target, whereas the countries with "French/Italian" producers would favor a flat target over no target over a differentiated one. Foreign producers, while certainly active on the issue, produced relatively smaller volumes, making them relatively less important. Other member states would be free to support either form of emission limitations. As each group of countries held a blocking minority, we would expect at most a low ambition policy to result.

Table 4.7: Average specific CO2 emissions by manufacturer

Manufacturer (group)	Country	Emissions 2005	Emissions 2006
DaimlerChrysler	Germany	182	188
BMW	Germany	188	184
Mazda	Japan	177	173
Nissan	Japan	171	168
Hyundai	Korea	168	167
Volkswagen	Germany	165	166
Suzuki	Japan	164	166
Ford Europe	USA	163	162
GM Europe	USA	157	157
Honda	Japan	160	154
Toyota	Japan	161	153
Renault	France	148	147
Fiat	Italy	145	144
PSA Peugeot Citroen	France	146	142
German manufacturers		172	173
French and Italian manufacturers		147	144
Japanese manufacturers		166	161

Source: European Federation for Transport & Environment 2007c

As we have seen, interest group constellations in the member states remained relatively stable between the 1990s and 2007/2008. Despite the entry of 12 new member

states into the EU, the rational choice baseline thus leads us to expect that at neither point in time a coalition of countries would be able to come up with a qualified majority in support of mandatory CO2 limitations for passenger cars. This – as we have seen – was not correct. Nevertheless, the rational choice baseline can explain several aspects of the negotiation, as I discuss in the following subsections.

4.3.2 Empirical Evidence on the Rational Choice Baseline

The rational choice baseline predicts correctly that the European Commission and the European Parliament tried to promote more ambitious EU climate legislation for passenger cars. Moreover, member states did tend to support the interests of their national car industries, and the details of the compromises that were reached do reflect specific concerns of those national industries. Below, I first present evidence regarding the establishment of the Voluntary Agreement and then discuss the negotiation of the Regulation. For each case, I start by looking at the European Commission and the European Parliament, followed by evidence on member state preferences as well as the negotiation outcome.

4.3.2.1 Evidence from the Negotiation of the Voluntary Agreement

European Commission Preferences

In the 1990s, the European Commission pursued a low-ambition policy for CO2 emissions from cars. The main document adopted by the entire European Commission in that time period was the 1995 strategy on CO2 emissions from passenger cars[117] (European Commission 1995a). As described above, it proposed the voluntary agreement, a labeling scheme, and a framework directive for car taxation (European Commission 1995a). After the discussions in the MVEG, and given the distribution of large and small car manufacturers, the Commission could not expect the member states to agree on more ambitious legislation. The most it could hope for was a low ambition policy. This is what it pursued.

Based on a "congruence procedure test", the Voluntary Agreement episode thus confirms hypothesis H1 from the rational choice baseline. Evidence on the causal process suggests that other factors were also important. Commission offi-

117 While the voluntary agreement and the labeling scheme clearly constituted low-ambition policies, the ideas about car taxation were still relatively unspecific and not cast into a formal legislative proposal until July 2005 (European Commission 2005d). The Council debated the proposal in 2007, found that member states could not agree on how car taxation should be harmonized and hence left the issue unresolved (European Council 2007a).

cials[118] involved in the decision making process and a report by Sarah Keay-Bright (2000) for he European Environment Bureau suggested that "political" considerations of what would be feasible in the Council did play an important role in Commission decision-making: discussions in the "pre-legislative" phase made it clear that the options for purchase or circulation taxes would not make it through Council. The same fate was likely for any mandatory rules on CO2 emission limitations. As the Commission did not want to propose legislation that stood no chance of approval, it did not further pursue these legislative avenues. Despite the difficult prospects, however, it continually worked towards finding some way of introducing a European car CO2 policy. Thus, there is evidence in support of the rational choice baseline.

As described above, however, other aspects also influenced the Commission's position. The first was the pure difficulty of writing legislation on CO2 emission limits in a way that did not cause major distortions in the automotive market. The Commission simply lacked the relevant data to write the legislation in a way that would hold up to technical scrutiny. The other aspect that played an important role in the development of the Commission position was the internal negotiation between various DGs. DG Environment by itself might well have proposed ambitious legislation despite the strategic considerations outlined above. Yet DG Enterprise, which sought flexibility for industry, checked its ambition. The suggestion for a voluntary agreement was also the result of a bargain within the Commission. Overall, the case hence supports the rational choice baseline, though technical difficulties and Commission-internal differences also mattered as causal factors.

European Parliament Preferences

The European Parliament was unable to contribute much to EU policy on car CO2 emissions during the 1990s. The Commission and Council effectively sidelined the EP by agreeing on the pursuit of a voluntary agreement, thus bypassing the normal legislative procedures. Nevertheless, the European Parliament made its preference for a significantly more ambitious policy abundantly clear in a number of resolutions. In April 1997, it passed a resolution on the Commission's

118 I spoke to three Commission officials involved in the negotiations at the time, Jorgen Henningsen and Henning Arp from DG Environment, and Chris Kendall from DG TREN. The interviews were conducted by phone in the spring of 2010, i.e. many years after the fact, thus bearing the risk that interviewees forgot certain facts or "edited" their memories in the meantime. Yet by triangulating with the report by Keay-Bright as well as media sources as well as interviews with two NGO representatives I feel quite confident in the accuracy of the observations provided in these paragraphs.

car strategy. Drafted by Laura Gonzalez Alvarez, a leftist[119] MEP from Spain, it flatly stated that the measures proposed by the Commission were "inadequate" and that the EP rejected "in particular the Commission's proposal for a voluntary agreement between the Community and the car industry" (European Parliament 1997a). Instead, it called on the Commission to make proposals for amendments to air pollution directives[120], which would set "graduated limit values" for CO2 emissions. In doing so, the Commission should pursue a target of 120 g/km by 2005 and of 90 g/km by 2010. In addition, the resolution stated the EP's support for CO2-based and significantly increased car registration and circulation taxes, as well as a host of other measures such as speed limiters in cars and better enforcement of existing speed limits.

The Parliament reiterated this position in its February 1998 resolution on environmental policy after the Kyoto protocol. Again, it called for a Directive on car CO2 emissions "with the aim of making the 5 liter average car mandatory for new petrol cars from 1 January 2005 … and making the 3 liter average car mandatory for new petrol and diesel cars from 1 January 2010" (European Parliament 1998a). In September of the same year it issued a resolution on the EU's position at the UNFCCC COP-4 in Buenos Aires, in which it stated that the voluntary agreement does "not provide any satisfactory answer to a number of urgent questions which are vital for successful implementation" (European Parliament 1998b). It criticized in particular that the precise meaning of the agreements' "assumptions" was unclear, that intermediate targets were imprecise, and that there are no penalties for non-compliance.

While we do not have a concrete legislative proposal for a car CO2 emission policy, the EP's resolutions do provide evidence that its preference was for a high level of policy ambition during the 1990s. This evidence confirms the rational choice baseline.

Member State Preferences

The rational choice baseline's predictions on member states' positions also find a lot of empirical support, though they do not capture the entire story. As there never was an explicit negotiation about a legislative proposal, member states were never really "forced" to develop and stand by an agreed "position." Sometimes, different parts of the same government even openly favored different options.[121] Yet

119 Belonging to GUE/ENGL, the Confederal Group of the European United Left/Nordic Green Left.

120 In particular to Directive 70/220/EEC on emissions from passenger cars.

121 At one meeting of the MVEG in 1992, for example, the German delegation included officials of the environment, finance, and transport ministry, each of which took a different position on the purchase tax discussed at the time (ENDS Report, December 1992).

evidence from the discussions that did take place within the MVEG and the Environment Council during the 1990s suggests that member states' positions were strongly influenced by the type of car industry within their borders.

Thus, Germany, the main producer of large vehicles, argued for the introduction of car CO2 standards for different weight-based vehicle categories in the MVEG discussions (ENDS Report April 1992, December 1992; Keay-Bright 2000, p. 17). Cars that did not conform to the limit value for their weight category would be subject to a CO2-levy or purchase tax, to be paid for by the car buyer (Deutscher Bundestag 1993, p. 2; Europe Energy 30 July 1994). The German proposal would thus encourage energy efficiency improvements without discouraging consumers from buying larger and heavier cars. It effectively protected German manufacturers from adverse shifts in market demand. Given the technological leadership of German car manufacturers, it was also plausible that they would benefit within individual weight classes relative to their competitors.

France and Italy, on the other hand, proposed systems within the MVEG, which would favor small car manufacturers. Thus, France advocated a fixed limit on average CO2 emissions for new cars. Those manufacturers exceeding this limit would have to pay a fine, while those staying below the target would receive some financial reward (ENDS Report April 1992, December 1992; Keay-Bright 2000, p. 17). Italy suggested the introduction of a CO2-based car purchase tax. Cars with emissions below 100g CO2/km would be exempt from the tax. Cars with a higher level of emissions would face a tax that rose exponentially with CO2 emissions, but which was capped at 400 g/km (Keay-Bright 2000, p. 17). The UK advocated fuel efficiency standards for cars with tradable emission credits in the MVEG discussions the early 1990s (Keay-Bright 2000, p. 17, ENDS Report April 1992). Car manufacturers would generate these credits by surpassing certain targets; those manufacturers that did not reach their targets would have to buy credits from others to make up for the difference. At the same time, the UK was a strong opponent of harmonized car registration or circulation taxes based on CO2, mainly because it held that the EU had no right to discuss fiscal matters (Keay-Bright 2000, p. 18). The system suggested by the UK would allow its different car manufacturers a lot of flexibility – manufacturers of large and luxurious vehicles such as Jaguar and Land Rover would be able to buy credits to comply with the rules, which would minimize the impact on sales prices.

Member states' proposals during the MVEG discussions of the issue thus provide strong evidence that each country was defending its own car industry as predicted by the rational choice baseline. The Environment Council's debates about the Commission's (1995a) strategy on CO2 emissions from cars in the spring and summer of 1996 revealed a similar dynamic. Apparently, the large car

producing countries, Germany, France[122], Italy, and the UK, voiced the strongest opposition against setting the 120 g/km by 2005, claiming that the target date came too early for car manufacturers (ENDS Report June 1996, Reuters News 2 July 1996). The member states without car manufacturers, on the other hand, saw 2005 as a feasible deadline (Ibid.). The compromise formulation reached was that the deadline would be set for 2005, but that the deadline could be extended "should it appear that it is not possible fully to achieve the objective by 2005 … but in no case beyond 2010" (Council of the European Union 1996). During the negotiations between ACEA and the Commission, the cleavages between different car manufacturers[123] were also as expected: the German car manufacturers and Volvo called for a 25% reduction in specific emissions by 2005 relative to 1990 (i.e. a differentiated target), while French and Italian car makers advocated a flat average target (ENDS Report October 1997).

At the same time, however, there is also some confounding evidence. Germany in particular was quite active in promoting legislation for CO2 emission reductions from cars. It repeatedly asked the Commission in the early 1990s for legislative proposals. In response to questions from opposition politicians in the German parliament, the government stated in 1993 that it was pursuing an EU fuel-efficiency-target of 5 or 6l per 100 km (Deutscher Bundestag 1993, p. 4). During Germany's Council Presidency in the fall of 1994, then-Environment Minister Klaus Töpfer repeatedly promoted a 120 g/km target for specific CO2 emissions.[124] He pushed his colleagues throughout the German Presidency to adopt such a target and to call on the Commission to propose a directive to achieve the goal (e.g. Europe Energy 30 July 1994; European Report 8 October 1994). The Bundesrat, the upper house of the German parliament, which is composed of representatives of the federal state governments, also declared the Commission's car strategy to be inadequate: in particular, it did not consider a voluntary agreement to be appropriate and asked the German government to work in favor of a legislative solution (Deutscher Bundesrat 1996a, 1996b).

Yet, the Bundesrat at the time was dominated by the opposition, and Töpfer was replaced in late 1994 by Angela Merkel, who did not put the same emphasis on the goal. Moreover, as long as the issue was discussed with little prospect of success in the Environment Council, other parts of the German government did not

122 France was arguing against the 120 g/km target by 2005 in June 1996, even though it had endorsed the target in its own National Climate Change Program of February 1995 (IEA 1996, p. 43).

123 Though not necessarily member states, as the negotiation was between the Commission and ACEA

124 Though he usually cast it as a fuel efficiency target, namely 5 l/100 km for gasoline and 4.5 l/100 km for diesel.

need to get involved.[125] In response to questions from opposition politicians, the government also repeatedly declined specific answers on its preferences, saying it wanted to first see legislative proposals by the Commission (e.g. Deutscher Bundestag 1994, 1996). And the proposals it did make were clearly designed to not hurt Germany's own premium car makers. Thus, we should not overestimate the importance of Töpfer's efforts. Nevertheless, they are an important reminder that there were apparently some countervailing forces against the pure defense of national car manufacturer interests.

The same is true for some other member states. Thus, the UK's environment Minister Michael Meacher supported the Commission's threat to introduce mandatory legislation (European Commission 1998b). Moreover, Sweden supported an early (2005) target date for the 120 g/km goal, even though its own car industry (Volvo, Saab) produced mainly larger cars (ENDS Report June 1996, Reuters News 2 July 1996). While Sweden clearly constitutes an exception, however, there is still strong evidence that the size and the nature of the car industry were central determinants of most member states' position towards car CO2 limit values.

As national interest group constellations were quite clear in the case of car CO2 emissions, the rational choice baseline does not predict that administrative adaptation costs should matter much. Indeed, there is no indication that they did matter. The case does not offer a strong test of this prediction, however, as the administrative adaptation costs for member states were small: the European type approval process already included a measurement of cars' fuel economy – additional administrative efforts would thus have largely consisted of additional reporting requirements.

Bargaining Outcome

As we have seen, the rational choice baseline provides us with fairly accurate predictions on actor preferences regarding car CO2 emissions during the 1990s. As no formal legislative process took place, this case is not helpful in evaluating the baseline hypothesis (H5) about bargaining outcomes. Nevertheless, it is quite accurate to say that the voluntary agreement in the end constituted a compromise between those who defended the car industry and those who wanted to improve fuel efficiency. It sidestepped the distributional question of which car manufacturer would have to make which contribution by giving a target to ACEA as a whole without holding any particular manufacturer accountable for the result. This was a policy that all governments could agree to.

125 When the Bundesrat debated the issue, the committee on transport policy actually sought a clause stating that the 120 g/km target for 2005 was unrealistic, though it was outvoted by the other committees and the full chamber (Deutscher Bundesrat 1996y).

The negotiation that did take place was between the Commission and ACEA. As noted above, the Commission's bargaining position in these negotiations was not particularly strong, as it did not have good alternative options. Legislation was quite obviously very difficult to write or to get through Council. Hence ACEA initially dragged its feet and was not willing to make important concessions. Why it did eventually make concessions is not entirely clear – a shift in the discursive environment may give us a cue, as I discuss when I present evidence on the second part of my explanatory framework. Before, however, let us look at evidence regarding the rational choice baseline from the negotiation of the regulation in 2007/2008.

4.3.2.2 Empirical evidence from the Negotiation of Regulation No. 443/2009

European Commission Preferences

As we have seen in the narrative account of the regulation's development, the European Commission did indeed make a legislative proposal in December 2007 that I would classify as highly ambitious. It would have set a mandatory target of 130 g/km for 2012, distributed among car manufacturers according to the average mass of their new vehicles. The proposal contained financial penalties and very limited flexibility mechanisms or exceptions: a provision on "pooling" of targets between different manufacturers, and an exception for independent small volume manufacturers producing less than 10.000 cars per year. As I discuss below, most member states were now willing to accept binding legislation, even though there were huge divergences between member states on the specifics. Thus, the fact that the Commission drove the effort towards a mandatory set of CO2 rules for cars again confirms the expectation of the rational choice baseline. The explanatory framework thus again passes the "congruence procedure test."

A closer look at the Commission-internal development of the proposal, however, reveals that a concern for task expansion and a political calculation of what member states might accept were not the only dynamics at work. Political concerns clearly played a role: all interviewees with insights into the work of the Commission as well as the relevant media coverage suggested that the Commission tried to strike a balance between the concerns of the German and the French/Italian governments. This is reflected primarily in the suggested 60%-slope line, which lay between the 80% demanded by Germany and the 40% or less proposed by France and Italy. The pooling provision was aimed at small-volume manufacturers, notably Porsche (Interviews European Commission Officials 2010).

At the same time, however, Commission-internal debates did take place between DG Environment and DG Enterprise, notably between Stavros Dimas, the Greek Environment Commissioner, and Günther Verheugen, the German Industry

Commissioner. While the former pushed for strict rules to achieve the 120 g/km target by 2012, arguing that the target had initially been set for 2005 or 2010 at the latest, the latter made himself the champion of the automotive industry. Verheugen used the CARS 21 process described above to push the idea of an "integrated approach", warned that "climate hysteria" could undermine European competitiveness (EUObserver.com, 5 March 2007), and urged the European car industry to speak with one voice (Frankfurter Rundschau, 18 September 2007). He also repeatedly emphasized the need for differentiated targets. Thus, he was often portrayed as a defender of primarily the German car industry's interests (e.g. Greenpeace 2008a).

The Dimas-Verheugen controversy shows that the Commission did not act as a cohesive actor on this matter and that interests within the Commission appear to have diverged. This divergence was both between DGs with different mandates (i.e. environmental protection vs. promotion of industry) and with Commissioners from different countries (without and with a car industry). In the end, the issue had to be resolved by the Commission President, Jose Manuel Barroso, who sided with Dimas. This led Verheugen to boycott the press conference at which the proposal was presented and to publicly question the wisdom of the proposal in the following months.

Overall, the case confirms the rational choice baseline's prediction on the Commission's preferences. Yet the causal process through which it arrived at the legislative proposal suggests that things might have turned out differently. In particular the struggle between different DGs could have ended in a lower ambition proposal – hence we should not take the fact that it did not as overly strong proof of the explanatory framework.

European Parliament Preferences

As in the Commission and Council, divisions about the proper way forward on CO2 emissions from cars ran deep in the EP, which meant that it was less of a fighter for ambitious climate legislation than usual. Nevertheless, it appears to have favored more ambitious legislation than the Commission and most of the member states.

A first indication we have of this is the resolution the EP adopted in October 2007 in response to the Commission's White Paper. Drafted by Chris Davies (ALDE, UK), it called for postponing the target date to 2015, but to raise the target for emissions achieved through motor technology improvements from 130 g/km to 125 g/km. At the same time, the Parliament endorsed a 2020 target of 95 g/km and suggested a 2025 target of 70 g/km. After the publication of the Commission's proposal, the Presidency of the EP decided to treat the matter under Rule 47 of its Rules of Procedure. This meant that while the Environment Committee was the lead committee on the issue, the ITRE-Committee was an "associated committee" with equivalent rights. Guido Sacconi, a Socialist MEP

from Italy was named the Rapporteur on the issue, Werner Langen, a Conservative from Germany was the draftsman in the ITRE Committee. Both produced draft reports by May 2008, displaying very different outlooks.

Sacconi's draft report in May 2008 was generally very supportive of the Commission's proposal and suggested no more than 10 amendments (European Parliament 2008a). Most importantly, he suggested the introduction of a long-term target of 95 g/km. In addition, the report advocated that penalties be used to fund automotive research. He also called for an adjustment to the test cycle in order to abolish the distinction between measures that directly affect a car's fuel efficiency and the above mentioned eco-innovations that reduced fuel consumption but did not register in the test cycle. The draft opinion by Werner Langen for the ITRE-Committee, also published in May 2009, was significantly longer (46 amendments) and sought to lighten the burden on the automotive industry significantly (European Parliament 2008b). The draft opinion proposed to "phase-in" (i.e. delay) the target of 130 g/km until 2015, to give car makers additional credit for so-called eco-innovations beyond the 5g foreseen by the Commission, and significantly lowered penalty levels. Langen did, however, support the long-term target of 95 g/km.

The ITRE-Committee was first to vote on the Regulation. In September 2008, it adopted the outlined amendments and introduced the so-called super-credits, which allow for very-low emissions cars to be counted multiple times towards the target. Overall, the ITRE-Committee's vote was seen as an endorsement of the Merkel-Sarkozy compromise that had been worked out in July of the same year. A few days later, the Environment committee, however, upheld its rapporteur's initial set of amendments and thus most of the Commission's proposal. Like the ITRE-Committee, it also voted for a 95 g/km target for 2020 (e.g. European Report 30 September 2008, 2 October 2008). While the EP's official position in the subsequent Trilogue negotiations was the Environment Committee's set of amendments, it was quite clear that there were two EP positions: one that was as ambitious as the European Commission's proposal, one that was less so.

The hypothesis that the EP generally prefers more ambitious climate legislation than other actors hence receives only moderate support in the case of the passenger car CO2 regulation. While both committees dealing with the issue introduced a long-term target, otherwise the Environment Committee did not demand much beyond the Commission proposal; the ITRE-Committee significantly weakened the ambition level of the regulation in several respects. Similarly, the Davies report does not seem to go far beyond what the Commission demanded.[126]

126 It is important to note, however, that the EP still had one of the most ambitious positions of all actors.

Member State Preferences

The main cleavages among the member states were as predicted by the rational choice baseline. Member states with "German" car manufacturers supported a steep slope line, while those with "Italian and/or French" car manufacturers supported relatively flat targets. Member states with a mixed car industry remained relatively quiet (like Spain) or pursued very specific interests (like the UK in favor of Jaguar and Land Rover). Member states without a car industry were the most adamant supporters of an ambitious policy. At the same time, however, and contrary to the rational choice baseline prediction, it was always clear that the negotiations were about mandatory targets with a clear enforcement mechanism. In other words, the member states were negotiating about a policy that would be more ambitious than the rational choice baseline would lead us to expect.

Germany, as Europe's most important car producer and home to the world's leading premium car manufacturers, focused primarily on preserving the competitiveness of the German car industry. At the same time, Germany continually made it clear that it supported a regulatory approach with mandatory targets and a clear compliance mechanism rather than a continuation of the voluntary agreement. Thus, it accepted at least a medium ambition level, but defended its car makers' interests within this given level of climate policy ambition. In effect, it thus sought a weaker, less ambitious regulation than other member states, but at an ambition level that was higher than predicted by the rational choice model.

Prior to the publication of the Commission strategy in February 2007, German politicians had warned the Commission that they would not accept a single target of 120 g/km for all car manufacturers; instead they preferred a differentiated set of goals for different market segments (EUObswerver.com 29 January 2007, 31 January 2007). Moreover, the Commission's suggestion of reducing the target to 130 g/km through motor technology with an additional 10g achieved through biofuels and other measures, was attributed in the press to German pressure[127] (Die Welt, 8 February 2007). In their reactions to the White Paper, the German Chancellor Merkel and Environment Minister Gabriel accordingly supported the Commission strategy, especially the 10g through additional measures (Deutsche Bundesregierung 2007b). Throughout 2007, the German government publicly stated its support for the Commission strategy and the target of 120/130 g/km to be enshrined in an EU regulation. Its August 2007 "Integrated Climate and Energy Program" lists the support of the strategy as one element of Germany's strategy to fight climate change. At the same time, however, it emphasized that such a

127 Though other car manufacturing nations seem to have been favorable to the less stringent target as well.

regulation should take into account the competitiveness and diversity of the European car industry (Deutsche Bundesregierung 2007b).

Once the Commission published its formal proposal, however, the German government went into strong opposition. The Chancellor's office[128] issued a statement on the day of the proposal's publication, saying that it was unacceptable because of its competitive impact on the German car industry (Deutsche Bundesregierung 2007a). Environment Minister Gabriel even referred to the proposal as a "competition war" on German industry (European Report, 21 December 2007). In particular, Germany opposed the 60% slope of the curve proposed by the Commission, arguing that it put too great a burden on German industry while letting the makers of small cars off the hook (Deutsche Bundesregierung 2007a). While continuing to state its support for the 130/120 g/km target, Germany over the next few months pushed four modifications to the directive that would all in effect make it less ambitious.[129] (1) It advocated a steeper slope line. (2) It demanded further credit for so-called "eco-innovations", i.e. measures that reduce emissions in a way that is not accounted for in standard fuel efficiency testing procedures. (3) It also promoted the gradual "phase-in" of targets, i.e. a de-facto delay in the regulations' applicability, thus taking into account the long product-cycles of the automotive industry. (4) Finally, Germany advocated lower penalties, in particular for "smaller" violations of the regulation. All of these elements were demanded by the German automotive industry's lobby VDA (*Verband der Automobilindustrie*) in its press release on the Commission proposal (VDA 2007) and in later pronouncements on the issue (e.g. VDA 2008a, 2008b, 2008c).[130] German media coverage (and several of my interviewees) also suggested that the President of the VDA, the former Christian Democratic transport minister Matthias Wissmann, was decisive in shaping the German negotiating position (e.g. Der Spiegel, 16 June 2008).

France, supported by Italy, initially took a position that clearly favored producers of small cars, i.e. of its own PSA, Renault, and Italy's Fiat. Thus, the

128 This happens very rarely – usually, it is up to the concerned ministries to develop a negotiating position and to comment on Commission proposals. Accordingly, most of my interviewees said they had been surprised by the step at the time.

129 This position can be found in various documents, e.g. the Bundesrats-Beschluss of 14 March 2008 (Deutscher Bundesrat 2008a), a response by the government to questions from the parliamentary faction of the Greens (Deutscher Bundestag 2008a) of 5 September 2008, in various press statements by German politicians (e.g. European Report, 30 September 2008; Die Welt, 21 October 2008) and is reflected in the Franco-German compromise text of 9 June 2008.

130 The VDA was particularly adamant in demanding a greater contribution from small cars and in demanding lower penalties – it often compared the levels of penalties per ton of CO2 for car makers with those of EU ETS-industries, pointing out that car makers were much more heavily penalized.

French government responded quite favorably to the Commission proposal in December 2007. In his generally positive comments on the proposal, however, French environment minister Jean-Louis Borloo also demanded that the regulation place an (even) greater burden on larger cars than foreseen by the Commission proposal (French Ministry of Ecology 2007). Prior to the Commission proposal, France had advocated a flat target for all car manufacturers with the possibility of trading between manufacturers that remained below the target and those that exceeded it (Interview French Ministry of Ecology Official, 13 September 2010). Under the approach suggested by the Commission, France had favored a utility parameter other than weight, i.e. footprint (Ibid.), as well as a lower slope (French Senate 2008). Again, this position appears to be congruent with the demands of the French car industry: in October 2007, its lobby group CCFA (Confédération de Constructuers Francais de l'automobile) had broken ranks with ACEA in demanding a flat target for car CO2 emissions rather than a graduated target based on vehicle weight (LCVP, 16 October 2007). Yet, once France had assumed the Council Presidency in the second half of 2008, its main goal became the achievement of a regulation under French leadership, and thus the forging of a consensus. Hence, its position became significantly more malleable.

The UK's position also provides strong evidence that car industry concerns drove member state governments' negotiating stances. Thus, the UK argued repeatedly that the long product cycles of the car industry of five to seven years made a target for 2012 unfeasible, suggesting 2015 instead (UK House of Commons 2008a, 2008b; UK Department of Transport 2008). The UK government showed particular concern about the fate of its own automotive industry. Thus, it emphasized that there needed to be special rules for so-called "niche" producers, which only manufactured cars within a narrow range of weight categories and produced somewhere between 10,000 and 300,000 units per year. This was primarily meant to protect the British icons Jaguar and Land Rover. As these producers only made large cars, the argument went, a situation could arise where based on a utility parameter they would have very tough targets while their direct competitors would have much lower targets simply because they could average their emissions with smaller cars from their own portfolio. The UK wanted to help niche producers through minimum emission reduction targets set individually by the Commission to reflect efforts that were similar to competitors. The UK also supported additional credit for so-called eco innovations. At the same time, however, it did support some efforts to make the regulation more ambitious. Thus, it advocated the inclusion of a longer-term target of 100 g/km into the directive. Based on its own impact assessment, the UK also supported stricter penalties of 60 EUR per g in excess of the target, arguing that otherwise the penalties would just be paid as a fine (UK Department of Transport 2008). Again, the UK position reflected many of the concerns by

its automotive industry as represented by the SMMT (Society of Motor Manufacturers and Traders, e.g. 2007, 2008). The SMMT had emphasized the need for a longer timeframe, and the protection of niche manufacturers. The SMMT would, however, have preferred lower penalties and the absence of a long-term target.

Most of the other member states positioned themselves according to whether the car manufacturing plants (or suppliers) on their territory were owned by (or primarily linked to) German or to French and Italian car manufacturers. During the Environment Council debate in March 2007, Sweden (defending its own Volvo and Saab), Austria, the Czech Republic, Hungary, and Slovakia supported the German position (EurActiv, 4 March 2008). Romania and Spain supported France and Italy (Ibid.). According to several interviewees, however, Spain was generally quite neutral during the negotiations as it hosts producers of the entire range of models. The most environmentally ambitious countries on the regulation were those without or with only a small car industry. A group of "countries without a significant domestic manufacturing industry" first asked for the inclusion of a long-term target during the March 2008 Environment Council (ENDS Report, 28 March 2008). During the Commission's consultation in 2007, the Netherlands had asked that car makers should face a 2012 target of 120 g/km rather than the 130 g/km foreseen in the Commission White Paper (Government of the Netherlands 2007). In addition, the Netherlands asked for medium- and long-term targets, for more stringent requirements on producers of large cars in line with the "polluter-pays-principle", and advocated the strict separation of car fuel efficiency regulations from activities on biofuels. A number of interviewees also made acerbic comments about countries like Greece or Ireland suddenly discovering their "green hearts" during the negotiations about car CO2 emission limits.

Overall, the nature of member states' car industry thus provides us with a fairly accurate picture of different countries' negotiating positions on the specific content of the regulation. Yet such an explanation already presupposes that all countries agreed that there would have to be binding legislation to limit specific passenger car CO2 emissions. No policy or a low ambition policy would have been even more favorable to member states' car industry than a regulation with or without a steep target slope line and flexibility mechanisms. Thus, if all actors in the episode behaved in a strictly rational self-interested fashion, we would again expect no or at most a low-ambition policy. This was clearly not the case – throughout the negotiations there seems to have been an understanding among all parties that a low ambition policy was not an option. Below, I argue that the discursive environment in 2007/2008 was such that member states would have found it very hard to argue in favor of less ambitious policies. Before that, however, let us consider the evidence on the bargaining outcome.

Bargaining Outcome

Unlike the voluntary agreement, the Regulation on car CO2 emissions was the result of a formal legislative process. Thus, it also offers us an opportunity to test my hypothesis (H5) about bargaining outcomes. The central claim of H5 was that the "pivotal member state", i.e. the last member state necessary to reach a qualified majority, would set the ambition level. As a result, the EP would have little impact on the overall ambition level, while the least ambitious member state would not be able to hold up progress; specific parameters would be selected towards the less ambitious end of the values discussed.

The case of the car CO2 regulation largely confirms these expectations. The European Parliament and the most ambitious member states secured very little in the negotiations: their only success was the inclusion of the long-term target of 95 g/km for 2020. The target is somewhat "poisoned", however: it is subject to a review that will have to take place by 2014. Any concrete legislation to put the target in place hence won't be passed before 2015 or 2016: this will again give car manufacturers the opportunity to argue that because of their long production cycles of five to seven years, a delay in the target is necessary. In return for their "victory" on the long-term target, the EP and the most ambitious member states had to give in on the target date (2015 instead of 2012), the lowering of penalties, the introduction of super-credits and "eco-innovations." All of these were German demands. The coalition of large car producers around Germany effectively held a blocking minority and advocated the least ambitious policy among all the actors. Large car manufacturers were the hardest hit by the legislation and would thus have benefited most from maintaining the status quo. Hence they constituted the "pivotal member states" and were in a position to more or less dictate the terms of the agreement.

To be fair, this is not the entire story. Germany and its allies did have to accept the 60% slope line. This was a "bitter pill" to swallow for both large and small car manufacturers. Both had to make more substantial cuts to emissions than they would have liked. Under these circumstances, both benefited from a later target date and added flexibility (eco-innovation credits etc.). This transformed the negotiation from an argument between different types of car manufacturers into one between those member states with a car industry and those without one: here the latter clearly – and predictably – lost.

4.4 Explaining EU policies on CO2 emissions from cars – the analysis of rhetorical possibilities

The second part of my explanation of sectoral climate policy focuses on rhetorical possibilities and helps us to fill the gaps in the rational choice baseline identified above. As I try to show in the following paragraphs, the discursive environment in the 1990s was still quite permissive, i.e. it was easy to make socially acceptable arguments against sectoral climate policies or in favor of low-ambition variants. By 2007/2008, this had changed fundamentally, in particular for the car industry. In fact, the industry became rhetorically entrapped in a much more restrictive discursive environment. Few politicians in Europe – even those with close links to the car industry – dared to argue in favor a low ambition policy: questioning the need for some form of binding legislation had become inappropriate.

4.4.1 The discursive environment in the mid-1990s

When the Commission developed its car CO2 strategy and negotiated with ACEA in the 1990s, the discursive environment was quite permissive. This holds for all three aspects of the discursive environment – the general discursive environment, the climate policy environment, and the sectoral environment. There was a shift in the direction of a more restrictive discursive environment in late 1997, however, when the EU made a binding international commitment to reduce its CO2 emissions in the Kyoto Protocol. Let me describe each element of the discursive environment in turn, before discussing "causal process evidence" on their relevance.

As outlined in chapter 3, I use two indicators to gauge the *general discursive environment*: public opinion polls and newspaper frequency counts. Both indicate a fairly permissive discursive situation in the mid-1990s. Two Eurobarometer polls conducted in the mid-1990s point in this direction. In the 1995 study "Europeans and their environment", global warming ranked fourth among six environmental issues in terms of how worried respondents were about them (European Commission 1995b). 84% of Europeans said they were "very worried" or "somewhat worried" about global warming, yet higher percentages of respondents said the same about the destruction of the ozone layer, the disappearance of tropical rain forests, and the disappearance of certain plants.[131] In another survey conducted in late 1996 and published in 1997, 80% of Europeans said they had

131 The survey found Greeks to worry most about climate change, while the lowest numbers were recorded in Finland and the Netherlands.

heard of global warming, of whom 70% said they considered it a "very serious" problem (European Commission 1997b).[132] A larger percentage (78%) said the same about the depletion of the ozone layer, while a slightly smaller percentage (66%) identified acid rain as "very serious." Overall, the 1995 Eurobarometer found a decline in concern about the environment compared to the early 1990s (European Commission 1995b, p. 10-12). The relative insignificance of climate change as a public issue is also well-reflected in media coverage of the time. As we can see from Figures 4.1 and 4.2 in the previous chapter, barely two out of every 1000 articles appearing in major European news sources[133] mentioned climate change in the mid-1990s.

The *climate policy environment* was evolving during the mid-1990s. The UNFCCC had entered into force in 1994 – the EU had signed and approved the agreement in 1992 and 1993 respectively[134]. Between 1995 and 1997, the parties to the UNFCCC negotiated on a protocol that would specify more precise targets about GHG emissions (see chapter 2). In December 1997, these negotiations concluded with the Kyoto Protocol, which contained a mandatory 8% reduction of EU GHG emissions for the commitment period from 2008-2012. Thus, the EU did have an international commitment to reduce its overall emissions from December 1997, though it would not ratify the Kyoto Protocol until 2002 and the protocol did not enter into force until 2005. Like most other parties to the UNFCCC at the time, the EU had not yet established climate policies in most sectors by the mid-1990s. Within most member states, voluntary agreements, i.e. low-ambition-policies, had become central elements of global warming mitigation strategies at the time (e.g. Krarup/Ramesohl 2000). Thus, the EU car CO2 strategy and the voluntary agreement were developed and negotiated in a climate policy environment that was becoming more restrictive. Overall, however, the climate policy environment remained relatively permissive, as the international commitment had not yet entered into force and most sectors did not yet face climate legislation.

The same is true for the *sectoral environment*. Car CO2 emissions were already growing and projected to grow further (e.g. European Commission 1995a). Yet neither the EU nor any member state (or third country) had much experience with policies to address such emissions. Hence the debate was still relatively open as to which policy option would be the most appropriate and effective.

132 Again, Greeks were most worried about global warming, Finns were least worried.

133 The graph is based on four major news sources in each of the four member states covered here – for the precise methodology, see chapter 4.

134 http://unfccc.int/files/essential_background/convention/status_of_ratification/application/pdf/unfccc_conv_rat.pdf.

While the proponents of an ambitious policy might have questioned the wisdom of a voluntary approach, they could not point to specific evidence for its ineffectiveness. On the contrary, voluntary agreements were seen as an innovative way to achieve environmental objectives at the time. As mentioned, the Commission in 1996 still held that environmental agreements had "an important role to play" and that they could "offer cost-effective solutions when implementing environmental objectives" (European Commission 1996a, p. 22). Though the Commission also voiced concerns about the proper monitoring and enforcement of such agreements, they were clearly fashionable at the time.

Thus, how relevant is the discursive environment for an explanation of the voluntary agreement? Given that it was quite permissive, we would not expect arguments of either proponents or opponents of an ambitious car CO2 policy to have mattered much. Nevertheless, we do observe that the voluntary agreement was not concluded until after the adoption of the Kyoto Protocol, i.e. after the discursive environment had become more restrictive. ACEA's offer of the 140 g/km target for 2008, which served as the basis for the final agreement, came in March 1998.

To get an idea of how the discursive environment shaped policy debates at the time, the minutes from the workshop for stakeholders the Commission held in February 1998 are quite instructive (European Commission 1998b). This workshop, to which I referred above[135], brought together four Commissioners, MEPs, UK Environment Minister Michael Meacher, car industry representatives (including the Secretary General of ACEA and Porsche CEO Wendelin Wiedeking), as well as advocates from environmental NGOs and research institutions. We find many of the elements of the generic conversation about climate policy outlined in the explanatory framework (see chapter 2) in the contributions to the workshop. The representative of ACEA, Mr. Blum, tried to impress on listeners the idea that "the European car industry's performance on CO2 emissions compared favorably with the performance of its major competitors", pointed out that the European car industry caused less than 2% of global emissions, and asked legislators to weigh climate considerations with issues such as "international competitiveness, cost-effectiveness, technical feasibility, and social and regional equity considerations" (European Commission 1998b, p. 3). Porsche CEO Wiedeking also pointed out that the energy sectors' contribution to to the EU's GHG emissions was on the order of 30%, while cars caused merely 12% – accordingly he "urged legislators to adopt a proportionate approach" (European Commission

135 The workshop was used by the Commission to "threaten" a legislative approach in case ACEA would not come forward with a more ambitious target, though most people thought that the move was a bluff (Interview Arp 2010).

1998b, p. 6). All car industry representatives insisted that they were willing to do their part, but that a voluntary approach was the most cost-effective means to the agreed end.

The proponents of more ambitious policies (Commissioners and their staff, MEPs, representatives of the European Environment Bureau (EEB) and the representative of the European Federation for Transport and Environment (T&E)) emphasized the importance of emission reductions in passenger cars. They noted that the predicted increases in emissions from road transport were incompatible with the EU's Kyoto commitments and presented alternatives to the voluntary approach. Transport Commissioner Neil Kinnock pointed out that the "car industry was not being singled out for special treatment" (European Commission 1998b, p. 2). It was quite palpable, however, that the proponents of more ambitious approaches could express their skepticism about the agreement, but could not offer decisive evidence against it. Frazer Goodwin, the representative of T&E, which went to great length to de-legitimize the voluntary agreement in later years, even acknowledged that "an environmental agreement was an appropriate instrument for addressing the issue but it had to be backed up by the threat of legislation" (European Commission 1998b, p. 5). In the end, car industry representatives gave the impression of accepting the need for their industry to contribute to the achievement of the Kyoto targets. At the same time, however, they promoted an alternative policy approach, which proponents of more ambitious rules could not effectively argue against.

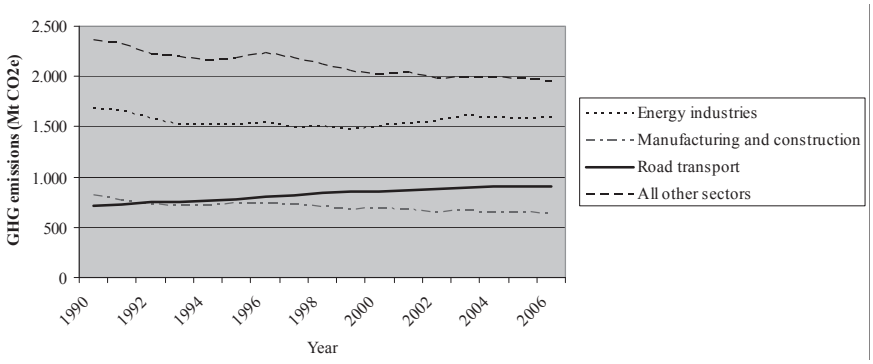
How decisive was Kyoto in the end? My interviewees did not identify the Kyoto Protocol as the most decisive factor, nor did Keay-Bright's (2000) report. It is, however, quite plausible that this change in the discursive environment made it more difficult for ACEA to maintain an inflexible position. It may also have changed ACEA's expectations about what kind of rules the EU might adopt if no voluntary agreement were concluded. At the margin, changes in the discursive environment may have mattered in bringing about the voluntary agreement, but the rational choice baseline provides a fairly satisfactory explanation by itself.

4.4.2 The discursive environment in 2007/2008

By 2007/2008, all three elements of the discursive environment had become much more restrictive: there was much greater public attention; the Kyoto Protocol was in force and negotiations for its successor under way; the voluntary agreement had failed while transport emissions were rising. As a result the negotiations appear to have taken place with the underlying presumption that targets would have to be binding with penalties for non-compliance, i.e. that the legislation would have to achieve at least a medium ambition score according to my measurement scheme.

The general discursive environment in 2007 and 2008 (or at least in the first half of the latter year) was very favorable towards climate policy. Public attention to the issue was high – respondents in public opinion surveys considered climate change among the most important political issues and a significant threat at the time. Thus, in a Eurobarometer survey on attitudes towards the environment conducted in 2007 respondents identified climate change as the most important environmental issue, with water pollution coming in as a distant runner-up[136] (European Commission 2008i). Similarly, a survey conducted by the German Marshall Fund of the United States (2008) in June 2008 asked respondents what the top priority should be for European leaders and the next American President. A majority in seven (Germany, UK, France, Spain, Portugal, Italy, Netherlands) of eleven EU-member states covered ranked climate change as the first priority – ahead of "international economic problems" and "international terrorism." In Germany, climate change was ranked the top priority by the largest share of respondents (42%). Another Eurobarometer poll conducted in the spring of 2008 found that 75% of EU-wide respondents identified climate change as a "very serious problem" and ranked it as the second "most serious problem facing the world today" – ahead of international terrorism but behind "poverty, lack of food and drinking water" (European Commission 2008j). Moreover, in 2007 media coverage of climate change rose to unprecedented highs, as shown in Figure 4.1 and 4.2, and remained at much higher levels than previously during 2008 and 2009 – despite the worst economic crisis since the end of World War II.

Fig. 4.1: Development of EU-27 GHG emissions from main sectors, 1990-2006



Source: Eurostat

136 On average 57% of respondents in the EU identified climate change as one of five main environmental issues (out of 15 items) people were worried about. The runner-up, water pollution was mentioned by 42%.

The climate policy environment was similarly restrictive. In 2006 and 2007, international negotiations for a post-Kyoto agreement were heating up and EU leaders had identified the issue as an area for the EU to show international leadership. In this context, the EU member states had made their unilateral pledge to reduce emissions by 20% relative to 1990 levels by 2020 (see chapter 1). The German Chancellor, Angela Markel, had pushed the Council towards the target during the German presidency in the first half of 2007. Thus, if Germany wanted to maintain even the semblance of credibility, it could not outright oppose rules to limit car CO2 emissions, even though it was home to the EU's largest car industry. By 2007/2008, moreover, the EU had adopted climate policies in most sectors. Most of these were low ambition policies, yet the high ambition EU ETS covered more than 40% of emissions (see chapter 5). Thus, the car industry could hardly claim to be unfairly singled out.

Finally and most importantly, the sectoral discursive environment for passenger car manufacturers had become very restrictive. As shown in figure 4.1, road transport emissions in the EU had increased significantly since 1990, while emissions were stagnant or decreasing in most other sectors. As we can see from Table 4.8, one could observe this phenomenon in all member states except Germany, Bulgaria, Estonia, and Lithuania. Thus, the proponents of an ambitious climate policy for the transport sector, in particular for passenger cars, had a strong argument: if nothing were done on road transportation, this threatened to undermine the efforts made in other sectors.

The other aspect that made the sectoral environment restrictive was the automotive industry's failure to achieve the 140 g/km target to which it had committed itself in the voluntary agreements discussed above. The car industry tried to dispel the notion that it had failed to live up to its commitment: it argued that changes in consumer demand and in road safety regulations had made compliance with the 140 g/km target impossible. Environmental NGOs, however, in particular T&E, continuously made the point that the car industry did not make sufficient efforts under the voluntary agreement. By 2007, the alternative policy had thus largely been discredited.

Overall, the regulation was negotiated in a discursive environment that was highly restrictive, which would lead us to expect that EU policy-makers would move towards more ambitious legislation. We find additional evidence on the discursive environment's importance for the higher ambition level achieved in 2008 by looking at the arguments policy-makers used to justify their position. Moreover, the arguments and options that played *no role* in the discussions also suggest that the more restrictive discursive environment helped to make possible a more ambitious policy. Thus, during 2007 and 2008 most of the discussion focused on what a regulation with binding limit values and penalties would look like, not on whether such a regulation was the right approach.

Table 4.8: Change in road transport GHG emissions 1990-2006, in %

Member State	Change in GHG emissions (%)
Belgium	27%
Bulgaria	-1%
Czech Republic	194%
Denmark	35%
Germany	-2%
Estonia	-6%
Ireland	177%
Greece	61%
Spain	87%
France	16%
Italy	26%
Cyprus	170%
Latvia	30%
Lithuania	-23%
Luxembourg	156%
Hungary	64%
Malta	48%
Netherlands	36%
Austria	70%
Poland	70%
Portugal	104%
Romania	85%
Slovenia	72%
Slovakia	23%
Finland	9%
Sweden	13%
United Kingdom	9%
Source: Eurostat/European Environment Agency	

Let us first consider the arguments by the supporters of a more ambitious policy. The European Commission wrote in the first pages of both its February 2007 White Paper and in its formal legislative proposal[137] that "[w]hile the EU as a whole has reduced its emissions of greenhouse gases (GHG) by just under 5% over the 1990-2004 period, the CO2 emissions from road transport have increased by 26%" (European Commission 2007c, p.2). It thus emphasized the need for more ambitious legislation in the sector, pointing out that it was indeed not doing its "fair share" in overall emission reductions: Road transport "remains one of the few sectors whose emissions keep rising, thereby jeopardizing the progress made by other sectors" (European Commission 2007c, p. 3). The Commission also noted that third countries such as the "U.S., Canada, Japan, Korea, China, and Australia" already were working on or had in place legislation to limit car CO2 emissions (European Commission 2007c, p. 5). Finally, the

137 While the examples given here are drawn from the February 2007 White Paper (European Commission 2007c), they appear in very similar form in the formal legislative proposal presented in December 2007.

Commission emphasized that average specific emissions of passenger cars had declined somewhat, but that "as the voluntary agreement did not succeed, the Commission considers it necessary to resort to a legislative approach" (European Commission 2007c, p. 6)[138]. In its impact assessment for the regulation, the Commission considered three options for limiting specific CO2 emissions from passenger cars: a uniform target, utility-based targets, or percentage reduction targets. The options of "'no policy change' and 'alternatives to regulation' (voluntary agreement)", however, were "discarded at an early stage" (European Commission 2007f, p. 19). Similarly, the EP's resolution on the Commission's White Paper pointed out that "the voluntary approach has proved a failure as it seems clear that the car industry will fail to meet its voluntary commitment of 140 g CO2/km in 2008" (European Parliament 2007a). In his report to the EP's Environment Committee, Rapporteur Guido Sacconi emphasized that the road transport sector "is a sector in which emissions are continuing to increase" and identified the achievements under the voluntary agreement as "insufficient" (European Parliament 2008c, p. 36).

The discursive environment's impact on opponents of ambitious legislation is most clearly visible by what they did *not* say. Thus, in his draft opinion on the Commission proposal in May 2008, the draftsman on the regulation in the EP's ITRE Committee, Werner Langen (EPP, Germany), adopted some of ACEA's language in saying that vehicle fuel efficiency improvements were partly "neutralized by the demand for larger vehicles" (European Parliament 2008b, p. 3). At the same time, however, his opinion supported the "general objective" of achieving "a single and binding target for CO2 emissions of 130g CO2/km by 2012" (Ibid.).[139] Similarly, the German Bundesrat's (2008a) position on the Commission proposal was very critical and quite fiercely worded – yet at no point it questioned the need for a regulation. It advocated a steeper target curve, asked for lower penalties, and for giving credit to "eco-innovations." It did not, however, consider the alternative option of trying another voluntary agreement or doing nothing. When the German government commissioned an expert opinion in 2007 on potential options to address CO2 emissions from cars the option of

138 In the legislative proposal, the Commission made the point when justifying its choice of policy instrument: "The Regulation comes after voluntary commitments taken by the industry have been deemed inappropriate for the purpose of delivering further progress as part of the revised CO2 and cars strategy" (European Commission 2007y, p. 9).

139 According to German news magazine *Der Spiegel*, Langen had long known the chief lobbyist of the German automotive industry, the former German Transport Minister Matthias Wissmann and was generally very supportive of the German car industry (Der Spiegel, 16 June 2008). Hence his acknowledgement of the need for a binding target is an indication that other rhetorical options had little viability.

"soft" measures, such as a continuation of the voluntary agreement, was not even considered[140] (Zierock/Mehlin/Köhler 2007).

Most public statements by German politicians focused on achieving rules that did not put German industry at a competitive disadvantage. Yet there were also direct acknowledgements from German politicians that a voluntary agreement was no longer defensible. Thus, Environment Minister Gabriel (who would later speak of the Commission proposal as a "competition war" against Germany) in early 2007 maintained that "voluntary restrictions by industry have failed" and that there was now a need for "clear and compulsory objectives" (European Report, 5 February 2007). Moreover, both of the German officials I interviewed on the car regulation told me that an alternative to a regulation with binding targets was never seriously discussed (Interviews Zierock 2010, Steffens 2010) – it was clear that the voluntary agreement had not worked and "no action" was not an option either. One of them made the point quite succinctly: "Had the car industry actually met its targets, everyone would now be saying that voluntary agreements worked, and the Commission would have had no reason to change the policy approach" (Interview Zierock 2010, translation mine).

In addition, I asked my interviewees why it was possible to adopt more ambitious EU legislation on car CO2 emissions in 2008 than in the mid-1990s. As summarized in Table 4.9, the majority of the 18 people[141] I interviewed identified the failure of the voluntary agreement as a key factor. More than half also noted that the political environment had changed, with global warming taking up a much more prominent space on the political agenda. Only two Commission officials mentioned the importance of data availability to work out the technical details of legislation and one government official mentioned the need for governments to comply with the Effort-Sharing Directive. While this is not necessarily a representative sample of all policy-makers involved, it does cover most of the important stakeholders. Their near-unanimity in identifying factors that broadly fit with my conception of the discursive environment, offers further support for my explanatory framework.

Summing up, the case of EU legislation to reduce CO2 emissions from passenger cars seems to provide strong evidence in favor of my explanatory framework. While interest constellations remained largely stable and quite unfavorable towards ambitious legislation, a much more restrictive discursive environment rhetorically entrapped the car industry and its supporters, bringing about a me-

140 Instead it contained the options of utility based limit values with penalties, and utility-based "reference values" with duties (in the latter case, cars above the reference values would have faced an excise duty).

141 While I interviewed 19 people, I did not pose the question to one of the people I interviewed.

dium ambition piece of legislation. Before we jump to that conclusion, however, let us consider the alternative explanatory factors outlined in chapter 3.

*Table 4.9: Answers to the interview question: "Why was a more ambitious EU policy to address car CO2 emissions possible in 2007/2008 than in the 1990s?"**

Affiliation of Interviewee	Generally more public/political attention to climate change	Failure of the voluntary agreement	Technical details**	Other***
Commission	x	x		
Commission	x	x	x	
Commission	x	x		x
Commission	x		x	
Commission	x			
MEP	x	x		
MEP		x		
MEP		x		
MEP	x			
Government		x		
Government		x		
Government		x		
Government		x		x
NGO	x	x		
NGO		x		
Industry	x	x		
Industry	x			
Industry	x	x		

* As I conducted interviews in a conversational style and in different langauges, the specific wording of the question varied between interviewees.
** Data availability varied between 1990s and 2007/2008
*** Technological progress; Member states wanted to have a regulation on car CO2 emissions in 2007/2008 in order to meet commitments under the effort-sharing directive

4.5 Alternative explanatory factors

While the story so far appears to support my explanatory framework, it is important to control for additional explanatory variables. Hence, I use the remaining pages of this chapter to discuss the role of transnational non-governmental actors, party politics, general leader-laggard dynamics, and the relevance of package deals in bringing about the observed ambitious policy output. I show that they add little to the explanation, thus giving further support to my explanatory framework.

4.5.1 Transnational non-governmental actors

The main transnational industry group working on the issue was ACEA, which was hostile to binding limits on car CO2 emissions both in the 1990s and in 2007/2008. Other transnational industry groups were quite inactive on the issue. Neither the automotive suppliers' organization CLEPA nor the petroleum refiners' and marketers' lobby EUROPIA were strongly involved in car CO2 legislation in

either the 1990s or 2007/2008.[142] The members of ACEA had committed themselves in 1991 to reducing the average specific emissions of their new vehicles by 10% between 1993 and 2005 (Reuters News, 22 November 1991), but were not willing to go much further. ACEA maintained repeatedly that any reductions beyond its 10% offer were problematic (e.g. Business Conference and Management Reports, 1 February 1996), especially if they were also expected to reduce emissions of other pollutants such as carbon monoxide or fine particulates (e.g. Les Echos, 2 December 1997). Eventually, however, as we have seen, ACEA did agree to the voluntary agreement.

Ten years later, as it became clear that ACEA would not be able to meet its voluntary commitment, the car industry developed a rhetorical line of defense. It argued that additional European legislation (on safety, air pollution, etc.) as well as consumer preferences for larger and heavier cars were to blame for the failure, not insufficient efforts by car manufacturers (e.g. ACEA 2006a, 2007b). In addition, ACEA pointed out that other aspects of the Commission's strategy on car CO2 emissions (harmonized taxation and the labeling scheme) did not materialize or were not as successful as planned, further undermining ACEA's efforts to lower CO2 emissions. Throughout 2007 and 2008, ACEA also pushed for an "integrated approach" to car CO2 emissions, focusing not only on vehicle and motor technology, but also on car taxation, biofuels, better traffic management and infrastructure, and driver behavior (e.g. ACEA 2007a, 2008). The industry association argued that achieving emission reductions by motor technology alone was not cost-effective and claimed that due to the long product cycles of passenger cars, any targets should not be applicable before 2015. It portrayed the specific target of 130 g/km foreseen by the Commission as unachievable and said that it would fundamentally threaten the survival of the car industry in Europe. ACEA never reached a common position on the target slope-line.[143]

During both episodes, several European environmental NGOs worked on car CO2 emissions. Yet none of them put a particular focus on the issue in the mid-1990s. The European Office of Greenpeace was mainly preoccupied with working on an international climate agreement. It conducted one workshop with Commission officials, presenting the "SMILE"-car, a prototype based on a Renault Twingo

142 For the 1990s, this statement is based on media coverage and information obtained from my interviewees. For 2007/2008 it is based on various interview sources, media coverage and on the websites of CLEPA and EUROPIA.

143 The Japanese car manufacturers' association JAMA largely echoed ACEA's position, justifying a failure to meet targets with regulatory demands and changing consumer preferences (JAMA 2007, 2008). JAMA also maintained that a longer transition phase was needed and that the 120 g/km target was too ambitious for car manufacturers alone to handle – other stakehholders like government and consumers would have to make a contribution as well.

that achieved a fuel efficiency of 3liters/100 km, and gave the Commission the chance to talk to the car's engineers (Interview Mourelatou 2010). The European Federation for Transport and Environment (T&E) supported the European Parliament's calls for mandatory CO2 limit values (European Report 12 April 1997), but its main preoccupation at the time were emissions of "traditional" pollutants from passenger cars, not CO2 (Interview Kuneman 2010).

Environmental NGOs were much more active in 2007/2008, especially T&E and Greenpeace. T&E started early on to question car manufacturers' efforts to reduce specific CO2 emissions as required by their voluntary agreement, and repeatedly painted transport as a "climate villain" whose emissions continued to grow while other sectors reduced their emissions (e.g. T&E 2000, 2004). A 2005 statement by T&E and other NGOs then demanded the introduction of mandatory rules for car CO2 emissions to reach the 120 g/km target, as cars were getting heavier and stronger rather than more fuel efficient (CAN Europe et al. 2005). Throughout 2006 and 2007, T&E (2006a, 2006b, 2006c, 2007a, 2007b, 2007c) and other NGOs (Greenpeace 2007a, 2007b, WWF 2007) maintained their demand for a binding 120 g/km target, pointed out that transport was the worst-performing sector in terms of the emissions trajectory, and reminded policy-makers that the 120 g/km target was first introduced in 1994. T&E also achieved somewhat of a coup when it published individual manufacturers' average fleet CO2 emissions in 2007. The agreement between ACEA and the Commission had treated these as confidential. T&E's (2007c) report showed that while French and Italian manufacturers were close to meeting the target, German auto companies significantly lagged behind. After the Franco-German compromise had emerged in the summer of 2008, NGOs did their best to de-legitimize the deal. Thus, T&E (2008b) contrasted Sarkozy and Merkel's "backtracking" on fuel-efficiency with the fact that the EU was spending some one billion Euros per day on oil imports, which amounted to significantly more than the value-added of the entire car industry. Greenpeace referred to the agreement as the "Merkozy deal", accused Sarkozy and Merkel of "Driving Climate Change" and urged the French president not to cave in to the German car lobby (Greenpeace 2008b, 2008c).

In terms of the specific parameters of the regulation, T&E (2007a, 2008a) and other NGOs (e.g. Greenpeace 2007a, 2008c) demanded significantly more ambitious legislation than car manufacturers or the Commission were willing to conceive. They asked for a 120 g/km target to be achieved by 2012 with motor technology (covered by the existing test-cycle) alone, a 2020 target of 80 g/km and 2025 target of 60 g/km. As a compliance mechanism, NGOs demanded penalties of 150 EUR/g, yet with the possibility for manufacturers to trade between over- and under-complying firms. Moreover, NGOs asked for footprint rather than weight as the parameter for target differentiation – otherwise they feared perverse incentives towards heavier cars.

Having described the activities of the main transnational non-governmental actors, how relevant are they to an explanation of sectoral climate policy ambition? Overall, they certainly played an important role within the process, but were hardly decisive in shaping the outcome. In the 1990s, ACEA managed to avoid binding legislation yet, as one Commission official I interviewed put it, "there was nothing voluntary about the voluntary agreement" (Interview Kendall 2010). Its internal squabbles merely reflected those between the various member states, which is why it never reached a burden-sharing agreement to implement the voluntary agreement. Thus, in the absence of ACEA's lobbying, the EU would have hardly agreed to something other than a low-ambition policy for transport.

In 2007/2008, the situation was not fundamentally different. ACEA did manage to get policy-makers' approval for an "integrated approach". Moreover, the eventual regulation does conform to many of ACEA's demands, notably the later target date, the choice of weight as a utility parameter, and further credits for eco-innovations. Yet on the most contentious aspect of the regulation, the slope line for individual targets, ACEA was just as divided as the member states. Thus, ACEA's demands regarding the regulation largely constituted the common denominator of individual national car industries. And the regulation that conformed so closely to ACEA's stated preferences emerged as a compromise between member states pursuing individual car industry interests.

The impact of environmental NGOs seems to also have been rather limited, but may have been important at the margin. Neither the voluntary agreement nor the individual parameters of the regulation conformed even remotely to what environmental NGOs had demanded. Yet NGOs did probably play an important role in amplifying what I described above as the "sectoral discursive environment." They emphasized the transport sectors' growing emissions and the car industry's failure to meet its commitments. While these elements of the discursive environment described above were not created by environmental NGOs, the latter probably were crucial in making policy-makers and an interested public take note of them.

4.5.2 Party Politics in the European Parliament and in the member states

Besides transnational non-governmental organizations, the party composition of the European Parliament and of member state governments might have influenced these actors' negotiating position on EU climate policy for passenger cars. As outlined in chapter 4, parties on the left of the political spectrum were much better represented in the European Parliament in 1994-1999 than in 2004-2009. And as expected, the former was clearly much more ambitious than the Commission and

the member states at the time, while the latter seemed to be rather divided in 2008. If we look at which MEPs were particularly active on car CO2 policy, it is also quite apparent that left-leaning deputies were the driving forces behind the EP's more ambitious stances. Thus, the EP's 1997 report criticizing the voluntary approach was authored by a leftist MEP, Laura Gonzalez Alvarez. The MEPs representing the EP's Industry and Environment Committee at the above-described February 1998 workshop on alternatives to the voluntary approach, David Bowe and Bernd Lange, both came from the Socialist group.

*Table 4.10: Left-Right positions of governments in power 1996-1998**

Member state**	**Left-Right 1996**	**Left-Right 1997**	**Left-Right 1998**
Spain	7,6	7,6	7,6
UK	7,4	7,4	4,4
France	6,9	6,9	2,7
Germany	6,4	6,4	6,4
Ireland	5,1	5,1	6,2
Netherlands	5,0	5,0	5,0
Austria	4,9	4,9	4,9
Finland	4,5	4,5	4,5
Belgium	4,5	4,5	4,5
Greece	4,3	4,3	4,3
Porugal	4,1	4,1	4,1
Denmark	4,0	4,0	4,0
Sweden	3,4	3,4	3,4
Italy	2,6	2,6	2,6

* Scores for beginning of each year, lower score means closer to the left
** No data for Luxembourg available
Source: ParlGov Database (Döring/Manow 2010)

By 2008, the European Parliament as a whole had shifted to the right, yet the (much larger) liberal group still held the balance. At the same time, the EP's support for more ambitious legislation than demanded by the Commission and the member states was more ephemeral than previously. There is also some specific evidence that party affiliations mattered: thus, the Rapporteur on the regulation for the Environment Committee, Guido Sacconi, was a Socialist from Italy, the draftsman in the ITRE-Committee, Werner Langen, a conservative from Germany. The former, as we have seen, supported the Commission proposal, while the latter supported the (less ambitious) Franco-German compromise. The main modification to the Commission proposal on which both committees agreed was the introduction of a long-term target – and this is the only substantial change the parliament was able to secure in the trilogues with the French Presidency. At the same time, however, those of my interviewees affiliated with the EP (two MEPs, three assistants) said that the debate in the Parliament was very much driven by the nationality of

MEPs. Matthias Grothe, for example, a German socialist, introduced the provision on "super-credits" into the legislation, i.e. the triple-counting of very efficient (or electric) cars. Overall, however, it appears as though the party composition of the parliament played at least some role in determining its position.

*Table 4.11: Left-Right positions of governments in power 2008**

Member State**	**Left-Right Score*****
Denmark	7,3
Italy	7,1
Sweden	7,1
France	6,8
Czech Republic	6,8
Slovenia	6,7
Greece	6,4
Latvia	6,3
Finland	6,1
Estonia	6,0
Belgium	5,8
Ireland	5,8
Poland	5,8
Romania	5,8
Germany	5,1
Austria	5,0
Netherlands	4,9
Slovakia	4,4
UK	4,4
Bulgaria	4,2
Portugal	4,1
Spain	3,7
Hungary	2,8
* Data is for second half of 2008	
** Cyprus, Malta, Lithuania, Luxembourg unavailable	
*** Smaller number indicates further to the left	
Source: ParlGov Database (Döring/Manow 2010)	

To understand the importance of party politics in shaping member state governments' position on EU car CO2 policy, Tables 4.10 and 4.11 present data from the ParlGov Database[144] (Döring/Manow 2010) on the weighted average left-right score for the member state governments in power in 1996-1998 and 2008, i.e. during the time of the voluntary agreement's and the regulation's negotiation. This data suggests that party politics were probably not decisive in shaping member states' preferences regarding car CO2 emissions policy. In 1996, the UK, France and Germany had among the right-most governments in the EU and were among the countries that demanded a push-back of the 120 g/km target to 2010 rather than 2005 – yet Italy, with the left-most government joined them in their effort.

144 Chapter 4 provides a detailed discussion of the data and the process of calculating scores for the government as a whole.

Table 4.12: Per-capita GDP at PPS in EU-15 member states 1995*

Member State	Per-capita GDP at PPS*
Luxembourg	223
Austria	135
Denmark	132
Belgium	129
Germany	129
Sweden	125
Netherlands	123
Italy	121
France	116
United Kingdom	113
Finland	108
Ireland	103
Spain	92
Greece	84
Portugal	77
* Purchasing Power Standards (EU-27 av.=100)	
Source: Eurostat	

Table 4.13: Per-capita GDP at PPS in EU-27 member states 2008*

Member state	Per-capita GDP at PPS*
Luxembourg	280
Netherlands	134
Ireland	133
Austria	124
Denmark	123
Sweden	122
Finland	118
Germany	116
Belgium	115
United Kingdom	115
France	107
Italy	104
Spain	103
Cyprus	97
Greece	93
Slovenia	91
Czech Republic	81
Malta	78
Portugal	78
Slovakia	72
Estonia	68
Hungary	64
Lithuania	61
Latvia	56
Poland	56
Romania	47
Bulgaria	44
* Purchasing Power Standards (EU-27 av.=100)	
Source: Eurostat	

In 2008, Germany's government was a grand-coalition between the Christian Democrats and the Social Democrats, i.e. overall relatively far to the left, compared to other EU governments. Nevertheless, it was one of the prime opponents of early ambitious action. Conversely, countries like Denmark, Greece or Ireland had governments closer to the right, which asked for more ambitious rules. Judging by its initial reaction to the Commission proposal, the French government – also farther to the right – would have accepted more ambitious legislation than Germany.

4.5.3 General leader-laggard dynamics

Another alternative explanatory factor we need to consider concerns general leader-laggard dynamics. As described in chapter 3, we might expect the wealthier member states to support more ambitious sectoral climate policies. In order to test the relevance of this alternative hypothesis to the present case, Tables 4.12 and 4.13 present data on per-capita GDP at purchasing power standards in 1995 and 2007. Again, the evidence that this factor was important is fairly limited.

The main countries advocating a delay in the 120 g/km target in the 1990s, Germany, France, Italy, and the UK were all somewhere in the middle of the income range, not at the bottom. Yet, the three countries that did not endorse the 120 g/km target in late 1994 were near the bottom of the income table, which lends some support to the leader-laggard-idea. In 2008, Germany was in the upper half of the per-capita income ranking – yet proponents of more ambitious legislation like the Netherlands and Greece ranked both below and above Germany. High-income Sweden behaved quite differently from its direct "neighbors" in the income table (Denmark and the Netherlands). Thus, the nature of the car industry does appear to provide a more reliable predictor of member state preferences than relative wealth.

4.5.4 Package Deals

A final factor we need to take into account in explaining EU sectoral climate policy is the possibility that "package deals" made possible advances in ambition levels. For the 1990s, it seems relatively safe to exclude the possibility that the issue was linked to other EU policies. The voluntary agreement was negotiated relatively autonomously between the Commission and ACEA; member states and the EP played a rather marginal role. In 2008, it is less clear what role package deals played. Though not officially part of the Energy and Climate Package (which included the EU ETS revision, Renewables Directive, CCS Directive, and the effort-sharing directive, see chapters 1, 5, and 7), the car regulation was

negotiated in parallel with these other directives. Moreover, the core of the compromise emerged at the highest level, namely between Merkel and Sarkozy, to whom neither I nor my interviewees had enough access to know about the details of what they agreed to. In the weeks after the compromise there were wild speculations about who might have received what in exchange. Skjaerseth/Wettestad (2010), citing unnamed interviewees, hold that Germany accepted more stringent rules for cars than it was previously willing to accept in exchange for more lenient rules on the allocation of EU ETS allowances for energy-intensive industries. In direct contradiction to this idea, a French negotiator I interviewed hinted that Germany had accepted a redistribution of EU ETS revenues from Germany to East European states in return for French acceptance of Germany's demands on the car regulation. The German negotiators I interviewed did not comment on this but insisted that the agreement was very favorable to the French car industry as well.

Overall, the evidence suggests that a package deal was not decisive in shaping the regulation – the European car industry got more or less what it wanted (given that mandatory legislation was unavoidable). The phase-in, lower penalties, super-credits, and eco-innovation-credits made the regulation bearable to the German car industry despite the slope-line; French and Italian manufacturers similarly benefited from a delay of their targets. The date of adoption of the final compromise also suggests that a package deal was not crucial. While the Energy and Climate Package was adopted as a "package" at the European Council on 12 December 2008 (Europolitics, 18 December 2008), the final compromise between the EP and the Council Presidency on the car regulation had already been reached individually on 1 December 2008 (Europolitics, 3 December 2008).

4.6 Conclusion

Having analyzed the evidence both on the hypotheses generated from my explanatory framework and on additional explanatory factors that often appear in the environmental politics literature, we can conclude that the rational choice baseline in combination with an analysis of rhetorical possibilities offers a good explanation of the resulting policy ambition level. The rational choice baseline provides an account of the fault lines between the various actors and of the ambition level of the bargains they ultimately reached. Member states did indeed for the most part defend their automotive industries throughout the negotiations. Member states without a car industry called for stricter environmental rules, as such demands were not costly to themselves. In the 1990s, this led to deadlock, which resulted in a low-ambition policy. The bargain reached in 2008 reflected a compromise between large and small car manufacturers with a long-term target

to pacify those advocating more ambitious policies. The upgrading of the overall ambition level, however, became possible because the discursive environment had changed.

My hypothesis on the discursive environment's impact on sectoral climate policy ambition has thus passed its "least likely case." Given the central role of the car industry in key member states and the very different interests of the car industry in different member states, an ambitious sectoral climate policy to address car CO2 emissions would have seemed very difficult to obtain. Yet a restrictive discursive environment had made arguments in favor of a less ambitious policy rhetorically unsustainable.

Chapter 5: The european emissions trading scheme – the best option under rhetorical constraints

5.1 Introduction

The most celebrated and most researched achievement of EU climate policy to date is the establishment of the European Union's Emissions Trading System (EU ETS). Negotiated from 2001 to 2003 and launched in 2005, the EU ETS constitutes the world's largest cap-and-trade system for CO2, covering more than 40% of the EU's total GHG emissions from more than 10,000 installations in electricity generation and energy- intensive industry. For each ton of CO2 the covered installations emit, their operators have to submit tradable allowances (EUAs[145]) to a "competent authority." Operators that can easily reduce their installations' emissions can then sell allowances to operators of installations that have a harder time making such cuts. This allows emission reductions to occur wherever abatement costs are lowest. In 2008, the EU revised the ETS for the period after 2012, adding additional sectors, harmonizing important aspects of the system across member states, and increasing the share of auctioned allowances relative to allowances handed out for free.

Having passed the test of regulations for car CO2 emissions in chapter 4, I now submit my explanatory framework to the test of the emergence of the EU ETS. I do so for two reasons. First, in terms of sheer coverage of emissions, but also in terms of its relevance as an international "prototype", the EU ETS is by far the most important sectoral EU climate policy. Thus, any theoretical edifice that purports to explain sectoral EU climate policy must be able to account for its emergence. Secondly, the EU ETS has received more scholarly attention than any other aspect of the EU's internal climate policy. Thus, I need to show what my explanatory framework can add to this existing literature. Previous scholarship has focused on the importance of policy-learning in the EU ETS' development (Christiansen/Wettestad 2003, Damro/Luaces Mendez 2003), on interest group influence (Markussen/Svendsen 2005), path dependencies (Woerdmann 2004) and the role of an issue-specific policy-network (Braun 2009). The most comprehensive

145 EUA stands for European Union Allowances.

study to date is Skjaerseth and Wettestad's (2008) book, which explains the emergence of the EU ETS as a result of Commission entrepreneurship, an accommodation of member state preferences, and international influences from the Kyoto Protocol. While I draw on their work for the empirical part of this chapter, my analysis adds at least two aspects to their work. It provides a more comprehensive understanding of how member state interest constellations made possible the adoption of the EU ETS, and it provides a more specific theoretical underpinning for the claim (also made by Skjaerseth/Wettestad 2008) that the Kyoto Protocol played a critical role in bringing about the EU ETS. More concretely, I argue that given the pressure to "do something" about GHG emissions resulting from the Kyoto Protocol, the establishment of an emissions trading scheme at EU (or even global) level was the most attractive option for electric utilities and industry in most EU member states. As a result, most member states were quite favorable towards the idea of the EU ETS. The EU's adamant defense of the Kyoto Protocol after U.S. President Bush had decided to withdraw from the treaty further tightened the discursive environment, making it difficult for opponents of the scheme to uphold strong opposition.

The chapter starts with a historical account of the development of the EU ETS and a description of the EU ETS Directive (2003/87/EC) and the so-called "Linking Directive" (2004/101/EC), which made possible the use of credits from the Kyoto project-based mechanisms. After that, I develop the rational choice baseline's predictions for member state preferences, before presenting the evidence on the main actors' positions and the negotiating outcome. As in the previous chapter, this is followed by a discussion of the discursive environment and alternative explanatory factors. In the conclusion I briefly describe the further development of the EU ETS after 2005. Moreover, I compare and contrast my results with those of the previous literature. I do not explicitly test my explanatory framework on the EU ETS revision in 2008, as such a test would add relatively little to the insights gained from the first EU ETS and the other chapters. As the existing literature on the EU ETS is quite extensive, the empirical content of this chapter largely comes from secondary sources. In addition, I consulted original EU, member state, and lobby group documents and a variety of print-media sources. I also drew on some interviews conducted for a previous research project.[146]

146 The interviews listed in Appendix II for the EU ETS were originally conducted for a project on how the EU ETS affects the development of emissions trading in non-EU member states, yet some of them provided important background information for the research presented here.

5.2 The establishment of emissions trading – getting to high policy ambition

Emissions trading as a climate policy instrument first entered the European policy agenda during the negotiation of the Kyoto Protocol in the mid-1990s. After the conclusion of the agreement, the Commission developed expertise on the instrument and promoted it at the EU level. The European Parliament and most of the member states only became familiar with the idea through the Commission, but for the most part developed positive views of the instrument. The negotiations of the directive were contentious, but member states and the EP reached an agreement fairly quickly in 2003.

5.2.1 From Kyoto to Brussels – the emergence of emissions trading

During the Kyoto negotiations, the United States had strongly favored international emissions trading as a way to keep the costs of an international climate agreement low, while EU negotiators were unenthusiastic and sometimes hostile to the idea[147] (Grubb 1999). As described in chapter 1, however, the EU had to accept emissions trading as part of the package deal that made possible the conclusion of the Kyoto protocol in late 1997. The Kyoto protocol established three so-called "flexibility mechanisms" (e.g. Depledge/Yamin 2004; Slingenberg 2006): international emissions trading, Joint Implementation (JI), and the Clean Development Mechanism (CDM). To allow for emissions trading, each Annex-I-party to the Kyoto Protocol received a number of so-called "Assigned Amount Units" (AAUs) that corresponded to the number of tons of CO2e the country was allowed to emit during the commitment period (2008-2012) of the Kyoto protocol. Countries that emitted less than their target could then sell AAUs to countries that exceeded their targets. Alternatively, countries that exceeded their targets could comply with their Kyoto obligations by buying credits generated through JI or the CDM.[148] As described in chapter 1, the Kyoto Protocol set up these mechanisms in late 1997, but left most of the details to future negotiations, which dragged on until 2001.

147 Objections included both the perceived infeasibility of such a system and the fear that the US simply wanted to buy itself out of its responsibility to lower emissions. Some also objected on moral grounds.

148 As mentioned in Chapter 1, both JI and the CDM are "project-based mechanisms." They allow the creation of additional tradable emission certificates through investments in emission reduction projects. JI projects are emission reduction projects in Annex-I-countries and generate so-called Emission Reduction Units (ERUs), CDM projects take place in developing countries and generate Certified Emission Reductions (CERs).

After the Kyoto Conference, the Commission hence started to study the issue more closely, hiring an expert on emissions trading within weeks of the Kyoto Conference (European Voice, 8 January 1998).[149] Moreover, a number of Commission employees responsible for climate change policy who favored command-and-control rather than market based regulations were replaced with more market-friendly staff in 1998 (Skjaerseth and Wettestad 2008, p. 74). Other officials working on the issue were disillusioned after the failure of the carbon tax promoted by the Commission throughout the 1990s and saw emissions trading as a policy instrument that would be more politically palatable (Christiansen and Wattestad 2003, p. 6-7). Unlike the carbon tax, an emissions trading system constituted environmental legislation that did not require unanimity in the Council for adoption. In order to build its expertise, the Commission invited a number of American experts on the emissions trading systems the U.S. had established with the Clean Air Act of 1990 to address acid rain. It also paid close attention to numerous private sector activities regarding emissions trading the late 1990s. These included pilot CO2 emissions trading schemes operated by the oil majors BP and Shell (Zapfel/Vainio 2002, p. 8), the creation of the International Emissions Trading Association (IETA), a group of 60 multinational companies and environmental organizations supporting emissions trading (Financial Times, 15 April 1999) as well as efforts by various private sector players to set up emissions trading exchanges. Several member states, notably the UK, Sweden and Denmark, started to develop their own domestic emissions trading systems in the late 1990s. As this had potentially severe implications for the internal market, it added further momentum to the Commission's activities on emissions trading.

In Communications on the EU's post-Kyoto strategy, the Commission first hinted at the possibility of setting up a domestic emissions trading scheme (Skjaerseth/Wettestad 2008; European Commission 1998a, 1999a). In the spring of 2000, it published a green paper on emissions trading and launched a stakeholder consultation on the issue, to which it received hundreds of replies (European Commission 2000c, 2001b). In addition, it set up a working group on emissions trading within the European Climate Change Program (ECCP), including 30 representatives from member state governments, industry, and environmental groups. This group met 10 times until May 2001 and published a final report with the recommendation to start emissions trading at the European level and to not wait until a system had been established within the Kyoto framework (Zapfel/ Vainio 2002, p. 11; European Commission 2001c, 2001d). While participants

149 Even though in 1998, the EU still focused its attention on limiting the extent of emissions trading in the Kyoto Protocol, in particular during COP-4 in Buneos Aires (Zapfel and Vainio 2002, pp. 5-7; European Voice, 8 October 1998)

disagreed on some issues, the report recommended that the system should operate with absolute targets and that member states determine their own allocation rules, yet avoid competitive distortions and ensure environmental effectiveness. Moreover, it advocated a system that was broad in terms of covered gases and sectors, but that it should start with a feasible number of gases and entities. The system should enable links to JI and CDM projects and make it possible to domestically create GHG offsets. Finally, the report recommended that standards for monitoring, reporting, verification, and compliance should be at least comparable across the EU, and that some level of financial sanctions above the cost of compliance should apply for non-compliance.

5.2.2 Directive 2003/87/EC – An ambitious policy to address EU emissions

On the basis of these consultations, the Commission published its legislative proposal in October 2001 (European Commission 2001e). About a year later, the European Parliament adopted its First Reading Position, which sought substantial alterations to the proposal. In particular, the EP wanted to include more sectors and gases, auction a certain proportion of allowances, and have a more centralized cap-setting process. The Council reached a political agreement on the directive under the Danish Presidency in December 2002 and officially adopted its Common Position in March 2003. Its position was closer to the Commission proposal in several but by no means all aspects. In the spring of 2003, it thus looked as though a protracted negotiation between the EP and the Council lay ahead. Yet the Greek Council Presidency and the EP's rapporteur Jorge Moreira da Silva (EPP-Portugal) informally negotiated a final text so as to avoid a reconciliation procedure. The Kyoto Protocol, which the EU was eager to uphold at the time, required parties to show "demonstrable progress" on reducing emissions by 2005. This apparently motivated MEPs to be more conciliatory than they might otherwise have been and facilitated the hammering out of a compromise by late June 2003 (Skjaerseth/Wettestad 2008, p. 132-138). By October of the same year, both the Council and the EP had formally adopted Directive 2003/87/EC.

In the end, the directive created an emissions trading system with the following broad features (European Commission 2005a, 2008a, Meadows 2006, Vis 2006a). It covered carbon dioxide emissions from combustion installations with a rated thermal input above 20 MW,[150] mineral oil refineries, coke ovens, the production and processing of ferrous metals, the mineral (construction materials) industry,

150 Most of the emissions from these installations come from large electric power plants, though combustion installations in other industry are also subject to EU ETS rules

and the pulp and paper industry. The ETS did not cover other greenhouse gases, as the monitoring and verification systems for these gases were less precise and reliable than for CO2 (Meadows 2006, p. 68). The "currency" of the trading system was the European Union Allowance (EUA)[151]. Trading took place in phases: the first phase, intended as a pilot phase, lasted from 2005-2007, the second from 2008 to 2012, coinciding with the Kyoto Protocol's first compliance period. The first phase was intended to be a "dry-run" of the system and the Commission was asked in a "Review Clause" (Art. 30) to report on the system's operation and potential improvements by mid-2006.

The allocation of allowances and the cap-setting was to take place at the national level.[152] As a rule, allocation was free according to criteria set by the member states in accordance with their Kyoto targets and an Appendix to the directive – most allowances were thus "grandfathered." Yet member states were allowed to auction up to 5% of allowances during the first trading period and up to 10% during the second trading period. Each member state designated a so-called "Competent Authority", which set up a National Allocation Plan (NAP) specifying which installations within the member state were subject to the EU ETS and how many allowances each installation would receive for the trading period. Thus, there were de facto 25 national caps for the first and 27 for the second trading period (Ellerman/Joskow 2008, p. 2-3). NAPs were, however, subject to approval by the European Commission. This was meant to ensure that member states set caps in accordance with their targets under the Kyoto burden-sharing agreement and to make the coverage of installations consistent between member states. The EU ETS directive also specified penalties for non-compliance: emitters who failed to submit allowances to cover their emissions faced fees of 40 EUR per ton of CO2 in the first and of 100 EUR per ton in the second phase in addition to submitting the missing allowances.

151 EUAs do not directly correspond to the AAU's of the Kyoto Protocol. While they represent equivalent amounts of carbon emission rights, the EU decided deliberately to keep the system separate. There were several reasons for this decision. AAUs could only be banked to the next compliance period under the condition that a party to the Kyoto protocol fulfilled its obligations – thus companies holding AAUs would be deprived of their banked AAUs if their country as a whole did not meet emission reduction obligations. Moreover, there was a concern that too many AAUs might flood the market and thus undermine the system's environmental effectiveness. Finally, the EU ETS was to be established with or without the Kyoto Protocol (Meadows 2006, p. 84f.).

152 As the member states had individual overall targets under the burden-sharing agreement for the Kyoto Protocol, it would have been difficult to have a harmonized system of allocation. As some member states were closer to meeting their Kyoto targets than others when trading began, it would have been difficult to come up with an allocation rule that took these differences into account (see Vis 2006b, p. 189).

In order to limit the cost of compliance, emitters can fulfill part of their obligations under the EU ETS directive by submitting ERUs or CERs, i.e. credits from the Kyoto Protocol's project-based mechanisms. The rules for using these credits were spelt out in a separate Directive (2004/101/EC), the so-called "Linking Directive", adopted in the fall of 2004 (Lefevere 2006). This directive prescribed that CERs and ERUs derived from nuclear energy, forestry projects or large hydro-power projects that did not comply with certain social and environmental criteria could not be used in the EU ETS (Lefevere 2006, p. 127f.). Yet, the Linking Directive did not establish quantitative limits on their use, though it did stipulate that their use be supplemental to domestic action. Member states had to set limits on the use of project-based credits in their NAPs, which has indirectly given the Commission some influence over their quantity (Skjaerseth/Wettestad 2008, p. 177-178). Quantitative restrictions thus de facto varied between the member states, and sometimes even between sectors within member states (Ellerman/ Joskow 2008, p. 4).

Table 5.1: Coding of the ambition level of Directive 2003/87/EC of 13 October 2003 establishing a scheme for greenhouse gas emissions allowance trading within the Community and amending Council Directive 96/61/EC

Dimension	**Description**	**Score**
Nature of targets	Member states set absolute targets for installations on their territory in National Allocation Plans subject to Commission approval	2
Behavioral prescriptions	Member states have to set up national registries, require companies to report their carbon emissions	2
Financial incentives	Member states allocate at least 95% of allowances for free during the first trading period (2005-2007) and at least 90% during the second period (2008-2012). Hence a price of carbon is established only at the margin, i.e. when installations exceed their allocated allowances	2
Enforcement and compliance	Penalties of 40EUR per ton of CO2 not covered by allowances during the first trading period (2005-2007), penalties of 100EUR per ton of CO2 for the second trading period (2008-2012)	3
Degree of flexibility	Use of Kyoto mechanisms (regulated by "Linking Directive") constitutes significant cost containment mechanism, exceptions (e.g. through opt-outs) very limited	2
Overall score:		**11 (High)**

Overall, as detailed in Table 5.1, I consider the 2003 EU ETS directive (in combination with the Linking Directive) to be a highly ambitious policy. It requires member states to set fixed absolute targets subject to Commission approval,

provides financial incentives, and specifies financial penalties. At the same time, it leaves member states some room to set relatively modest caps for particular industries, it allows for the free allocation of most allowances, and it offers significant flexibility through the use of the Kyoto mechanisms. Thus, it is no coincidence that its numerical score is close to the "medium ambition" threshold. As I elaborate in my discussion of the 2008 EU ETS revision, the policy became more ambitious later on.

After the entry into force of the EU ETS directive, member states and participant companies had a little more than a year to get ready for the start of trading. Until January 2005, they had to draw up National Allocation Plans, set up registries, and establish reporting, monitoring, and verification systems. Accordingly, the implementation of the directive did not run very smoothly initially (Vis 2006b). Most member states submitted their National Allocation Plans late (e.g. Financial Times 19 April 2004; European Voice, 20 January 2005) or did not manage to set up their registries in time to start trading in January 2005 (EEA 2007a; Ellerman/Joskow 2008; Financial Times, 25 May 2005). Because of a lack of historical data and political pressure from businesses, the overall number of allowances allocated was substantially higher than the actual emissions in the first trading period[153], which led to a collapse of prices in the spring of 2006 (EEA 2007b, p. 44; Financial Times, 13 May 2006; Kolshus/Torvanger 2005). Once correct data for 2005 was available, however, the Commission used its power to approve NAPs to substantially slash the number of allowances allocated for the second trading period from 2008 to 2012. The overall cap for the second period was thus set at 13% below the first period cap and 6% below verified 2005 emissions (EEA 2007b; Financial Times, 10 January 2006; Elleman/ Joskow 2008, p. 32).

Despite the scheme's "teething problems", the establishment of the EU ETS meant an enormous step forward for EU climate policy and constituted the EU's first highly ambitious sectoral climate policy. It also created the world's first mandatory carbon market, potentially setting a precedent for other such schemes in the future. This, of course raises the question of how its adoption was possible: Why did the EU adopt a high ambition policy for electricity generators and energy-intensive industries? In the following two sections of this chapter, I apply my explanatory framework to the development of the EU ETS directive. I start with the rational choice baseline, which I then complement with the analysis of rhetorical possibilities.

153 This may have also been partly due to the fact that companies falling under the EU ETS made investments in abatement measures.

5.3 Explaining the emergence of the EU ETS – the rational choice baseline

This section is divided into two sub-sections. In the first sub-section, I develop predictions about how ambitious a policy to address GHG emissions from electricity generation and industry different actors will support as well as the resulting bargaining outcome. In the second sub-section I present empirical evidence about actor preferences and bargaining outcomes. I show that by itself the rational choice baseline again provides an insufficient account of what happened. Yet once we add the assumption that member states were at least weakly committed to achieving emissions reductions, the rational choice baseline provides fairly accurate predictions about the leaders and laggards among the member states. At the same time, my analysis shows the importance of "learning-by-doing", in particular concerning the issue of auctioning allowances for electricity generators.

As I describe the positions of the main actors in terms of the "ambition level" they favored, let me briefly identify the concrete policy parameters according to which we can measure this level. I look at whether actors promote a voluntary or a mandatory scheme, whether or not they support a specific cap level included in European legislation, whether or not they support the possibility to opt-out certain installations or sectors, and whether they demand higher or lower penalties for non-compliance. Demands for the inclusion of additional sectors and gases also indicate more policy ambition (as more GHG are covered by a mandatory policy), though the demand is often made by actors that hope to lower overall abatement cost levels. With this in mind, let us now delve into the analysis.

5.3.1 Rational Choice Baseline Predictions on Emissions Trading

The rational choice baseline predictions for the European Commission and the European Parliament are again quite simple. We would expect both to be in favor of an ambitious policy to limit emissions from electricity generation and industry. We would, however, expect the Commission to be more cautious than the European Parliament, taking into account likely objections from member states when making its proposals. In order to derive a prediction on member state preferences, I proceed in three steps. (1) I first consider the interests of the electricity sector and then (2) discuss the policy's implications for manufacturing industry. I show that the electricity sector for the most part benefits from emissions trading, while the manufacturing sector, especially energy intensive industry tends to lose. Yet, if there is to be a mandatory GHG emission reduction policy for the manufacturing sector, emissions trading with a free allocation of allowances is

the "least bad." Hence we can expect industry at least in countries with high domestic abatement costs to advocate the introduction of this instrument. Based on these considerations, I then (3) develop predictions on how ambitious a policy different member states will support based on three simple indicators: the share of coal or lignite in electricity generation, the size of the manufacturing sector, and the marginal domestic abatement costs of member states. As in the car case discussed in chapter 4, I do not expect concerns about administrative adaptation costs to matter much as the interest group constellations are quite clear.

5.3.1.1 Interests of the Electricity Sector

Electricity providers tend to benefit strongly from emissions trading systems through higher wholesale electricity prices (e.g. Ilex Energy Consulting 2003, 2004; Lise/Sijm/Hobbs 2010; Keats Martinez/Neuhoff 2005; Reinaud 2007). This is because prices in liberalized wholesale electricity markets are set by the marginal power plant. Since electricity cannot be cost-effectively stored in large quantities, electricity production (supply) has to continually balance electricity demand. To ensue that this is the case, different electric power plants are turned on and off according to a so-called "merit order", i.e. the cheapest (on a marginal cost basis) source of electricity goes online first, followed by the second-cheapest etc.[154] The last (most expensive) plant to go online to meet a given level of demand is usually a fossil fuel-powered plant – and this "marginal" plant sets the electricity price for the entire market at that moment.

Once a carbon price is in place, whether it is through an emissions trading system or a carbon tax, the cost of carbon becomes part of the opportunity cost of running this marginal plant. This is the case even when operators receive emission allowances for free – after all, the operator of the plant could sell the allowances at the market price if the plant remained idle. Thus, the introduction of an emissions trading system raises electricity prices. It hence allows the operators of less carbon intensive plants, in particular of large-hydro and nuclear power plants, to sell their electricity at a higher price without an equivalent increase in costs. This holds even for non-marginal fossil fuel based plants.

We should thus generally expect electric utilities to support emissions trading with a free allocation of allowances. We should also expect utilities with a generating portfolio that includes highly efficient natural gas fired power plants as well as nuclear and large-hydro-assets to support emissions trading with auctioning:

154 Normally, the cheapest source (in terms of marginal costs and without a carbon constraint) is renewable (large hydro, wind, solar), followed by nuclear, coal or lignite, gas, and oil. Depending on the cost of carbon, the merit order among fossil fuels shifts.

they can pass on the costs of the allowances they have to buy for their fossil fuel based assets and make greater profits on their low-carbon assets. They would, however, prefer free allocation as this means fewer cash outflows (and greater windfall profits). Utilities which have only fossil-fuel-, especially coal-based generating capacity, can be expected to be indifferent or slightly hostile: they can pass on most of the costs of allowances, but gain little and might face lower overall demand for electricity in the medium term.

The above description, of course, constitutes somewhat of a simplification, both because wholesale electricity markets have not been fully liberalized in all member states and because utilities might face different incentives in specific situations. Despite Commission efforts on electricity market liberalization since the late 1980s and despite three "energy packages" passed in 1996, 2003, and 2009, competition between utilities both within member states and across borders is still quite limited[155] (e.g. Cross/Hancher/ Slot 2001; European Commission 2010a). There is still little cross-border trade of electricity. Moreover, individual companies dominate the market in many countries. Several member states continued to regulate prices in retail and sometimes in wholesale markets. Where market's are not fully liberalized, incentives for utilities may be different: vertically integrated[156] and dominant market players, for example may benefit from keeping wholesale prices low (i.e. by not including opportunity costs of free allowances into prices) and by pursuing profit elsewhere in the value chain.

Nevertheless, it would be rational for utilities – even in regulated markets or in markets they dominate, and even without any "true" climate concerns – to favor emissions trading. [157] While cross-border electricity trade is still limited, higher prices in neighboring countries are still beneficial to utilities: they relieve the threat of import competition, and they potentially offer export opportunities. The greatest beneficiaries would, of course, be the utilities with low carbon generation

155 "In June 2009, the European Commission initiated infringement procedures against 25 member states" for failure to properly implement the directive on electricity liberalization (European Commission 2010a).

156 An "integrated utility" owns generation capacity, transmission and distribution networks. While the EU's liberalization directives require the functional "unbundling" of these activities, they are often pursued within the same company – to this company it is then not important to maximize profits for the generation unit, but across the entire value chain.

157 One counterargument to this expectation might be that electric utilities simply did not know the effect of emissions trading on electricity prices. This is highly unlikely: the European Association of electricity producers conducted a number of modeling exercises to study the impact of emissions trading and came out very strongly in favor of emissions trading. It did not emphasize the large windfall profits it expected from the scheme, however, which by itself might have endangered the scheme.

assets; yet even those with a significant share of lignite, coal, oil or gas fired power plants could benefit from the EU ETS.[158]

Table 5.2: Share of fossil fuels for electricity generation (2004) and electricity sector employment

Member State	Coal and lignite	Oil	Natural and derived gas	Share of total employment 2000*
Greece	59,6	14,1	15,2	N/A
Germany	48,3	1,7	11,6	0,6%
Denmark	46,2	4,0	24,7	0,4%
Ireland	30,2	12,6	50,5	N/A
United Kingdom	33,3	1,2	39,9	0,3%
Portugal	32,9	12,6	25,9	0,3%
Spain	28,3	8,5	20,2	0,2%
Netherlands	23,3	2,8	63,3	N/A
Finland	26,8	0,7	15,5	0,6%
Italy	15,0	19,4	44,6	0,4%
Austria	12,3	2,8	18,9	0,7%
Belgium	10,7	2,0	27,9	0,5%
France	4,5	1,0	3,7	0,5%
Sweden	0,7	1,3	1,0	0,5%
Luxembourg	0,0	0,0	76,2	0,5%

*France 2002, United Kingdom 1998
Source: EEA (2008b) for fuel sources, Eurostat Structural Business Statistics for Employment

Table 5.2 presents data on the electricity sectors in EU member states in 2004.[159] It shows that there is great variation in the share of lignite and coal different member states use for electricity generation. As lignite and coal accounts for less than 50% in most countries, we would expect most countries' utilities to be in favor of emissions trading, even with auctioning. If there is resistance to emissions trading (or to auctioning of emission allowances), it is most likely in the countries towards the top of the list, while we would expect the most support towards the bottom of the list. At the same time, however, the relatively small share of employment in the sector suggests that the sector may not be as important to governments as other sectors. I elaborate on these points below; before that, let's turn to manufacturing industries.

158 Lignite (brown coal) is the most carbon intensive fossil fuel, followed by (black) coal, oil, and natural gas – i.e. for a lignite-fired power plant, operators need the greatest number of emissions allowances per unit of electricity produced, for natural gas-fired ones the smallest number.

159 As the electricity market is relatively stable over time, this information should be instructive for the motivation of member states in 2001-2003.

5.3.1.2 Interests of manufacturing industries

The interests of the manufacturing sector are more complex and generally more negative.[160] Yet under certain circumstances, we can nevertheless expect manufacturing industry at least in some member states to favor the introduction of an emissions trading system with free allocation of allowances. Once governments have committed themselves to reducing GHG emissions, the introduction of an EU-wide emissions trading system becomes attractive, in particular to those industries with high domestic abatement costs.

Let us start, however, by considering the situation in the absence of firm government emission reduction commitments. As I discussed above, the introduction of an emissions trading scheme implies higher electricity prices. As all manufacturing industries use electricity, they will generally be unhappy about the introduction of an emissions trading system (with participation by electricity producers). Yet the share of electricity costs in total costs varies between different manufacturers and the largest purchasers of electricity are likely to be most concerned about higher electricity prices.

In addition, we can expect energy-intensive manufacturing industries that emit large amounts of CO2 to be unfavorably inclined towards limits on CO2 emissions. These include primarily the metals and steel industry, the mineral industry (cement, bricks, glass, other construction materials), the chemical industry, and the pulp and paper industry. Limits on CO2 emissions are likely to impose costs on firms, which – ceteris paribus – reduces profits. Moreover, as markets for most manufactured products are relatively open, such industries might fear disadvantages vis-à-vis international competitors that don't face equivalent rules. Unlike electricity producers, many (though by no means all) manufacturing companies cannot pass through the costs of climate policy measures to their customers. Demand for their products tends to be more elastic than demand for electricity and many of them face international competition from countries that do not face carbon constraints. Moreover, certain industrial processes by necessity involve CO2 emissions (e.g. steel or cement making) – absolute caps for CO2-emissions from such activities thus at some point de-facto mean limits on (growth in) production volumes. Hence energy-intensive industries (and manufacturing industries more generally) will, on average, prefer not to have any climate policies that limit their emissions or at most "voluntary measures", which allow them maximum flexibility. If the alternative is no or "voluntary"

160 This discussion is largely based on official industry statements made in the context of the EU ETS and on the interviews I conducted with stakeholders.

action, we would thus expect manufacturing industry lobbyists to oppose a mandatory, ambitious emissions trading system.[161]

Table 5.3 presents data on the relative share of employment in manufacturing industry overall and in energy-intensive industries in the EU-15 in 2000. According to the logic outlined so far, we would expect those countries with the largest share of employment in manufacturing industry and in energy-intensive industries[162], i.e. those towards the top of the list, to be the most opposed to an ambitious emissions trading system. Those governments with smaller manufacturing sectors, i.e. those at the bottom of the list, would face the wrath of a smaller share of the electorate if they imposed costly climate policies, and can hence be expected to be less reluctant to taking such a step.

Table 5.3: Share of (energy-intensive) manufacturing industry in EU-15 employment 2000

Member state	Share of total employment in manufacturing industry	Share of total employment in energy-intensive industry*
Italy	22,9%	6,5%
Germany	20,7%	5,6%
Luxembourg	18,9%	8,7%
Portugal	18,7%	4,0%
Sweden	18,7%	5,5%
Finland	18,7%	5,8%
Denmark	18,0%	4,0%
France	17,3%	4,9%
Austria	16,9%	4,8%
Spain	16,7%	5,0%
Belgium	16,5%	5,7%
Ireland	15,1%	3,3%
United Kingdom	15,0%	3,8%
Netherlands	11,6%	3,4%
Greece	9,2%	2,5%

* Includes NACE (Rev. 1.1) categories: DJ (Manufacture of basic metals and fabricated metal products), DJ (Manufacture of coke, refined petroleum products, and nuclear fuels), DG24 (Manufacture of chemicals and chemical products), DI26 (Manufacture of other non-metallic mineral products), DE21 (Manufacture of pulp, paper, and paper products)
Source: Eurostat Structural Business Statistics

Our expectations change somewhat, however, if we relax the assumption that governments don't care about climate change at all and instead assume that they have made a credible commitment that emissions within their borders will have to be limited or reduced. Under this condition, an emissions trading system with

161 There may, of course be exceptions to this rule, e.g. if particular companies have developed proprietary technologies that can significantly reduce emissions.

162 For clarification: energy-intensive industries are part of manufacturing industry overall.

a free allocation of allowances is the most attractive option for manufacturing industries. Such a system offers benefits both to companies with high and with low abatement costs: those with low abatement costs can reduce emissions and sell allowances (getting cash in return), those with high abatement costs can buy allowances instead of making expensive investments. At the same time, no emitter has to make cash payments for more than certain marginal emissions. Moreover, if the system gives access to project-based credits from third countries (such as Kyoto's CDM and JI), the price level of allowances can be kept at a low level, meaning that the cost of the marginal emissions for which allowances have to be bought will be low.

From industry's point of view, such a system is clearly preferable to the alternatives: an emissions trading system with auctioning, a carbon tax, and regulations. Emissions trading with auctioning means companies have to make cash payments for their allowances, adding an element to production costs that international competitors might not have. The same occurs in the case of a carbon tax, though the latter makes the cost of carbon more stable. Regulations that prescribe specific processes or limit values for emissions per unit produced also have disadvantages: they mean less flexibility than emissions trading. Moreover, due to the diversity of industrial energy uses and processes that cause GHG emissions, regulations would probably involve a lot of additional bureaucracy for companies. Overall, emissions trading with a free allocation of allowances is thus the cheapest non-voluntary climate policy for manufacturing industries.

How would we expect this to have changed the calculation of manufacturing industries in the member states? Based on the rational choice baseline, we would expect this to depend on two factors. First, we might expect the credibility of governments' commitment to lowering emissions from manufacturing and energy-intensive industry to depend on the share of employment for which industry accounts in a particular member state. In states where industry accounts for a more substantial share of employment, industry might expect to be powerful enough to resist any measures going beyond voluntary agreements. Where industry accounts for a smaller share of employment, we might expect industry to demand the "least-bad" mandatory option, namely emissions trading with free allowances. Based on this logic, we would expect the countries at the top of Table 5.3 to be least favorable towards the EU ETS, while those at the bottom would be most favorable.

Secondly, we might expect member state manufacturing industries with the highest domestic abatement costs to be most favorable towards an emissions trading scheme. This may sound counterintuitive at first sight: as outlined above, both buyers (with high abatement costs) and sellers (with low abatement costs) gain from emissions trading. Yet when the EU ETS was first set up, emissions trading was always discussed in the context of the Kyoto Protocol and thus of the

possibility to draw on project-based credits from JI and the CDM to meet emission reduction targets. Getting access to these credits was particularly attractive to those industries with the highest abatement costs. Industries with abatement costs similar to those of CDM or JI credits would be rather indifferent to the possibility of buying these credits. Moreover, they knew that the benefit of selling allowances based on their own abatement measures would be limited, as the CDM and JI credits effectively capped the carbon price. As a result, we can expect industries with low domestic abatement costs to have been less enthusiastic about the EU ETS. Moreover, we might expect them to have worried about the administrative burden of a new policy-instrument with uncertain future benefits.[163]

The most reliable source on comparative levels of abatement costs in the different EU member states prior to the negotiation of the original EU ETS is probably the economic modeling commissioned by the European Commission in preparation for the Green Paper and the legislative proposal. The results of these studies are presented in Table 5.4. The first column contains the results of an "integrated assessment", which combined the results of top-down estimates (based on the PRIMES model) of abatement costs and a bottom-up (based on the GENESIS database) calculation of those costs (Blok/de Jager/Hendriks 2001)[164]. The other two columns present data on marginal abatement costs from two other sources: the PRIMES database, i.e. the top-down calculation of marginal abatement costs, which also went into the integrated assessment (E3M Lab/Capros/Manzos 2000), and data from an analysis by the Institute for Prospective Technological Studies using the POLES[165] model (IPTS 2000). As the PRIMES data in the second column served as one of the bases of the integrated assessment, it is quite similar to the first column. The POLES data, which the Commission also consulted, is different in magnitude due to a different calculation methodology, yet the overall pattern largely confirms the data from the integrated assessment.[166] All this data concerns marginal abatement costs for the entire economy, i.e. the marginal

163 Note that my argument is not that EU-based businesses with low abatement costs would not support the use of CDM and JI credits – this might make perfect sense to them if they think about possible future requirements. My point is simply that those with higher abatement costs have a stronger interest in the short run to get access to the Kyoto mechanisms.

164 The PRIMES model is a general equilibrium model of the European energy market (it only analyzed CO2 emissions from energy use), while the Genesis database contains detailed information on individual abatement technologies and their respective costs, including measures to abate non-CO2 greenhouse gases (see Blok/de Jager/Hendriks 2001).

165 POLES is a model of the worldwide energy market

166 It is important to note that the POLES model only considered Germany, the UK, France and Italy in detail and lumped together the other "Northern" and "Southern" member states. Nevertheless, its results roughly confirm the results of the other exercises in terms of the distribution of abatement costs between member states.

abatement costs of all sectors combined. Thus, it does not necessarily reflect the marginal abatement costs of a particular manufacturing industry sector within a member state. Nevertheless, it represents the level of abatement costs up to which governments might expect their businesses to reduce GHG emissions in the absence of EU- or international emissions trading. Hence it is reasonable for us to expect businesses in member states towards the top of the list to have been more keen on emissions trading than those in member states at the bottom of the list.

Table 5.4: Marginal abatement cost estimates for EU member states without trading

Member State	Integrated Assessment*, EUR/t CO2	PRIMES, EUR/t CO2	POLES $/t CO2
Netherlands	105,8	150,7	392,6
Belgium	91,8	89,3	392,6
Finland	53,1	63,5	392,6
Denmark	53,0	47,9	392,6
Austria	52,8	28,4	392,6
Sweden	41,4	39,7	392,6
Italy	34,5	33,3	317,3
Ireland	32,1	53,5	392,6
Portugal	23,1	41,1	88,4
Spain	12,0	27,7	88,4
United Kingdom	11,5	31,9	117,9
Germany	11,5	13,5	95,8
Greece	11,1	39	88,4
France	1,3	20,6	203,3

* Assessment combining top-down and bottom-up assessment of abatement costs, see Blok/de Jager/Hendriks 2001
Sources: Blok/de Jager/Hendriks 2001; E3M Lab/Capros/Manzos 2000; IPTS 2000

5.3.1.3 Predictions on Member State Preferences and Bargaining Outcomes on the EU ETS

Having outlined the interests of the electricity and the manufacturing industry sectors and their respective strength, we can now turn to making rational choice baseline predictions on member state preferences. Before that, however, let me discuss two additional factors that may matter to governments. First, climate policies, in particular carbon taxes or emissions trading with auctioning, can lead to additional revenues, which governments can use to please certain groups of voters. Thus, ceteris paribus, we can expect governments to favor auctioning to the free allocation of allowances. In addition, emissions trading benefits those who organize the trading, i.e. the financial services industry. While a lot of people work in financial services in the various member states, only a very small share of the financial services industry actually benefits from emissions trading. Thus, in most countries this sector is unlikely to be particularly influential con-

cerning the EU ETS. Hence, I do not explicitly consider the financial services industry in developing predictions.

Combining the insights from the above discussion of electricity and manufacturing industry interests, we can now develop predictions on which member states would be more and less favorable towards the introduction of an ambitious EU ETS. As already noted, these predictions rely on the assumption that governments have made commitments that they will reduce emissions – without this assumption we would expect most if not all member states to oppose emissions trading. Given this assumption, we would expect those member states with the highest domestic abatement costs, the lowest share of employment in the manufacturing sector, and the smallest share of coal or lignite to have been the greatest supporters of emissions trading and vice versa. High abatement costs make emissions trading particularly attractive to energy-intensive industry, a small workforce in the manufacturing industry will mute resistance to higher electricity prices, and a small share of coal-fired power generation will make electric utilities keen on emissions trading. Table 5.5 combines these three factors.[167] It ranks the EU-15 without Luxembourg in 2000/2001 according to the three factors (abatement costs, employment in manufacturing industry, share of coal/lignite in electricity production): rank 1 implies that a country is most likely to support emissions trading based on a particular factor, while rank 14 implies that it is least likely to do so.[168]

Table 5.5: Ranking the likelihood of support for emissions trading in EU-15 member states

Member State	Rank Abatement Costs*	Rank share of coal/lignite**	Rank employment in manufacturing***	Average Rank
Netherlands	1	7	2	3,3
Belgium	2	3	5	3,3
Austria	5	4	7	5,3
Sweden	6	1	11	6,0
Finland	3	6	10	6,3
Ireland	8	11	4	7,7
Spain	10	8	6	8,0
United Kingdom	11	10	3	8,0
France	14	2	8	8,0
Denmark	4	12	9	8,3
Italy	7	5	14	8,7
Greece	13	14	1	9,3
Portugal	9	9	12	10,0
Germany	12	13	13	12,7

* Highest rank implies highest abatement costs
** Highest rank implies lowest share of coal/lignite
*** Highst rank implies lowest share of manufacturing employment in total employment

167 Luxembourg is not included because no reliable data on abatement cost was available – due to its small size, this should not overly distort the picture.

168 The data in Tables 6.2 to 6.4 formed the basis for the rankings in each of the categories.

While this calculation is rather crude, we can also make more specific predictions. Thus, we would expect governments to demand auctioning as an allocation method for the electricity sector: governments will be happy to use the revenues and electric utilities are unlikely to protest too much because they still gain relative to a situation without emissions trading. We would also expect governments to prefer a free allocation of allowances to the manufacturing industry, in particular in those member states with a large energy-intensive industry sector.

In addition to the predictions of the member states' negotiating positions, we can also make predictions about the negotiating outcome. According to hypothesis H5 in chapter 3, we would expect a "pivotal member state" to set the ambition level, i.e. the last member state necessary to reach a qualified majority. This implies that we would expect the resulting directive to not reflect the preferences of those countries towards the bottom of the list, namely of Germany, Portugal, Greece, and Italy. While they might get some concessions, we would expect them to have to swallow a number of "bitter pills".

At the same time, the discussion of manufacturing industry interests and the data on the sheer size of manufacturing industry as an employer have shown that most member states will at least be uneasy about the introduction of emissions trading. Thus, we can expect them to insist on the maximum possible use of Kyoto credits so as to keep the costs to industry low. We can also expect member states to strongly resist demands from the European Parliament for greater policy ambition. Given that the EP's favored policy is even farther from the status quo than most of the member states' preferences, we would expect it to gain only modest concessions from member states.

5.3.2 Empirical evidence on the rational choice baseline

In the following subsection, I present empirical evidence on the negotiating positions of the European Commission, the European Parliament and the member states as well as the outcome of the EU ETS negotiation. This allows us to test whether the predictions outlined above turned out to be correct. For the most part, this is the case: the European Commission was the driving force behind the EU ETS, the EP tried to add to its ambition level, the member states behaved largely (though not entirely) as predicted, and neither Germany (as the least ambitious member state) nor the EP (with strongly ambitious preferences) were able to significantly shape the negotiating outcome. Member states were more cautious about auctioning, however, than the rational choice baseline would lead us to believe.

5.3.2.1 European Commission Preferences

As we have seen above, the European Commission was the driving force behind the effort to bring emissions trading to the EU. Early on, it was quite clear that the Commission favored a scheme that would qualify as highly ambitious. While the Green Paper's tone was rather cautious, presenting options and asking questions, it already contained multiple hints in the direction of high ambition. Thus, it stated that the system would require absolute caps (European Commission 2000c, p. 23), that a voluntary system would be insufficient and that a "common community system" would bring the "greatest economic benefits" (p. 13-14). Moreover, the paper advocated clear penalties for non-compliance (Ibid., p. 24) and revealed a preference auctioning over grandfathering as an allowance allocation mechanism (p. 18).

The Commission's proposal in October 2001 was more specific and highly ambitious (European Commission 2001e). It proposed a mandatory scheme for the sectors that were ultimately included: electricity and large-scale heating, iron and steel, oil refining, construction materials, pulp and paper as well as combustion installations with a rated thermal input of more than 20MW. The proposed legislation contained virtually no opt-out possibilities for countries, companies or sectors. Caps would be fixed, though the caps themselves would be set by member states. The proposal also contained a strong compliance mechanism with fixed penalties per ton of CO2 not covered by an allowance. The Commission promised to create a link to the Kyoto mechanisms, thus adding an element of flexibility. In some regards, the proposal was not as ambitious as it might have been: it favored the allocation method of grandfathering over auctioning and it did not propose a centralized cap, but left this task to the member states. Nevertheless, the Commission's behavior clearly conforms to the prediction of the rational choice baseline.

The fact that the Commission (along with the EP) was the driving force behind the introduction of emissions trading lends further support to the rational choice baseline. As Skjaerseth and Wettestad (2008) have elaborately described, a group of what they called "Bureaucrats for Emissions Trading" (BEST-Group) within DG Environment, led by Jos Delbeke, developed expertise on emissions trading and drove efforts to propose the EU ETS. After the failure of the energy/CO2 tax, hey saw emissions trading as a policy instrument that would be more politically palatable, in particular as it wouldn't require unanimity in the Council (Christiansen/Wettestad 2003, p. 6-7). As predicted by the rational choice baseline, the Commission worked towards the EU ETS without the inducement of powerful EU member states. While some member states were working on domestic emissions trading systems, they did not ask the Commissions for a proposal – the Commission drove the process itself (Skjaerseth/Wettestad 2008).

5.3.2.2 European Parliament Preferences

The European Parliament's behavior in the development of the EU ETS directive also conforms to the predictions of the rational choice baseline. Both in its response to the Commission Green Paper and in its First Reading position it demanded additional features that we can interpret as greater policy ambition. Its report on the Green Paper, drafted by Jorge Moreira da Silva (EPP-ED, Portugal), who would later also be the Rapporteur for the EU ETS directive, generally welcomed the Commission's efforts but criticized the Green Paper and the questions contained therein as being too one-sided and as leaving too little room for discussion of different options (European Parliament 2000a). In particular, it urged the Commission to consider a broad range of sectors for inclusion, e.g. in an upstream system[169], it favored auctioning over grandfathering of emission allowances, and it urged the Commission to centrally set targets for particular sectors and member states.

The EP further specified these points in its first reading position (European Parliament 2002a, Skjaerseth/Wettestad 2008, p. 129f.). Its amendments concerned in particular target setting, the industry and GHG coverage, and the allocation method. Rather than leaving target setting to the member states entirely, the EP suggested centrally set targets for each member state. Moreover, it advocated the inclusion of all Kyoto gases (as far as the relevant emissions were unambiguously and relatively easily measurable) as well as the inclusion of the chemical and aluminum industries. It also called for the mandatory auctioning of 15% of allowances from the pilot phase on. Finally, the European Parliament introduced an "opt-out clause" that would allow member states to temporarily exclude certain installations from the EU ETS during the first trading period if certain conditions were met. While the latter provision meant an element of flexibility, overall the EP's position was significantly more ambitious than the Commission's proposal.

Large majorities within the EP supported these amendments to the directive: in the Environment Committee the tally was 38 to seven with seven abstentions (European Report, 14 September 2002), in the full plenary the score was 381 to 66 with 38 abstentions (European Report, 12 October 2002; Skjaerseth/Wettestad 2008,

169 An upstream emissions trading system would make the sellers of fossil fuels responsible for submitting allowances for the emissions that will eventually result from those fuels. The EU ETS is a downstream system, i.e. the user of the fuel is responsible for the allowances. In an upstream system, the importer of coal would be responsible for buying allowances, in the EU ETS, it is the electricity generator who buys the allowances. The advantage of an upstream system is that it allows the coverage of small emitters, e.g. cars, heating systems in buildings etc. because allowance price would already be included in the sales price of the fuel. The disadvantage of such a system would be that it might undermine reasons for fuel taxation and that it might drive up allowance prices if demand for heating and transport fuels is more elastic than for other uses.

p. 128). The support of a large number of German, Finish, and British MEPs had apparently been secured through the inclusion of the op-out clause (European Report, 12 October 2002; European Voice, 10 October 2002; Skjaerseth/Wettestad 2008, p. 126f.). The only more contentious issue that passed by a small margin was the amendment that 15% of allowances were to be auctioned.

As predicted by the rational choice baseline, the EP thus took on the most ambitious position among the relevant actors. As I discuss below – and also in line with the baseline predictions – the EP's position made relatively little difference to the directive that eventually emerged. Before I discuss the bargaining outcome, let us turn to member state preferences.

5.3.2.3 Member State Preferences

To a large degree, the member states' positions on the original EU ETS directive confirmed the baseline expectations. Those countries at the top of Table 5.5 – the Netherlands, Belgium, Austria, Sweden – were indeed the most favorable and ambitious member states, while Germany – ranking last – was the most adamant opponent of the scheme. Yet some of the predictions were incorrect: Finland was fairly reluctant towards the EU ETS, while Denmark was a key supporter. Moreover, apart from Sweden, member states were less enthusiastic about auctioning for electric utilities than predicted. In the following paragraphs, I discuss in detail the positions of Germany and the UK and their origins in domestic politics. I then turn to a more cursory look at other member states' positions, starting with the four countries at the top of Table 5.5., followed by France and Spain. Finally, I discuss those aspects that were not correctly predicted: the Danish and Finnish positions, as well the issue of auctioning.

Germany

According to the rational choice baseline, we would expect Germany to be the least favorably inclined towards the EU ETS: it had a carbon-intensive electricity generating portfolio, a large manufacturing sector, and relatively low domestic abatement costs. Thus, we would expect fierce resistance from German industry and a German government that transmits this resistance to the EU-level. This prediction turned out to be correct.

Long before the EU ETS was on the agenda, during the Kyoto Protocol negotiations, Germany had been one of the outspoken opponents of emissions trading, arguing that domestic action should be the primary means for countries to achieve their targets. It did not respond to the Commission's Green Paper on

emissions trading in 2000[170], and only in the fall of that year it set up a stakeholder group, the *Arbeitsgruppe Emissionshandel* (AGE), to study the issue further (Bang/Vevatne/Twena 2007; Watanabe 2005). Since 1995, Germany had mainly relied on voluntary measures to address emissions from industry and electric utilities. In 2000, the German government had agreed with industry that it would reduce emissions by 28% relative to 1990 emissions by 2005 and 35% by 2012, in return for a government promise to not impose additional regulations (Cass 2006, p. 192, Michaelowa 2008). The energy industry had also concluded an additional "voluntary" agreement to reduce emissions by 23 million tons of CO2 in order to fend off threats of legislation requiring mandatory purchases of CHP-generated power (Cass 2006, p. 190-191).[171] These agreements had been relatively good at delivering emissions reductions until the negotiations on the EU ETS began (Buttermann/Hillebrand 2000).

Germany's main goal in the negotiation was to make the EU ETS compatible with its own climate political arrangements. Thus, Germany asked for the option to exempt countries, sectors, or installations, based on certain conditions, at least during the initial trading period from 2005 to 2007 (Deutscher Bundestag 2002; ENDS Report, October 2001; Skjaerseth/Wettestad 2008, p. 108ff.; Watanabe 2005). Moreover, Germany suggested that the directive allow for the creation of "pools", in which a trustee could buy and sell allowances for a group of installations, and to allow member states to make such pools mandatory. This would have allowed Germany to have maintained its voluntary agreements.[172] Germany also insisted repeatedly on taking into account Germany's previous GHG reductions, at that time amounting to 18.7% relative to 1990, when deciding about rules on allowance allocation (Deutscher Bundestag 2002, p.3). In the end, however, Germany did vote for the Council Common Position worked out by the Danish presidency in December 2002, even though that position only included weaker provisions on opt-outs and pooling than it had favored. The government

170 Only the environment ministry of the federal state of Baden-Württemberg responded to the Green Paper, which supported in principle a mandatory system with a fixed cap, to start in 2005, including common European rules on sectors, caps, monitoring, verification, and compliance (Ministerium für Umwelt und Verkehr Baden-Württemberg 2000). It did, however, insist on a cost-benefit analysis to demonstrate the superiority of emissions trading relative to other approaches, which – it points out – had also led to emissions reductions in Germany.

171 While these numbers do sound impressive, one needs to bear in mind that the 1990 base year made them much more achievable than they would have been in other industrialized countries. Many (though by no means all) reductions came from the shut-down of East German industry in the wake of reunification.

172 The German government could then have acted as the trustee for German companies engaged in voluntary agreements. This would have been illegal under EU cartel law, however, which is why it was not further considered in the negotiations (Watanabe 2005, p. 24).

sought to alleviate industry demands for a continuation of the voluntary agreements by assuring tindustry hat the voluntary commitments would serve as a baseline for the national allocation of allowances (Deutscher Bundestag 2003, 2004).

The German negotiating position to a large degree reflected the demands of its industry. The Federation of German Industries BDI (Bundesverband der Deutschen Industrie), the national industrial peak organization, and the Chemical Industry Association VCI (Verband der Chemischen Industrie) had led the charge against emissions trading in Germany, claiming that it would hurt economic growth and make investments in Germany unprofitable (Skjaerseth/Wettestad 2008, p. 108). Instead, German industry favored a continuation of the existing voluntary agreements. The BDI's response to the Green Paper (BDI 2000) emphasized that emissions trading between companies rather than countries was not necessarily a consequence of the Kyoto protocol and stated the opinion that an "ET system broken down to company level would be incompatible" with the German principle of "voluntary agreements on a sectoral basis" (BDI 2000, p. 3-4). If emissions trading were to be introduced, it would have to be strictly voluntary and not impede economic growth (Ibid.). If emissions trading were to take place, emissions would have to be allocated for free and on a basis that would reward "early action" (i.e. German emission reductions during the 1990s). It reiterated these demands in later statements (BDI 2001, 2002), which also reflected the position of most representatives of German industry. Thus, the German Chamber of Commerce DIHT (Deutscher Industrie- und Handelstag), the association of electric utilities VDEW (Vereinigung deutscher Elektrizitätswerke), and the energy intensive industry association VIK (Verband der Industriellen Energie und Kraftwirtschaft) all sought to preserve the voluntary agreements and adopted a very critical position towards the Commission's ETS plans (DIHT 2000, VDEW 2000, VIK 2000). Most vocal of all in its opposition was probably the German chemical industry. It even placed full-page ads in leading German newspapers and magazines to warn of industry relocations as a result of the EU ETS (Butzengeiger/Michaelowa/Bode 2003, p. 221). Only very few companies openly favored emissions trading, notably the subsidiaries of oil majors BP and Shell and the financial services industry (Skjaerseth/Wettestad 2008, p. 109, Watanabe 2005, p. 27).

At the same time, however, German companies seem to not have paid much attention to the issue. A survey of German companies conducted in November 2001 by the Wuppertal Institute (Santarius/Ott 2002, p. 17) showed that many of them simply knew too little about emissions trading to have much of an opinion. The survey results also suggest that German business had relatively little interest in using the Kyoto protocol's flexible mechanisms. Moreover, the survey found that many companies were not involved in their association's work on emissions trading, casting some doubt on the unanimity of German industry opposition. Yet the study did find that the chemical industry was particularly keen on preserving

voluntary agreements and more critical than others of emissions trading. Interestingly in light of the rational choice hypotheses, energy utilities included in the survey were generally positive about the prospects of earning money through the emissions trading system, though their lobbying did not reflect this.

While in the end, Germany appears to have largely (though unsuccessfully) supported the interests of its industrial sector, it had a hard time coming up with a negotiating position. This was part of the reason why it did not respond to the Commission's Green Paper (Watanabe 2005, p. 28). In particular, the Environment and Economics Ministries held very different views on the issue. The former, led by Environment Minister Jürgen Trittin of the Green Party, favored the Commission proposal; the latter under both independent Werner Müller (until 2002) and Social Democrat Wolfgang Clement (starting in 2002) opposed the directive. A strong election result for the Greens in the fall of 2002 appears to have tilted the German position into a more malleable direction (Watanabe 2005, p. 30f.).

Overall, however, we can conclude that Germany behaved largely in line with rational choice baseline expectations. It defended its industry's interests at the EU level, which in effect also meant that it defended pre-existing policy arrangements, namely its voluntary agreements.

United Kingdom

Based on the simple indicators presented in the rational choice baseline, we would expect the UK to have been somewhere towards the less ambitious end of the spectrum of member state positions. Overall, this turns out to be correct; tough the UK's position is best described as ambivalent. The UK had been an early advocate of emissions trading in an international context and had tried to bridge the divide between the US and the EU on this issue (e.g. Grubb 1999; Oberthür/Ott 1999). Moreover, the UK, along with Denmark and the Netherlands, was one of the first member states to actively develop a domestic emissions trading system (Skjaerseth/ Wettestad 2008, p. 87). At the same time – and precisely because of these early efforts – the UK was not enthusiastic about the European Commission's emissions trading plans, which envisioned a system that was different from the UK's. In the UK system, the government auctioned incentive payments to companies in return for abatement commitments; this created a fixed number of permits (equivalent to the committed emissions levels), which could be traded between 34 voluntarily participating companies (NAO 2004). Overall, these companies promised to reduce their emissions by about 4 million tons of CO2 by 2006 relative to a baseline from 1998 to 2000.[173] The UK's sys-

173 The UK had also introduced elements of emissions trading in the context of exemptions from the climate change levy (i.e. firms making commitments to reduce emissions were exempted from part

tem did not include electricity generators in the emissions trading system, but sought to deal with electricity emissions by reducing demand. This was diametrically opposed to the European Commission's plans, where the electricity sector accounted for more than half of the covered emissions.

The ambivalence resulting from this incompatibility is quite evident in the UK's response to the Commission's Green Paper in 2000 (UK Government 2000). While it was supportive of the policy instrument as such, the UK advocated much flexibility for member states on issues such as the allocation mechanism, the inclusion of additional GHG, opt-outs for installations and sectors, flexibility for member states to include all six greenhouse gases, and even the possibility to use relative targets (rather than a fixed cap). It firmly opposed "unduly prescriptive measures … set at the Community level" and rejected the centralized setting of targets or even of rules for burden-sharing between trading and non-trading sectors. After the Commission published its proposal for a directive in October 2001, the UK mainly tried to ensure that the directive was compatible with its own emerging emissions trading system. Thus, it advocated that EU emissions trading be voluntary during the first "pilot" commitment period (ENDS Report, December 2001), and tried to ensure the compatibility between the EU ETS and the UK ETS by including provisions for opt-outs from the EU ETS (Skjaerseth/Wettestad 2008, p. 112-113; UK House of Commons 2002a, 2002b). Moreover, the UK demanded a wider coverage and for this purpose advocated an "opt-in" clause for additional sectors from 2008 (UK House of Commons 2002c, p. 12). Finally, it opposed Commission approval of National Allocation Plans (ENDS Report, December 2002).

While the discussion so far appears to identify administrative adaptation costs as the main driver of British policy, industry interests in fact pointed towards a similar position. A number of large British companies from the energy and energy-intensive industry sectors, notably BP, British Gas, and cement manufacturer Blue Circle, had initially promoted the establishment of a UK emissions trading system, motivated by a desire to fend off carbon taxation (Nye/Owens 2008). They convinced other companies to join them in setting up the so-called UK Emissions Trading Group (UK ETG) within Britain's business peak association, the Confederation of British Industry (CBI). The UK ETG then essentially developed the voluntary scheme that was to become the UK ETS. Due to its voluntary nature, the lack of stiff penalties for non-compliance, and the allocation of

of the levy, they could achieve their goals through trading with other firms making commitments), and in the context of renewables and energy efficiency measures (Muizon/Glachant 2004).

emissions credits based on an auction of incentive payments[174], the system was very business friendly. The UK ETG also responded to the Commission's Green Paper on behalf of the CBI, asking for the EU ETS to not interfere with the UK's planned emissions trading scheme (CBI 2000). Instead, it asked the European Commission to act in a coordinating function between different national schemes. Other British business associations echoed this stance. The Electricity Association, for example, representing UK electric utilities[175], also preferred an EU framework within which different national systems would be able to function independently (Electricity Association 2000). It also advocated much flexibility for member states both to opt-out and to opt-in additional sectors, and (not surprisingly) preferred grandfathering rather than auctioning as allocation method.

While the government initially followed the line that the EU ETS would have to allow for opt-outs so as to not threaten the UK ETS, its position appears to have been more malleable than Germany's. The main reason for this flexibility was a concern about the financial services industry. One of the key aims pursued through the UK ETS had been to "establish the City of London and the UK as a centre for emissions trading" (NAO 2004, p. 9), by giving new business to emissions brokers and other service-providers. As the UK government did not want to jeopardize this goal, it was apparently more willing to compromise on the EU ETS than the German government, which had no such ancillary motives (e.g. ENDS Report, October 2002). Overall, however, the discussion of the UK position also lends support to the rational choice baseline. The UK government defended its pre-existing policy-arrangements, which had largely been designed in cooperation with industry. These were less ambitious than the Commission proposal, which the UK accordingly sought to amend.

Other member states

Let us now take a look at how other member states positioned themselves in the EU ETS negotiations and whether the ambition level they favored was in line with what the rational choice baseline leads us to expect. I start my discussion with those countries at the top of Table 5.5, namely the Netherlands, Belgium, Austria and Sweden, followed by France and Spain, before turning to the shortcomings of the baseline predictions.

The Netherlands had announced early on that it would need to rely on the Kyoto flexible mechanisms to achieve 50% of its reduction target under the

174 The UK government gave funding to whichever bidder promised the highest emission reductions for the given amount of money.

175 Which did not participate in the UK ETS.

Kyoto protocol (e.g. Financial Times, 3 August 1999, Saat 2003). It was also developing ideas about a domestic emissions trading system. Accordingly, the Dutch government was quite strongly in favor of emissions trading in its response to the Commission's Green Paper (Government of the Netherlands 2000). In light of its high abatement costs, this is what we would expect from a rational Dutch government. It uttered particular concern about the need to harmonize the national efforts to introduce emissions trading within individual EU member states, the need to gain experience quickly, and the need to make European emissions trading the nucleus for a global system. It did advocate a significant role for member states in the allocation allowances, but at the same time warned about competitive distortions that might result from dissimilar approaches in different member states. While it had negotiated agreements with industry in place, so-called "Benchmarking Covenants", the Dutch government argued that these could be reconsidered in 2004 in light of new developments.[176] During the negotiations, the Netherlands appear to have worked in a similar direction. Along with France and Austria, the Dutch government was among the opponents to the German proposals on "pooling" (Financial Times Deutschland, 26 November 2002). It also opposed opt-outs for installations or sectors and appears to have backed the Swedish proposal for auctioning of allowances in the second trading period (European Report, 23 October 2002).

Belgium's response to the Commission's Green Paper was also very positive: it urged the Commission to come forward with a proposal quickly and to commence trading in 2005 or earlier if possible (Belgian Government 2000). It asked for a high degree of harmonization so as to ensure a level playing field and to help member states in the administration of the system. It even asked the Commission to propose a regulation[177] rather than a directive for these purposes. Concerning opt-outs, Belgium asked for clear rules to ensure that equivalent efforts were made by the respective companies or sectors.

Similarly, the *Austrian* government supported emissions trading and advocated a high degree of harmonization for any such system (Austrian Government 2000). In particular, its reply to the Green Paper emphasized the need to have equivalent allocation rules and to ensure similar "framework conditions", such as taxes. It also wanted to ensure the compatibility of the EU system with national and international systems, and ensure that a minimum number of sectors be included in all member states (i.e. no opt-outs). The Austrian Environment Ministry

176 Contrasting sharply with the German position that existing voluntary agreements should not be put in jeopardy by emissions trading.

177 An EU regulation is directly applicable whereas the content of a directive needs to be transposed into member state law.

submitted its own response to the Green Paper (Austrian Ministry of Agriculture, Forestry, Environment, and Water Management 2000), on which it had not reached agreement with other ministries. In this statement, it asked for auctioning as an allocation rule across the EU. While the Environment Ministry was unable to persuade the rest of the government of auctioning, Austria argued throughout the negotiations for a relatively harmonized system without major exemptions (Austria Presse Agentur – OTS, 4 September 2002, 8 October 2002, 10 October 2002, 10 December 2002). As suggested by the rational choice baseline, concerns about domestic abatement costs seem to have been a major determinant of the Austrian position: economic associations repeatedly noted that domestic reductions would be very costly (e.g. Wirtschaftsblatt, 24 October 2001; Austria Presse Agentur-OTS, 3 July 2003), and Austria took an active role towards developing JI and CDM projects even before the Kyoto Protocol was ratified (e.g. Die Presse, 30 January 2003).

Sweden's response to the Green Paper was also very positive: it argued for a quick introduction of emissions trading and for auctioning as the general allocation principle (Swedish Ministry of Industry, Employment and Communication 2000). Moreover, it asked for the inclusion of a wider range of sectors: to include transport and households, it advocated an "upstream" system. Finally, Sweden emphasized the need to make the system compatible with global emissions trading. Sweden consistently maintained its support for auctioning of emissions allowances throughout the negotiations (Vis 2006b, p. 190). It also opposed the possibility of opt-outs and pooling and promoted a provision to allow member states to opt-in additional installations (Europe Energy, 29 October 2002; European Report, 11 December 2002).

France, which the rational choice baseline expects to be somewhere in the middle, adopted largely a "wait-and-see attitude" towards EU emissions trading. Its national climate change plan of 2000 contained only vague references to emissions trading, noting that a market for permits should be established at the Community level (Government of France 2000, p. 41f.). Its submission in response to the Commission Green Paper, "raise[d] more questions than it answer[ed]", according to the Commission summary, advocating at once "as harmonized as system as possible" and the possibility for member states to opt-out industries (European Commission 2001b, p. 7). The French submission also supported a minimum compliance mechanism and allocation based on harmonized benchmarking-rules, while criticizing the Green Paper's insufficient attention to the way in which trading of emission permits would take place (Ibid.). Overall, the French position on emissions trading was fairly unclear. During the negotiations, it does not appear to have played a particularly active role either.

Spain, like Germany, did not respond to the Commission's Green Paper on emissions trading and was "forced" to adopt a relatively neutral attitude in the first half of 2002, as it held the Council presidency. Only after that, economic policy makers, supported by business groups, tried to water down the emissions trading legislation, though their only success appears to have been the inclusion of a "force majeure" clause in Article 29 of the Directive (Costa 2006, p. 231).

Overall, the rational choice baseline thus seems to offer a fairly accurate prediction of member state preferences. The detailed analysis of Germany and the UK suggests that both governments sought to defend pre-existing policies favored by their national industries. Moreover, those countries the rational choice baseline identified as most likely to be enthusiastic about an EU ETS in fact were among the leaders on the issue, while France and Spain – as expected – took more cautious positions.

Nevertheless, not all of the rational choice baseline's predictions turn out to be correct. Thus, while Finland ranks fifth from the top in Table 5.5, it was one of the most reluctant member states concerning the EU ETS, along with Germany and the UK (Environment News Service, 1 July 2002; Platts Commodity News, 19 June 2002; Skjaerseth/Wettestad 2008). The Finish government's response to the Commission Green Paper was very non-committal, criticizing the Commission's analysis as not going far enough and pointing out that allocation should treat all companies fairly (Finish Ministry of the Environment 2000). During the negotiations, the Finish government and parliament wanted emissions trading to start in 2008 at the earliest (BBC Monitoring, 8 April 2002). They argued that many of its companies had already done everything possible to reduce emissions and hence would be unfairly penalized.

Denmark, on the other hand, which ranked fifth from the bottom in Table 5.5, made the passage of the EU ETS directive one of the priorities of its Council Presidency in the second half of 2002 (Environment News Service, 1 July 2002). It had previously set up a mandatory domestic emissions trading scheme for the electric power sector, the design of which strongly resembled the Commission proposal (Knill/Liefferink 2007, p. 137). In response to the Green Paper, it largely endorsed the Commission's approach, supported an EU-wide cap and advocated auctioning as the allocation mechanism, which would make the scheme highly ambitious (Danish Energy Agency 2000). Denmark also invested significant time and political capital during its Presidency to establish a political agreement in December 2002, which then became the basis for the Council's Common Position in March 2003 (Skjaerseth/Wettesatd 2008, p. 113ff.). Denmark's position is not entirely incompatible with the rational choice baseline. It did have relatively high abatement costs, making emissions trading and access to the Kyoto mechanisms very attractive. Its electricity sector already operated under an emis-

sions trading scheme and probably knew the system's impact on utility profits. Yet overall, Denmark's behavior largely conformed to the role it usually plays in EU environmental policy, namely that of a front-runner (Liefferink/Andersen 2005): my rational choice baseline can probably not fully account for its behavior.

Another issue on which the rational choice baseline was incorrect was auctioning for the electricity sector. Given that most utilities gain from an emissions trading system with auctioning through higher electricity prices and governments' interest in revenues, we would have expected most member states to opt for auctioning as the allocation mechanism to electric utilities. Yet this was not the case. While it was quite foreseeable that electric utilities would make windfall profits as a result of the EU ETS (which they did, see for example The Carbon Trust 2006, Ellerman/Joskow 2008), this issue was rarely discussed at the time. It did not make its way into the media coverage of the negotiations. Given the extensive emissions trading simulations run by their European peak association, Eurelectric (2002), electric utilities must have known that emissions trading was very beneficial to them. Yet they had every interest in not raising this issue. As I discuss below, once it had become clear that electric utilities in fact were pocketing huge windfall profits from emissions trading, the great majority of member states agreed to the introduction of auctioning for electric utilities during the EU ETS revision in 2008.

5.3.2.4 The Bargaining Outcome

Having outlined the member states' positions on emissions trading, let us now consider the bargaining outcome that resulted. While we cannot directly observe the pivotal member state setting the ambition level of policy, the two observable implications that I derived above were that both the European Parliament and Germany would have to make substantial concessions, being the most and the least ambitious actor in the negotiations respectively. This is largely how the negotiations turned out.

As we have seen above, the EP's first reading position would have made the system even more ambitious than the Commission proposal in several ways. It would have set an EU-wide cap with specified national ceilings rather than national ones approved by the Commission, covered more sectors and all six Kyoto gases, allowed for opt-ins of additional sectors[178], and prescribed the auctioning of 15% of allowances. Yet none of these were included in the final directive: member states set their own caps with Commission approval, though taking into account the requirements of their Kyoto Protocol targets. The chemical and aluminum sectors remained outside the system, but the Commission was to review

178 Though also for opt-outs of particular installations.

this decision later on. Auctioning was included as an option for member states to decide on, yet auctioning was limited to 5% and 10% of total allowances in the first and second trading period respectively. While the EP could thus nudge some elements of the proposal in a more ambitious direction, its success was limited.

Germany's central demand was to maintain its existing voluntary agreements with industry by allowing entire countries (or individual sectors or installations) to opt out of the system. Given the relatively low abatement costs in Germany (see Table 5.4), this would have made the scheme significantly less attractive to other member states. Accordingly, they did not give in to Germany's (and the UK and Finland's) demands; instead they only agreed to much more limited possibilities for opt-outs (i.e. for specific installations only). Germany's other demand – for the creation of mandatory pools of installations – also did not make it into the directive. This provision would have allowed the government to essentially take all German installations out of the EU ETS and to manage emission allowances on behalf of German industry (Skjaerseth/Wettestad 2008, pp. 110-112). Similarly, the UK's (and Spain's) demand for a "force majeure" clause did not find general acceptance. This clause would have allowed member states to inject additional emission allowances (beyond those included in the NAPs) into the market. While the clause made it into the directive, it is up to the Commission to determine what constitutes "force majeure" (Skjaerseth/Wettestad 2008, p. 113).

Summing up the discussion on the rational choice baseline, there is significant evidence to support its main expectations about Commission, EP and member state preferences as well as bargaining outcomes. There are some limitations, e.g. in explaining the behavior of a "green leader" like Denmark. Moreover, the discussion has shown that when a new policy-instrument is introduced significant uncertainty can lead to caution on the part of policy-makers: despite the economic rationale for auctioning in the electricity sector, the EU opted for grandfathering. Of course, the rational choice baseline is only correct once we assume that member states have made some sort of commitment to reducing emissions. In the following section, I argue that the rhetorical constraints imposed by the discursive environment indeed created a situation that very much resembled such a commitment.

5.4 Explaining the emergence of the EU ETS – the analysis of rhetorical possibilities

The discursive environment within which the EU ETS was negotiated was not yet as restrictive as it would be a few years later. Both the general and the sectoral policy environments were still relatively permissive, though the climate policy

environment tightened significantly with the conclusion of the Marrakech Accords and the EU's response to the U.S. withdrawal from the Kyoto Protocol. This may have been sufficient by itself to create a situation resembling the self-commitment introduced in the rational choice baseline. In addition, however, it was particularly hard to craft arguments in opposition to the specific policy instrument of emissions trading. A variety of influential industry stakeholders had previously endorsed emissions trading. In addition, emissions trading was a key element of the hugely popular Kyoto Protocol. Voicing fundamental opposition to the Commission's proposals was thus rhetorically difficult and probably explains at least in part why the EU ended up with a highly ambitious emissions trading system.

5.4.1 Description of the discursive environment in 2001-2003

The *general discursive environment* during 2001 to 2003 was relatively permissive. As we can see from the newspaper data presented in Figure 3.1, global warming was not an issue of particular concern during the negotiation of the EU ETS directive. Only a small (and falling) share of newspaper articles mentioned the issue. Similarly, opinion data from 2001 and 2002 suggests that climate change was not a "front-of-the-mind"-issue for most Europeans at the time. When asked about the environmental issue they were most/next most concerned about in the 2001 International Environmental Monitor survey, large majorities of respondents in the five covered EU countries did not mention climate change, as shown in Table 5.6. Similarly, a Eurobarometer survey on "Europeans and the Environment" ranked climate change as the 11th of 25 environmental issues in terms of how "worried" respondents were about them (European Commission 2002a, p. 8). On average, 38% of respondents EU-wide said they were "very worried" about climate change.

Table 5.6: Replies to the question: "Which specific environmental issue are you most/next most concerned about?" (2001)

Country	% Most concerned about global warming	% Next most concerned about global warming
Germany	9	5
UK	11	5
France	9	8
Greece	7	12
Italy	5	1

Source: GlobeScan 2001.

If the question was posed differently, however, survey results suggested at least a strong latent concern about climate change. Thus, in a 2002 Eurobarometer survey on Energy Issues, 88% of EU-wide respondents agreed with the statement "Global warming and climate change are serious issues which need immediate attention" (European Commission 2002b, p. 54). Another question from the 2001 International Environmental Monitor survey provides an even starker indication of the public's latent concern about climate change. Surprisingly large shares of respondents in several EU member states advocated that the UN be given the power to impose emission reduction actions on individual countries to lower their emissions, as shown in Table 5.7. While it is unlikely that as large a group of people would stick with this response if they thought through the implications, other evidence suggests that Europeans were strong supporters of international action against GHG emissions. This became particularly apparent when U.S. President George W. Bush "unsigned" the Kyoto Protocol. The decision was hugely unpopular in Europe and seemed to confirm many of the fears that Europeans had at the time about the recently-elected president. "Suddenly, in the space of two short months, America, the `indispensable nation', begins to resemble the ultimate rogue state", the British Guardian newspaper (30 March 2001) editorialized on the decision. It went on to say that "most appalling of all is the message, taken alongside similarly short-sighted, self-centered actions in the fields of defense and diplomacy, that this Taliban-style act of wanton destruction sends around the world" (Ibid.). French Environment Minister Dominique Voynet called Bush's attitude a scandal and "*un comportement complètement provocateur et irresponsible*" (Les Echos, 30 March 2001). An Austrian newspaper attested Bush an "Amerika-über-alles"-mindset, France's Le Monde called it a "brutal form of unilateralism" (Süddeutsche Zeitung, 2 April 2001). This sentiment was not only widespread among left-leaning editorialists, it was quite widespread among the EU population as well. A survey by the Pew Center summarized in Table 5.8 found that large majorities of people in the major EU-member-states disapproved of Bush's withdrawal. Bush's decision to withdraw from Kyoto in fact galvanized support for the protocol – it was one of the "victims" of an American president whose unilateralist tendencies most Europeans eyed with great suspicion. Thus, while Europeans' immediate concern with climate change appears to have been limited, upholding the Kyoto Protocol seemed to be quite worthwhile.

Table 5.7: Replies to the survey question "After ten years of international negotiations, national governments have set action targets but have been unable to reach a legally-binding agreement to reduce human impacts on the Earth's climate. Which one of the following statements best reflects your view of this? (2001)*

Country	**% This is not good enough, national governmentts should take the problem and the negotiations more seriously and quickly reach a binding agreement**	**% This situation is not acceptable, the UN should be given the power to impose legally binding actions on national governments to protect the Earth's climate**
Germany	41	51
UK	34	57
France	45	40
Spain	50	22
Greece	51	27
Italy	47	35

** The third possible answer was "There are good reasons for the negotiations taking this long, national governments should continue to negotiate as they are, until a good agreement is reached."*
Source: GlobeScan 2001

Table 5.8: Percentage of respondents who approved and disapproved of "Bush's decision that the U.S. should not support the Kyoto protocol to reduce greenhouse gas emissions."

Country	**% Approve**	**% Disapprove***
Germany	10	87
UK	10	83
France	10	85
Italy	12	80

** Numbers don't add up to 100 because 3-8% of people said "Don't know" or refused to answer.*
Source: Pew Research Center for the People and the Press. 2001.

This also affected what I describe as the *climate policy environment*. As described in chapter 2, the Kyoto Protocol had come into existence in late 1997; at Kyoto, the EU had accepted an 8% reduction obligation relative to 1990 for the years 2008-2012. In 1998, EU member states had agreed on how they would share the "burden" of reaching the target, giving individual targets to different member states. Yet the agreement left many important issues unspecified and the negotiations on the implementation of the Kyoto Protocol had continued until the time Bush withdrew the US in March 2001. At the previous Conference of the Parties in The Hague, negotiations had broken down and were scheduled to resume in Bonn, Germany, in June 2001. Shortly after Bush's withdrawal, EU leaders

agreed that they wanted the Kyoto Protocol to survive. They managed to make the Bonn Conference a success, and concluded the negotiations in Marrakech in the fall of the same year. In May 2002, the member states collectively ratified the Kyoto Protocol. Thus, the international climate protection norm was becoming stronger and more salient in the EU. In fact, the EU itself helped to construct the norm.

Table 5.9: Change in manufacturing industry GHG emissions from energy use, 1990-2001

Sector*	EU-15	EU-15 without Germany
Iron and Steel	-16%	-17%
Non-Ferrous Metals	5%	17%
Chemicals	-13%	-13%
Pulp, Paper and Print	8%	8%
Food Processing, Beverages and Tobacco	18%	21%
Other	-12%	6%
Total	**-10%**	**-1%**
* Corresponds to CRF Categories 1A2A-1A2F Source: UNFCCC Website		

Similarly, the internal climate policy environment was tightening though still quite permissive. The European Climate Change Program had identified measures across a range of different sectors. A number of sectoral EU climate policies had emerged, though most of them had only a low ambition level: the voluntary agreement with car manufacturers, which I discussed in the previous chapter, the Landfill Directive, and the directive on the promotion of electricity from renewable energy sources (see chapter 7) had been adopted. It was clearly becoming more difficult for manufacturing industry and operators of fossil-fuel-based electricity generators to argue that they were unfairly singled out by policy-makers.

The *sectoral discursive environment*, on the other hand, was relatively permissive if judged by the indicators of emissions trajectories and previous policies. Most (energy-intensive) manufacturing industries had actually lowered their emissions between 1990 and 2000. A significant share of emissions reductions came from Germany (and the collapse of East German industry). Yet even if we exclude Germany, both energy-related emissions from manufacturing industry and industrial process emissions decreased between 1990 and 2001, as demonstrated in Tables 5.9. and 5.10.[179] Thus, industry and its allies should have been in a good position to argue that they were "already doing their part." Similarly, virtually no previous EU policies to address industrial and electricity generation

179 Energy related emissions accounted for a total of 616 Mt CO2e in 1990, industrial process emissions (i.e. the emissions of GHG that do not result from burning fossil fuels but from the chemical processes involved in certain production processes, e.g. cement or steel) accounted for 375 Mt CO2e.

emissions had emerged by the time the EU ETS was negotiated. The Commission had attempted to introduce a carbon/energy tax, but this endeavor had failed miserably. The opponents of ambitious policies would thus appear to have been quite free to argue in favor of a low-ambition, voluntary approach.

Table 5.10: Change in GHG emissions from industrial processes, 1990-2001

Sector*	EU-15	EU-15 without Germany
Mineral Products	1%	5%
Chemical Industry	-38%	-39%
Metal Production	-20%	-28%
Other Production**	32%	29%
Total	**-14%**	**-14%**
* Corresponds to CRF Categories 2A-2G		
** Corresponds to CRF Categories 2D-2G		
Source UNFCCC Website		

For the specific policy of emissions trading, however, the indicators I use to describe the discursive environment for particular sectors at particular points in time do not provide us with a sufficiently accurate picture. As described above, emissions trading emerged on the European policy agenda through the Kyoto Protocol. It constituted one of the central elements of the treaty that the EU was trying to salvage at the time. Moreover, the fact that many business organizations had previously endorsed the use of emissions trading made it rhetorically difficult for business advocates to oppose this specific policy instrument. Mainly in response to the threat of carbon taxes, a number of major corporations had come to support the idea of emissions trading. The oil major BP had established its own internal emissions trading system in the late 1990s, hoping "that a successful demonstration of emissions trading would forestall alternative, more costly policy responses such as an emissions tax" (Victor/House 2006, p. 2101). Its competitor Shell had followed suit shortly thereafter (Hoffmann 2006, p. 114f.; Saeverud/ Skjaerseth 2007). In June 1999, BP, Shell and a variety of other companies organized in the World Business Council for Sustainable Development (WBCSD) had set up the International Emissions Trading Association (IETA) to promote emissions trading and the Kyoto Mechanisms (IETA, no date). The WBCSD itself had called for the establishment of an international market in GHG-emission-reductions through Joint-Implementation-projects well before Kyoto agreement (e.g. WBCSD 1996). Similarly, UNICE, the European employers' peak association, had uttered its support for "emissions trading and joint implementation as flexible mechanisms that can help countries and companies contribute to meeting national and international emission reduction targets" (UNICE 1998a) in its initial reaction to the Kyoto Protocol. It reiterated that businesses' favorite solution

were long-term voluntary agreements but also stated that under certain conditions emissions trading could "become an effective market mechanism" (UNICE 1998b). While UNICE emphasized that any carbon market should be global and that auctioning of emission allowances was unacceptable (Ibid.), it had in principle endorsed the emissions trading approach and strongly advocated the use of the Kyoto Protocol's flexible mechanisms. Given the popularity of the Kyoto Protocol, the central element of emissions trading in the Protocol, and the past support of business lobbies for the instrument of emissions trading, opposing it outright was thus rhetorically much more difficult than it would have been for an alternative mandatory instrument.

5.4.2 Evidence on the relevance of the Discursive Environment

What is the evidence that this discursive environment actually mattered? Did it affect the arguments made by the proponents and opponents of an ambitious policy to reduce GHG emissions from manufacturing industry? In the following paragraphs, I present "causal process" evidence on the rhetorical strategies used by the proponents and opponents of the EU ETS. While it is clear that the Kyoto Protocol served as an important element of support for the EU ETS, the evidence on previous industry commitments is more limited.

The popularity of the Kyoto Protocol in the wake of U.S. President Bush's withdrawal clearly mattered. The supporters of the policy tried to rhetorically tie the EU ETS to the Kyoto protocol, the opponents in turn tried to dissociate the two. Prior to the October 2002 Council meeting on the EU ETS, environmental NGOs titled their letter to environment ministers "It is time to implement Kyoto at home" (Birdlife International et al. 2002). The Commission published its proposal on the same day as a proposal for a Council Decision on ratification of the Kyoto Protocol (Skjaerseth/Wettestad 2008, p. 146). In the opening sentence to its legislative proposal, the Commission made it clear that the proposal "arises from the need for the European Union to… meet its obligations the United Nations Framework Convention on Climate Change and the Kyoto Protocol" (European Commission 2001e, p. 2). It argued that the EU ETS's first trading period should last from 2005-2007, i.e. before international commitments on GHG emissions kicked in, because the "Community would greatly benefit from experience of greenhouse gas emissions trading, so that it is prepared for the commencement of international emissions trading under the Kyoto Protocol that will begin in 2008" (European Commission 2001e, p. 3). The Commission also used many of the arguments that industry lobbies had made in favor of emissions trading and the Kyoto flexibility mechanisms. It emphasized that emissions trading was a policy

that could ensure the maintenance of a "level-playing field" within the internal market through a single price of carbon (p. 11). It also pointed out that the EU ETS "gives business more flexibility than many alternative policies" (p. 46). According to stakeholder interviews conducted by Skjaerseth/Wettestad (2008, p. 144), the Commission deliberately used the U.S. rejection of the Kyoto protocol as a "window of opportunity" to advance domestic emissions trading. The EU ETS thus became intricately linked with the "save Kyoto campaign", making it difficult for other stakeholders to oppose domestic emissions trading without being perceived as a partisan of those rejecting the popular Kyoto Protocol.[180]

Similar arguments were made in the European Parliament when the First Reading Position was up for debate. Commissioner Wallström warned MEPs that "… the EU's credibility is at stake. We are being closely watched from all corners of the globe to see whether the EU will live up to its leadership credentials (European Parliament 2002b). Rapporteur Moreira da Silva reiterated the point by saying that the establishment of an emissions trading system would "be the best way for us to convince our US friends to abide by the Kyoto Protocol" (Ibid.). Liberal MEP Chris Davies offered a variation of this point, emphasizing that the EU "confounded the cynics by securing agreement for implementation of the Kyoto Protocol and by pushing the US and its head-in-the-sand administration into the sidelines" (Ibid.). Implementing the EU ETS was now the logical next step, he claimed.

The strength of the Kyoto-argument can be seen by the care with which opponents of the proposal tried to dissociate the EU ETS from the Protocol. The Conservative German MEP Werner Langen, who called the Commission proposal a "bureaucratic monster" and the worst Commission proposal he had ever seen, emphasized that this could "not be blamed on Kyoto and justified by reference to it" (Ibid.). His efforts to dissociate the Kyoto Protocol from the EU ETS deserve to be quoted at length. In attacking Environment Commissioner Wallström, he said:

> "The Kyoto Protocol refers to six greenhouse gases, you to only one. The Kyoto Protocol commits the Member States. You want to impose obligations on businesses. The Kyoto Protocol puts the Member States in a position to make use of any instrument. You want to make the Member States' responsibility null and void by using the Commission's bureaucracy. The Kyoto Protocol is effective from 2008 to 2012. Your mandatory emissions trading begins as early as 2005. The Kyoto Protocol has at least three instruments, of which you use only one, and, most of all, you violate the most important principle, one on which the international community has agreed, that the world at large should cut back on CO2 wherever this can be done most cheaply and quickly" (Ibid.).

180 The second half of the sentence is my interpretation, the linkage of the EU ETS to the "save Kyoto campaign" is Skjaerseth/Wettestad's (2008).

Similar arguments came from German industry, notably the peak association BDI (e.g. 2001, 2002). It emphasized that it supported emissions trading at the level of countries, but that it should only take place at the level of companies if it were truly the most efficient way to fulfill the Kyoto commitments. Yet according to the BDI, voluntary agreements were superior to the instrument of emissions trading and that a voluntary trial-phase should precede any mandatory system.

Whether or not the previous business support for emissions trading created a situation of rhetorical entrapment is – unfortunately – virtually impossible to detect. The reason is simple: if the discursive environment is such that manufacturing industry can reasonably expect mandatory government action, emissions trading is the optimal instrument from its point of view. Thus, if we see business associations endorsing emissions trading, this may simply be out of rational self-interest or because they fear to be inconsistent with previous pronouncements: we would not be able to distinguish the two. It is clear that the BP pilot scheme was helpful in the development of the EU ETS, as two of the main Commission officials working on the Directive asserted: "The implementation of the BP pilot and the extension to cover all the 150 business units world-wide as of January 2000 constituted increasingly powerful drivers in the discussion" (Zapfel/Vainio 2002, p. 9). But it is hard to establish to what degree the BP example was helpful in demonstrating technical feasibility and to what extent the fact that "an oil major" had endorsed the project made it more rhetorically difficult to oppose. Similarly, the fact that most of the affected EU-level industry associations took cautiously positive positions on the EU ETS proposal (see below) might mean that they feared sounding inconsistent or that they genuinely thought this was the best they could hope for, given the circumstances. Nevertheless, once "the major European oil companies – which make a living from two of the major causes of anthropogenic climate change, oil and gas – voluntarily implemented emissions trading, that obviously made it more difficult for other industries to oppose the idea" (Skjaerseth/Wettestad 2008, p. 75).

5.4.3 Kyoto's relevance to other policies?

If the situation of the Kyoto protocol after the rejection by the U.S. provided such a positive discursive environment for the EU ETS, one might of course ask why it did not help to bring about more ambitious policies in other sectors around the same time. As I discuss in chapters 7 and 8, the EU adopted directives on the energy efficiency of buildings and on renewable energy in 2002 and 2001, respectively. Yet neither achieved a similar ambition level as the EU ETS directive.

There are three ways to answer this question. First of all, as we have seen, the Kyoto protocol actually established international rules on emissions trading and on

project-based mechanisms. Renewables promotion or energy efficiency measures, on the other hand, did not feature prominently in the Kyoto Protocol and existed quite independently of it. The Kyoto Protocol did not specify how trading was to take place and whether (and how) private entities would be able to participate. Yet it was clear that large emitters (and thus the main opponents of ambitious policies) wanted to benefit from the project-mechanisms the Kyoto Protocol established. This made the rhetorical linkage between the Kyoto Protocol and the EU ETS especially attractive (and probably convincing). Any opponent of the EU ETS had to now make the rhetorical pirouette of arguing that project-based mechanisms should be accessible to industry, but that industry did not want to participate in emissions trading. Other policies were more remote from the Kyoto Protocol and opponents could more easily argue that they were not required by the Protocol.

A second reason why the EU ETS came to be depicted as the central element of the EU's strategy to achieve the Kyoto targets may have been that it actually covered almost half of the EU's CO2 emissions. No other policy covered a similar share of emissions. Hence it was more difficult for the advocates of other policies to argue that the Kyoto targets could not be achieved without them – in the case of the EU ETS, this was plausible. Finally, it may have simply been a question of "bandwidth" – while the popularity of the Kyoto protocol might be sufficient to lift ambition levels in one sector, it might not suffice to carry home ambitious policies in several sectors.

Be that as it may, we can see in purely quantitative terms that its proponents rhetorically linked the EU ETS more strongly with the Kyoto protocol than other policies at the time. Thus, if we compare the Commission's legislative proposals on the EU ETS, the RES-E Directive, and the EPBD, the EU ETS proposal made by far the most references to Kyoto. The Communication in which the Commission proposed the EU ETS (and explained the proposal), mentioned the word "Kyoto" 42 times on 51 pages (i.e. 0.82 times per page). This compares with 13 mentions on 28 pages (0.46 per page) for the equivalent document on the RES-E directive and 9 mentions on 28 pages (0.32 per page) for the EPBD. If we believe the Commission to argue strategically, these numbers suggest that the Kyoto Protocol was a much stronger rhetorical device in the context of emissions trading than of other policies.

Coming back to the first part of my theoretical framework, we can now see that it was quite rational for large emitters to expect some form of mandatory legislation to emerge as a result of the Kyoto Protocol. In combination with the analysis of rhetorical possibilities, the rational choice baseline thus offers us a strong explanation of the emergence of the EU ETS. Before we jump to that conclusion, however, let us review potential alternative explanations for the case. They are the subject of the following section.

5.5 Alternative explanatory factors

Again, I try to control for four additional explanatory variables: transnational non-governmental actors, party politics, general leader-laggard dynamics and package deals. While there is some evidence on the importance of transnational non-governmental actors supporting the Commission's efforts to develop its EU ETS proposals and of general leader-laggard dynamics in member state preferences, this evidence should not undermine confidence in the explanation offered so far.

5.5.1 Transnational non-governmental actors

The previous literature on the EU ETS has provided substantial evidence on the involvement of transnational non-governmental actors in the development and design of the system (e.g. Markussen/Svendsen 2005; Skjaerseth/Wettestad 2008). While such actors were clearly important in shaping the scheme, I nonetheless argue in the following paragraphs that they probably only played a minor role in bringing about the high ambition level of the directive. Most of the main transnational lobby groups would in fact have preferred a less ambitious scheme, in particular during the first trading period. Moreover, their positions to some degree reflected internal divisions between national member associations. Environmental NGOs were at first cautiously, then quite openly supportive of the scheme.

As noted above, in the late 1990s, a number of transnational businesses, notably BP and Shell, and the members of IETA pushed the idea of emissions trading as a climate policy instrument (ENDS Report, October 1998, Zapfel/Vainio 2002). Shell and BP also managed to convince the members of Europia, the European-level downstream oil industry association to support emissions trading (Skjaerseth/Skodvin 2001, Skjaerseth/Wettestad 2008, p. 75). Electric utilities, which accounted for the largest share of CO2 emissions to be covered by the scheme, also took a very active and positive position early on. Eurlectric, their European peak association, conducted simulation exercises of emissions trading termed GETS I (Greenhouse Gas and Electricity Trading Simulations) and GETS II in 1999 and 2000 to study the implications of emissions trading systems with different rules (Skjaerseth/Wettestad 2008, p. 79ff). As noted above, emissions trading has a very positive impact on electric utilities; once this was clear, Eurelectric also adopted a very supportive position on emissions trading, e.g. in its detailed response to the Commission's Green Paper (Eurelectric 2000). In terms of allocation rules, Eurelectric warned that auctioning might "redistribute costs in an unforeseeable way and risk causing severe economic dislocation" (Eurelectric 2000, p. 6). Instead, it generally seemed to favor grandfathering of allowances,

potentially based on benchmarks[181]. Moreover, it supported centrally set levels for penalties and argued that these had to be sufficiently dissuasive.

Most industry responses to the Green Paper were cautiously supportive (e.g. Cembureau 2000; CEPI 20000; Eurofer 2000; Skjaerseth/Wettestad 2008, p. 84f.; UNICE 2000). Business associations pointed out their exposure to international competition and that their competitive positions should not be jeopardized by emissions trading. Moreover, most of them favored voluntary long-term agreements, and strongly opposed auctioning as an allocation mechanism. Virtually all wanted to have a wide scheme with more gases than just CO2 and with maximum use of the Kyoto Protocol's project based mechanisms. Most preferred a decentralized cap-setting process, while their positions varied on the degree of harmonization across member states.

Once the Commission published its legislative proposal, EU-level industry associations emphasized many of the same points. In its responses to the proposal, UNICE (2001, 2002) called for the inclusion of all six Kyoto-gases, the possibility for voluntary agreements to continue at least during the first trading period (i.e. through temporary opt-outs), as well as the possibility to use CDM/JI credits, even from projects relying on carbon sinks. Eurofer, the steel makers' association, claimed that the EU ETS could be "very harmful to our industry" and might lead to relocation, unless participation were voluntary for member states and companies (European Report, 6 March 2002). Emissions trading would undermine the successful long-term agreements in countries like Germany, the UK, Denmark, and the Netherlands, it maintained. Oil refiners organized in Europia asked to receive special treatment in allowance allocation because stricter European fuel-quality standards made refining more CO2-intensive; in addition, they called for lower penalties in the trial period (Heart's European Fuel News, 4 Sept 2002).

The European chemical industry, represented by CEFIC was more vocal than others in its opposition to the EU ETS from the outset. It had strongly opposed energy taxation in the early 1990s (CEFIC 1991), and its long-standing position was that it preferred negotiated agreements with energy efficiency or carbon intensity targets, potentially coupled with the flexible mechanisms of the Kyoto Protocol (CEFIC 1998). It had adopted a Voluntary Energy Efficiency Program that committed its members to achieve 20% energy efficiency improvements between 1990 and 2005 (CEFIC 1991, 1998). CEFIC's response to the Commission's Green Paper reiterated that it preferred negotiated agreements with relative targets (CEFIC 2000). Fixed caps, it said, would limit growth in the sector – foreign competitors would satisfy the demand that could not be covered by the

181 Benchmarks would have the advantage of rewarding early action to reduce emissions.

European chemical industry, leading to at least equivalent emissions elsewhere.[182] As the Commission's proposal excluded the chemical industry, however, CEFIC was relatively quiet during the negotiations.

Environmental NGOs in Europe had been quite opposed to emissions trading during the Kyoto negotiations, but slowly warmed to the idea of a domestic emissions trading system for companies in Europe (Skjaerseth/Wettestad 2008, p. 76). The Climate Network Europe (CNE), a coalition of the main environmental NGOs responded quite positively to the Green Paper, but emphasized that the system would have to be mandatory, stringent in its targets and enforcement mechanisms and rely on domestic emission cuts, rather than "hot air" credits from Eastern Europe (CNE 2000). Moreover, environmental NGOs expressed a clear preference for auctioning as the allocation mechanism. Environmental NGOs reiterated these positions throughout the negotiating process (e.g. CNE 2001, 2002; European Report, 12 March 2003).

Overall, transnational lobby groups were clearly very actively involved in the making of the EU ETS directive, in particular as interlocutors for the European Commission. The Commission also seems to have taken into account a number of industry concerns, notably its preference for the free allocation of allowances and for a relatively decentralized system where caps would be set in the member states. Moreover, it kept the most reluctant sector, the chemical industry, out of the system. On the other hand, many elements of the Commission proposal and the subsequently agreed directive did not conform to what the most powerful transnational actors were demanding: the system was mandatory from the beginning and exemptions were much more limited than demanded by many industry associations; the system was limited to CO2 and the use of CDM credits was at least somewhat restricted through the Linking Directive.

In addition, there is evidence that transnational actor positions had to be negotiated internally and merely reflected the dominant sentiment in the member states. Thus, UNICE's (2001) demand that successful national policies should be maintained clearly referred to German industry's voluntary agreements. Similarly, CEFIC's position largely reflected the German chemical industry's position; the UK Chemical Industries Association, for example, supported the creation of an ETS (Chemical Marketing Reporter, 5 February 2001). Hence it is much more likely that the exclusion of the chemical industry was an attempt by the Commission (and other member states after the EP's first reading position) to make the directive

182 The chemical industry also pointed out repeatedly that it competed on a global market – hence unilateral European measures would lead to shifts in production sites. Thus, after the collapse of negotiations between the U.S. and the EU on the implementation of the Kyoto Protocol in 2000, the chemical industry called on the EU to not go it alone (Chemical Week, 13 December 2000).

more politically palatable to Germany. Within Germany, the chemical industry was the most adamantly opposed to the EU ETS: excluding this industry took at least some pressure off the German government (Skjaerseth/Wettestad 2008, p. 124). Summing up, it seems as though transnational non-governmental actors were important in policy-debates about specific aspects of the directive and as a "transmission belt" for information about the preferences of industries in the various member states: in terms of the ambition level achieved, however, they seem to have mattered little.

5.5.2 Party Politics in the European Parliament and in the member states

Neither in the European Parliament nor in the member states, party politics appear to have played an important role in determining policy preferences about the EU ETS. Between 1999 and 2004, the representation of left- and right-leaning parties in the European Parliament was roughly in balance (see Table 3.4), with the liberals providing the swing vote. Yet with some exceptions, the EU ETS was not a partisan issue in the EP. The Rapporteur came from the conservative EPP, and the parliament approved his report with overwhelming majorities. To be sure, there was a small but vocal coalition of conservative MEPs that tried to weaken the EU ETS, composed primarily of conservative deputies from Germany, the UK, and Finland. Yet, the Parliament as a whole behaved as predicted by the rational choice baseline.

Table 5.11: Ideological positions of member state governments, 2001-2003*

Member State**	Left-Right 2001	Left-Right 2002	Left-Right 2003
Spain	7,6	7,6	7,6
Austria	7,4	7,4	7,4
Denmark	4,0	7,3	7,3
Italy	2,6	7,2	7,2
Ireland	6,2	6,2	6,2
Netherlands	5,1	5,1	6,9
Finland	4,7	4,8	4,8
Belgium	4,6	4,6	4,6
UK	4,4	4,4	4,4
Greece	4,3	4,3	4,3
Porugal	4,1	4,1	6,5
Germany	3,5	3,5	3,5
Sweden	3,4	3,4	3,4
France	2,7	2,7	6,8

* , Scores for beginning of each year, lower score means closer to the left
** Ordereed by 2002-score, as this was when most of the negotiation took place, no data for Luxembourg available
Source: ParlGov Database (Döring/Manow 2010)

Table 5.11 quite impressively demonstrates that governments' ideological bent did not strongly influence their preferences regarding the ambition level of EU emissions trading. Sweden and Germany, for example, who were "ideological neighbors" in the table, took very different positions in the negotiations: Sweden was an adamant proponent of emissions trading, Germany constituted the main laggard. Despite a government far to the political right, Denmark used its Council Presidency to push for a political agreement on emissions trading; the further left-leaning UK was much more reluctant. Of course, as we have seen, the Green party in Germany managed to soften the government's opposition to emissions trading. Similarly, Italy replied quite positively to the Green Paper, when it was still ruled by a left-wing coalition (European Commission 2001b). Once the second Berlusconi government was in power, however, Italy joined Germany and Finland in opposing a mandatory scheme (Platts Commodity News, 19 June 2002). At the margin, party politics thus probably played a role, yet the predictions based on the rational choice baseline turn out to have been much more accurate.

5.5.3 General Leader-Laggard Dynamics

While party politics seemed to be of limited relevance in explaining member state positions on the EU ETS, there is some support in favor of the general leader-laggard hypothesis. As shown in Table 5.12, the countries I described as the leaders on emissions trading above – the Netherlands, Denmark, Austria, Belgium, and Sweden, all were among the wealthier member states. The laggards, on the other hand, cluster further towards the bottom of the table. Moreover, Table 5.12 more accurately predicts the relative positions of Denmark and Finland. At the same time, however, we should not overestimate this factor. Most of the member states are quite close together: Sweden is closer in per-capita GDP to Germany, France, and the UK than to the Netherlands. Moreover, Germany is quite close to the middle of the league table, which offers a poorer prediction of its reluctant position towards emissions trading than the rational choice baseline. Overall, general leader-laggard dynamics probably played some role, yet the factors identified by the rational choice baseline were at least as important if not more so in determining member states' position.

Table 5.12: Per-capita GDP at PPS in EU-15 Member States*

Member State	Per-Capita GDP at PPS*
Luxembourg	240
Ireland	138
Netherlands	133
Denmark	128
Austria	126
Belgium	125
Sweden	122
United Kingdom	120
France	116
Germany	115
Finland	115
Italy	112
Spain	100
Greece	90
Portugal	80
* Purchasing Power Standards (EU-27 av.=100)	
Source: Eurostat	

5.5.4 Package Deals

None of the previous literature nor the media sources I consulted suggest that a "package deal", i.e. a link between the EU ETS and another policy was decisive in getting it passed. As discussed in the context of the rational choice baseline, the deal that was ultimately reached tried to accommodate all stakeholders in some way: through limited opt-outs, pooling provisions, a force majeure clause, the possibility but not the obligation to auction a portion of allowances, and the review clause on additional sectors all addressed specific actors' particular concerns. Yet a package deal in which some member states were compensated in another policy area for their accommodation of the EU ETS did not take place.

5.6 Conclusion

The goal of this chapter was to show that my explanatory framework can account for the emergence of the EU ETS. As the emissions trading scheme is the central element of EU climate policy, it provided another "crucial" case for my theoretical propositions. In combination, the rational choice baseline and the analysis of rhetorical possibilities provided a good account of what happened. Given the discursive environment after the negotiation of the Kyoto Protocol and the EU's decision to make itself the treaty's main defendant, the power sector and energy-intensive manufacturing industry had to expect some form of mandatory legislation. In this

situation, emissions trading was the least onerous policy option for industry, and offered significant benefits for electric utilities. The Commission, aided by the EP and several positively inclined member states, ensured that the option was actually pursued at the level of ambition that was now politically feasible.

Summing up the key insights of this chapter, it is important to note that my explanation does not constitute a radical departure from the previous literature. Yet it puts a stronger focus on the affected interests in different member states and their motivation for supporting or opposing emissions trading. It also gives a more theoretically grounded explanation of why international developments and the Kyoto Protocol mattered: on one hand, the developments around the Kyoto Protocol created rhetorical opportunities in support of ambitious climate policy. On the other hand, there was an actor – the European Commission – which had an institutional interest in exploiting these opportunities. Both elements combined are important to understand EU climate policy-making – in the case of emissions trading and in other cases. The following chapter discusses a case where this dynamic – i.e. the Commission exploiting discursive opportunities to drive more ambitious policy – was at least equally important, i.e. the negotiation of the energy performance of buildings directive.

Chapter 6: Promoting the energy efficiency of buildings – overcoming concerns about adaptation costs

6.1 Introduction

The two cases discussed so far, CO2 limitations for cars and emissions trading for industry and the power sector, were highly politicized and received significant public attention. This chapter deals with an EU policy most people have never heard of: the Energy Performance of Buildings Directive (EPBD). Adopted in 2002, the EPBD required member states to develop a methodology for calculating the integrated energy performance of buildings, to set minimum building energy efficiency standards based on that methodology, to introduce energy certificates for buildings, and to ensure regular inspections for boilers and air conditioning systems. In 2009, a recast of the original directive significantly strengthened its provisions, extended its applicability, introduced stricter enforcement and compliance standards, and required all new buildings from 2020 to be built according to a "nearly-zero-net-energy" standard. While the original EPBD constituted a low-ambition policy, the recast brought the ambition level to "medium".

For the purposes of this book, the development of the EPBD constitutes an important case for two reasons. On a theoretical level, it is interesting because interest group constellations in most member states were quite indeterminate: the rational choice baseline would thus lead us to expect that concerns about administrative adaptation costs drive member state preferences. In this, it differs from the two previous cases. On a practical level, it is important because about 40% of Europe's final energy consumption takes place in residential and commercial buildings (e.g. European Commission 2001f, p. 5). Buildings also account for a large share of GHG emissions[183] and many abatement measures for buildings are highly cost effective[184] (e.g. European Commission 2000d, McKinsey 2009).

183 Giving exact numbers for buildings-related GHG emissions is somewhat tricky. In the GHG inventory reports that countries (and the EU) submit to the UNFCCC, the commercial (1A4a) residential (1A4b) sectors merely account for emissions that were caused "on-site", e.g. in residential heating systems. These emissions accounted for 14% of the EU's total GHG emissions in 2006 (EEA 2008, p. 177, 181). Not included in these numbers are the emissions from elec-

The goal of this chapter is to explain the ambition level of EU climate policy in the buildings sector. My argument is that the Commission and the European Parliament continually pushed for more stringent building energy efficiency rules, but faced very reluctant member states, which did not want to make adjustments to their pre-existing national arrangements. With the original EPBD, the Commission got "its foot in the door" of building regulations and used its new powers to initiate a process of at least moderate convergence of energy efficiency rules. Starting from a more similar set of national rules and in the context of a fairly restrictive discursive environment, the Commission and EP then managed to upgrade the ambition level of the EPBD in 2009. The chapter is divided into four main parts. I first briefly describe the development of EU building energy efficiency policy as well as the main provisions of the EPBD and its recast. After that, I turn to an explanation of the observed ambition levels. First, I derive predictions from the rational choice baseline and present evidence on these predictions; next, I describe the discursive environment in 20001/2002 and 2008/2009 and discuss its implications. Finally, I consider the explanatory power of additional factors.

Most of this chapter draws on original empirical research. There is virtually no previous political science literature on the EPBD nor was there much media coverage of its development. The information I present in this chapter comes from the limited media coverage, documents from the European institutions and member state governments, industry and environmental associations. Moreover, I conducted a total of 24 telephone interviews with people involved in the policy-making process. As the first EPBD was drafted and negotiated almost a decade ago, the available evidence is much more limited than for the recast. Nevertheless, I feel confident that the main conclusions on both episodes are fairly accurate.

6.2 Developing an EU building energy efficiency policy – a gradual increase in policy ambition

Prior to the EPBD, European level activity in the buildings sector was limited. The Directive's Recitals mention two previous pieces of legislation, the 1989 Directive (89/106/EEC) on construction products and the 1993 "SAVE" Directive (93/76/EEC). The former was mainly concerned with ensuring the integration of

tricity and heat generation in power plants, even when the electricity and heat are consumed in the residential/commercial sector.

184 The precise rates of return of course depend on a number of factors, including climatic conditions, oil prices, financing costs, etc.

European markets for construction products and mentioned energy efficiency only in passing. The SAVE (Specific Actions for Vigorous Energy Efficiency) directive, however, was a first attempt at implementing concrete European measures to combat GHG emissions. Yet, none of these measures were mandatory; member states merely had to publish reports on their efforts (which only some of them did).[185] The SAVE program also included more specific legislation on energy efficiency standards for refrigerators, labeling schemes for refrigerators and ovens, a directive (92/42/EC) on electric water boiler efficiency, as well as a funding mechanism with very limited funds (Collier 1997a, p. 56f.).

Following these modest beginnings, the Commission repeatedly emphasized the importance of building energy efficiency in its publications on climate change and energy policy: the Communication on the *Energy Dimension of Climate Change*, published in preparation of the Kyoto Conference (European Commission 1997c), the 1998 Communication *Towards a post-Kyoto strategy* (European Commission 1998a), the 1999 Communication *Preparing for Implementation of the Kyoto Protocol* (European Commission 1999a) and the Communication launching the European Climate Change Program (European Commission 2000a)[186]. In these documents, the Commission pointed to its efforts in the SAVE program and urged member states to strengthen their respective national legislation. It argued that the "promotion of rational use of energy" was one of the key measures the Community should take, "focusing in particular on efficiency measures in the building sector (including amending Directive 93/767EEC)" (European Commission 1998a, p. 13). In 2000, in the context of its first *Action Plan to Improve Energy Efficiency* the Commission announced that it would seek "an amended Directive, which will more clearly define the proposed measures and strengthen reporting and compliance procedures" (European Commission 2000b, p. 11).

185 The SAVE-Directive called on member states to develop their own energy efficiency programs and listed a number of measures (including certification of buildings, inspection of boilers, and energy performance requirements for buildings) these programs could potentially include (Collier 1997a, p. 56).

186 Note that at the time transport was still seen as the sector with the greatest reduction potential, which would later change in favor of buildings (see European Commission 1999a, p. 11, also European Commission 2000a, p. 5). At the time, the potential for emission reductions was estimated at 140 Mt CO2 at a price of up to 50ECU/ton.

6.2.1 The Energy Performance of Buildings Directive – a low ambition policy

Throughout 2000, DG Transport and Energy (TREN) conducted a series of studies and consultations on the potential contents of an Energy Performance of Buildings Directive (Interview Bowie 2009). Based on these consultations, the Commission introduced its proposal for a Directive on the Energy Performance of Buildings in May 2001. In December 2001, the European Parliament's ITRE-Committee adopted a report by the Spanish Rapporteur Alejo Vidal-Quadras Roca, laying out a number of mostly minor amendments. Within the Council, both the Belgian (fall 2001) and the Spanish (Spring 2002) presidencies pushed for a quick adoption of the EPBD. The Council adopted its Common Position as prepared by the Council Working Group without further discussion on 13 May 2002, and over the summer of 2002, the Council and Parliament hammered out a compromise version of the directive. As a result, the Council passed the final version of the Directive by the end of the year (European Report, 5 October 2002).

The Directive on the Energy Performance of Buildings (2002/91/EC) entered into force in December 2002 and contained four main elements (European Commission 2003a). (1) First, it required member states to develop a methodology for calculating the integrated energy performance of buildings and established the central pillars of that methodology. More specifically, member states had to establish a method to calculate the combined energy efficiency of different parts of a building, including the heating and air conditioning systems, thermal insulation of walls, roofs, and windows, as well as lighting.[187] (2) Based on this methodology, member states were then required to set minimum standards for the integrated energy efficiency of all new buildings and for energy efficiency upgrades of large existing buildings (over 1000 m^2) undergoing renovation. In addition, member states had to require feasibility assessments for alternative heating and energy supply systems (e.g. renewables, CHP, heat pumps, district or block heating) for any new large buildings (above 1000 m^2) before construction. The advantage of setting integrated building energy efficiency requirements (rather than individual requirements for boilers, windows, bricks, etc.) was that they allow builders and owners greater flexibility in how they want to achieve a particular energy performance target.[188] (3) The third major element of the Directive was the obligation on member states to introduce a system of building energy

187 The required elements of the methodology are spelt out in the Annex to the directive and are more extensive than the examples given here.

188 This has the added advantage that it removes (or at least lowers) the incentive for producers of low-energy-efficiency building materials to lobby against higher energy efficiency standards, as their products may not be affected as much as with product-based standards.

certification. Each building being sold or let would have to receive an energy certificate with an energy efficiency reference value that would allow potential buyers and tenants to evaluate the buildings' energy efficiency. Finally, (4) the Directive obliged member states to institute a system of boiler and air conditioning system inspections to ensure that these appliances were functioning properly and efficiently. All boilers between 20 and 100 kW and air conditioning systems above 12 kw would have to be "regularly" inspected; for boilers above 100 kW inspections in 2-year intervals were prescribed. Moreover, inspectors were required to make recommendations for replacement options for any boiler older than 15 years.

Table 6.1: Coding of the ambition level of Directive 2002/91/EC of 16 December 2002 on the Energy Performance of Buildings

Dimension	**Description**	**Score**
Nature of targets	Member states required to set energy efficiency standards for buildings yet without any oversight or approval from the Commission	1
Behavioral prescriptions	Member states have to introduce systems for building energy certification and inspection regimes for air conditioning systems and boilers, development of minimum energy efficiency standards for new and existing buildings undergoing renovation	3
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	No enforcement mechanism	0
Degree of flexibility	Multiple references to necessity of "cost-efficiency", long transition periods, significant exemptions (all buildings under 1000 m^2)	1
Overall score:		**5 (Low)**

Overall, we can classify this Directive as a low-ambition policy. The rationale for this coding is presented in Table 6.1. Member states set targets (minimum requirements) without Commission approval. The directive made a number of behavioral prescriptions, notably on inspections and energy certification for buildings. Yet it set no financial incentives to limit GHG emissions from buildings and did not set up a compliance or enforcement mechanism. Moreover, there was significant flexibility and exemptions. Most importantly, the 1000 m^2 threshold for existing buildings excluded around 72% of the European building stock's total area from the directive's remit (Petersdorff et al. 2006, p. 353).[189] Standards were to apply only for existing buildings undergoing major renovation, yet the word

189 Total area is the relevant dimension as energy requirements tend to be proportional to area more so than the number of structures.

"major" is not clearly defined.[190] The directive also mentions the importance of cost-effectiveness at various points without clearly defining the term, thus giving further discretion to member states.

The implementation of the Energy Performance of Buildings Directive proved to be more complex than many had expected. The majority of member states did not transpose and implement the directive on time. In particular, most member states had difficulties with the implementation of the energy performance certification system and the development of an integrated methodology. Thus, between 2006 and 2009, the Commission issued "reasoned opinions" (the second step in a formal infringement proceeding against member states) to a total of 20 member states and referred five countries (Greece, Belgium, UK, Luxembourg, Latvia) to the European Court of Justice for incomplete transposition or implementation.[191]

6.2.2 Moving towards greater policy ambition – the EPBD recast 2008/2009

The European Commission supported the directive's implementation through a number of activities. It mandated the European Committee for Standardisation (CEN) to develop a set of 31 voluntary standards that helped member states to develop calculation methodologies for the integrated energy performance of buildings. Through its Intelligent Energy Europe Program[192], the Commission financed 21 programs related to transposition and implementation of the EPBD. The most important of these was the so-called "Concerted Action" program, which regularly brought together the member state officials involved in transposing and implementing the EPBD to discuss common problems and potential solutions. [193] This platform also served as an important source of information for the Commission when it began to work on the directive's recast.

Both in a 2005 Green Paper on Energy Efficiency (European Commission 2005b) and in its 2006 Second Energy Efficiency Action Plan (European Commis-

190 Only Recital 13 gives an indication that "[m]ajor renovations are cases such as those where the total cost of the renovation … is higher than 25% of the value of the buildinging … or those where more than 25% of the building shell undergoes renovation" (European Council 2002).

191 These numbers are based on the website of the Secretariat General of the European Commission. All decisions from 2005 and 2009 were searched for the term "2002/91", as the EPBD is formally "Directive 2002/91/EC"

192 21 projects were found on the "projets"-section of the website for the search term "EPBD" (See http://ec.europa.eu/energy/intelligent/index_en.html, accessed 14 January 2010)

193 To facilitate information exchanges within the "Concerted Action" group, the Commission also set up an internet portal called "Buildings Platform." The website was renamed "Build-Up" in 2009.

sion 2006a), the Commission pushed for the implementation and expansion of the EPBD. The Action Plan identified buildings as the sector with "the largest cost-effective savings potential" (European Commission 2006a, p. 5) and suggested a recast of the EPBD in 2009, i.e. right after its expected implementation. It would lower the threshold for minimum standards for renovation, set specific minimum performance levels (in kWh/m²) approaching the level of passive houses by 2015, and mandate a greater role for the public sector (European Commission 2006a, p. 21). The EP responded to both the Green Paper and the Action Plan with resolutions (European Parliament 2006a, European Paliament 2008d), drafted by Alejo Vidal-Quadras (EPP, Spain) and Fiona Hall (ALDE, UK) respectively. Both asked the Commission to be even bolder in the measures it pursued.

In 2008, the Commission conducted a formal stakeholder consultation on the EPBD recast, which, it announced, would simplify and clarify the text, remove thresholds, and strengthen its requirements (European Commission 2008d, p. 8). The Commission received more than 200 responses from member states, industry organizations, environmental NGOs, and a variety of other associations (European Commission 2008e). Large majorities of these supported the lowering or removal of the 1000m² threshold and of a "leading role" for the public sector. There were many suggestions for modifications or clarifications, in particular on the energy performance certificates. Some stakeholders asked for the introduction of a mandatory benchmarking system for energy performance certificates and energy efficiency standards.

The Commission took these responses as an endorsement of its plans. It published its proposal for an EPBD recast in November 2008 (European Commission 2008f) as part of an "Energy Efficiency Package", which also included a revision of a Directive on Energy Labeling as well as a Directive on Energy Labeling for Tires. Based on a detailed impact assessment, the proposal included changes to all elements of the original EPBD. Together, the impact assessment estimated these changes to lead to CO2 savings of 4-5% of EU CO2 emissions (160-210 Mt CO2) and to 280,000 new jobs by 2020. The European Parliament moved quickly to discuss the proposed recast. Rapporteur Silvia-Adriana Ticau (Socialist/Romania) presented a draft report to the ITRE-Committee in early February 2009 and the full parliament adopted a total of 108 amendments in its First Reading on 23 April 2009 (European Parliament 2009b, 2009c). Overall, the EP's amendments would have made the directive significantly more ambitious. Most importantly, the EP inserted a provision that required all new buildings in Europe to be at least "net-zero energy buildings" by 2018 – member state energy performance requirements would thus have to ensure that buildings did not emit more energy than could be produced by renewable energy systems on site (Die Welt, 16 April 2009; Europolitics, 24 April 2009).

Council negotiations of the directive fell for the most part under the Czech (spring 2009) and Swedish (fall 2009) presidencies. For the Czech Republic, passing the EPBD was not a high priority; the EPBD proposal was merely discussed at Energy Working Party level. Sweden, on the other hand, made the achievement of a political agreement before the Copenhagen climate summit in December 2009 a priority (Swedish Presidency of the EU 2009a, EurActiv.com, 25 June 2009). Accordingly, the Council and Parliament reached a compromise on 17 November 2009 (EurActiv.com, 18 November 2009), and the Council of Energy Ministers passed the compromise version of the directive on 7 December 2009, the opening day of the Copenhagen Climate Conference (Swedish Presidency of the EU 2009b). After the legal services had made the compromise's wording compatible with the Lisbon Treaty, the directive was published in the Official Journal on 18 June 2010.

Table 6.2: Coding of the ambition level of Directive 2010/31/EU of 19 May 2010 on the Energy Performance of Buildings (Recast)

Dimension	**Description**	**Score**
Nature of targets	Requires member states to set building standards for new buildings at a level of "nearly zero energy buildings" by 2020, MS have to establish targets for the diffusion of "nearly zero energy buildings"	2
Behavioral prescriptions	Maintains and further specifies certification and inspections systems set up by original EPBD, introduces requirement for member states to promote smart electricity meters (Art. 8.2a), public authorities need to ensure that their new buildings are "nearly zero energy buildings" from 2018	3
Financial incentives	Member states have to draw up plans on financial incentives (Art. 9a)	1
Enforcement and compliance	Member states required to ensure proper certification and inspection procedures (independent control systems, Art. 17) and to set up fines for non-compliance (Art. 22); also member states have to report on promotion of nearly zero energy buildings and these reports are evaluated by the Commission	2
Degree of flexibility	Exemptions limited to rather small category of buildings, member states not required to set standards that would not be cost-effective over the lifecycle, also long transition time period until 2020 (hence cost containment)	2
Overall score:		**10 (Medium)**

The compromise was closer to the Commission proposal than to the EP's version, though the parliament was able to secure a number of "victories". In partic-

ular, it secured clauses on financing, a greater role for the public sector, and the specification that from 2020 all new buildings have to be "nearly-zero energy buildings", meaning that their energy should to a significant degree come from renewable sources; for all new public buildings this applies from 2018 (Council of the European Union 2009a, European Parliament 2009d). Energy certificates now need to be displayed in all buildings above 500 m^2 (to be lowered to 250 m^2) to which the public has regular access. In addition, the recast abolished the 1000 m^2 threshold for buildings undergoing renovation, and asked member states to set minimum requirements "with a view to achieving cost-optimal levels"[194] (Art. 4.1). Moreover, member states now have to establish control systems for the certification and inspection procedures, set penalties for non compliance with energy efficiency requirements, develop national action plans for the spread of nearly zero energy buildings, and report on the fiscal incentives they established to promote them by mid-2011. As the directive has been strengthened in regard to targets, enforcement, and flexibility (see Table 6.2), we can consider its ambition level to be medium.

Why did the EU agree on a low ambition policy to address building emissions in 2002 but move to a medium ambition level in 2009? How can we explain the passage of the Energy Performance of Buildings Directive (EPBD) and its recast? The rest of this chapter develops an answer to this question. In the following section, I show that the rational choice baseline can account for the preferences of the main actors but that it cannot explain the bargaining outcome. After that, I also discuss the discursive environment in 2001/2002 and 2008/2009, which help us to explain why member states went along with more ambitious rules than they would have liked.

6.3 Explaining EU building energy efficiency policy – the rational choice baseline

In the following paragraphs, I first derive rational choice baseline predictions for the preferences of the main actors regarding EU-level energy efficiency rules for buildings and for the bargaining outcome we would expect. I then present evidence from the negotiations of the original EPBD and of the EPBD recast. In both cases, member states were unenthusiastic about the Commission's and the EP's proposals because they did not want to incur administrative adaptation costs.

194 What exactly this meant was largely left to the member states, however, though the directive gives some guidance.

Nevertheless, they reached agreements that went beyond what we would expect to be the position of the "pivotal member state."

6.3.1 Rational Choice Baseline Predictions

According to the rational choice baseline, we expect the Commission and the EP to be the drivers of climate policy in the buildings sector. We expect the Commission to pursue the most ambitious policy deemed feasible for given constellations of member state preferences. We expect the European Parliament to favor medium or high ambition policies in the buildings sector. For member states, it is more difficult to specify rational choice baseline hypotheses. As I try to show in the following paragraphs, we can expect interest constellations on building energy efficiency measures to be relatively indeterminate. Hence member states will seek to avoid administrative adaptation costs: in other words, they will accept legislative proposals that require them to make no or very limited changes and oppose those proposals that mean significant changes to existing national legislation.

6.3.1.1 Affected Interest Groups

Let me justify this expectation by discussing the effects of EU-level building energy efficiency legislation on different interest groups and by specifying these groups' relative domestic strength. In particular, we need to consider five such groups: (1) building owners, (2) tenants, (3) the construction industry, (4) the construction products industry, and (5) energy supply companies.

(1) Building owners and developers have to bear the costs of energy efficiency legislation: they have to invest more initially to comply with energy performance rules for new buildings, they have to invest in required energy efficiency improvements for existing buildings (in the case of renovations), and they have to pay for building energy certification and inspection procedures. They may benefit from greater transparency about energy costs or from improved energy efficiency if the market place rewards energy efficiency. Yet for most people other factors play much greater roles in their choice of housing or business premises, e.g. location, size, ambiance, amenities, etc. Hence we can expect building owners and developers to be on the whole opposed to mandatory energy efficiency legislation, in particular where it concerns existing buildings.

This may not appear to be compatible with the oft-heard assertion that most building energy efficiency measures "pay for themselves" within a certain time frame. Yet the concern for many property owners is that they have to make the investments while their tenants reap the benefits. The tenants pay the lower energy

bills but the rental market often does not allow owners to charge premium prices for higher energy efficiency. Owner-occupiers can, of course, benefit from lower energy costs and should hence have an incentive to invest in improvements. But as they can make the decision to invest in energy efficiency if and when they wish, we would not expect owner-occupiers to favor legislation that forces them to improve energy efficiency. Given that they can reap the benefits no matter what, we would expect them to prefer flexibility.

Building owners constitute a large share of the population in most member states. In most EU member states a large share of the population lives in owner-occupied buildings or flats, ranging from 38% in Sweden to 96% in Estonia in 2004 (Federcasa 2006, p. 64).[195] The remainder of the housing stock is controlled in most countries by a variety of large institutional investors, smaller private investors, commercial owner-occupiers, as well as a range of public or communal bodies. Hence, in most countries there are multiple associations of building owners with an interest in energy efficiency policy. On the whole, we can expect them to be negative and relatively coordinated in their opposition to mandatory EU-level energy efficiency legislation, in particular for existing buildings. (standards for new buildings concern a far smaller group).

(2) Tenants, on the other hand, benefit from the lower energy bills that result from energy efficiency improvements and inspections as well as from the transparency created by energy certification. Hence we would expect building users, and hence consumer or tenant organizations, to favor strict energy efficiency legislation. Large shares of the population in most EU member states rent their housing. As housing costs account for a relatively large share of most people's incomes (Ibid., p. 81), tenants also have a strong incentive to organize or to join tenant or consumer organizations. We can expect these organizations to lobby in favor of energy efficiency legislation. Yet the short- to medium-term financial impact of legislation like the EPBD on tenants overall is relatively small, thus making strong mobilization in favor of EU energy efficiency legislation unlikely.

(3) The construction industry tends to benefit from energy efficiency legislation. The money building owners spend in order to comply with energy efficiency legislation goes to a significant extent to the construction industry. As we can see from Table 6.3, the construction industry accounts for a significant share of both GDP and employment in most member states, ranging from 3.1% of total em-

195 The report "Housing Statistics in the European Union 2005/2006" is published in loose intervals, each time by the housing ministry (or some entity charged by the Ministry) in a different member state. The Report 2005/2006, published by the Italian Housing Federation, was the last available at the time of writing.

ployment in Slovakia to more than 10% in several member states. Thus, we might expect the construction industry to be a powerful force in favor of stricter building energy efficiency legislation.

Table 6.3: Key figures on the EU Construction Industry 2007

Member state	Value-Added as % of GPD	Sector employment as % of total	Number of companies	Exports* to EU-27 as % of turnover
Belgium	3,7%	6,2%	66.619	1,6%
Bulgaria	5,7%	6,8%	18.193	2,1%
Czech Republic	4,8%	8,2%	153.156	0,7%
Denmark	4,9%	7,4%	35.611	0,2%
Germany	2,4%	4,0%	220.663	2,5%
Estonia	7,1%	9,0%	6.431	2,6%
Ireland	4,2%	3,4%	1.344	0,0%
Greece	2,8%	6,9%	108.830	NA
Spain	9,6%	14,2%	456.358	NA
France	4,0%	6,7%	435.326	0,3%
Italy	4,6%	8,5%	615.862	0,5%
Cyprus	8,6%	9,8%	5.987	4,0%
Latvia	6,8%	7,7%	5.974	0,6%
Lithuania	6,3%	9,1%	19.545	0,5%
Luxembourg (Grand-Duché)	4,5%	18,7%	2.266	5,1%
Hungary	2,6%	6,2%	69.939	1,7%
Malta	NA	NA	NA	NA
Netherlands	4,5%	5,7%	85.910	1,1%
Austria	5,0%	6,5%	26.965	NA
Poland	4,1%	5,2%	205.440	2,0%
Portugal	5,6%	10,0%	122.487	1,5%
Romania	4,2%	5,5%	46.925	0,7%
Slovenia	5,1%	8,1%	17.176	1,2%
Slovakia	2,1%	3,1%	4.981	1,5%
Finland	4,4%	5,9%	40.456	0,4%
Sweden	4,4%	6,6%	73.388	0,5%
United Kingdom	5,3%	4,9%	240.401	NA
EU-27**	4,5%	6,8%	3.086.233	1,0%

* Exports of construction services ** excl countries with missing data
Source: Eurostat Statistics in Focus 7/2010, "The EU-27 Construction Sector: from boom to gloom"

Yet things are slightly more complicated. The industry also constitutes a fairly diffuse set of interests, as it consists of thousands of small enterprises that mostly operate at a local level. Exports to other EU countries as a share of industry turnover is very small (see Table 6.3). Hence the construction industry's interest in European level rules on energy efficiency is rather limited. European legislation only has an effect on most construction companies if it leads to stricter national legislation. In countries with high energy efficiency standards for buildings, we would hence expect the construction industry to be relatively indifferent; only in member states with low standards would the construction industry favor stricter rules. Moreover, the construction industry has to walk a fine line as very strict rules may lead to a reduction in new construction investment, which in turn hurts

the construction industry. Overall, we can thus expect some limited support for EU legislation on building energy efficiency, but not a strong mobilization.

(4) Within the construction products industry, producers of a variety of materials and products can benefit from enhanced energy efficiency legislation for buildings. These include in particular the makers of thermal insulation materials, of windows, and of lighting, heating, ventilation, and air conditioning systems. As these industries' products can be traded across borders, the industries tend to also benefit from greater demand abroad, in particular in Europe (given the bulky and often heavy nature of their products, overseas markets are probably less attractive).

Table 6.4: Employment in relevant construction product industry sectors, 2000

Country	Insulation*	Windows**	Boilers/Radiators***	Lighting****	Total
Belgium	0,16%	0,18%	0,10%	0,15%	0,59%
Denmark	0,05%	N/A	N/A	0,09%	N/A
Germany	0,25%	0,08%	0,05%	0,12%	0,50%
Ireland	N/A	N/A	N/A	0,03%	N/A
Greece	N/A	N/A	N/A	N/A	N/A
Spain	0,09%	0,09%	0,01%	0,08%	0,27%
France	0,06%	0,06%	0,04%	0,05%	0,21%
Italy	0,09%	0,11%	0,05%	0,09%	0,34%
Luxembourg	N/A	N/A	0,00%	N/A	N/A
Netherlands	N/A	N/A	0,03%	0,04%	N/A
Austria	N/A	N/A	0,06%	0,08%	N/A
Portugal	0,05%	0,08%	0,01%	0,10%	0,24%
Finland	0,15%	0,12%	0,03%	0,07%	0,36%
Sweden	N/A	N/A	0,01%	0,08%	N/A
United Kingdom	0,10%	0,06%	0,03%	0,07%	0,27%

* Incl. Manufacture of Glass Fibre (DI26.14), Manufacture of Plastics in Primary Forms (DI24.16)
** Incl. Manufacture of Flat Glass (DI26.11), Shaping and Processing of Flat Glass (DI26.12)
*** Manufacture of central heating radiators and boilers (DJ28.22)
**** Manufacture of Lighting Equipment and Electric Lamps (DL31.50)
Source: Eurostat Structural Business Statistics (NACE Rev1.1)

Tables 6.4 and 6.5 provide a very rough overview of the importance of employment in those parts of the construction product industry that stand to benefit the most from tighter European level building energy efficiency legislation. The data is drawn from the "Annual Detailed Enterprise Statistics" from Eurostat's Structural Business Statistics Database.[196] While the data is rather rough[197], it does show

196 The data was downloaded on January 28 and 29, 2011.

197 The data is rough because the NACE Revision 1.1. categories for which the data was available do not conform perfectly to the products that are relevant for building energy efficiency: the two NACE-categories that make up "Insulation" materials, for example, include the most common insulation materials (glass wool, polystyrene, polyurethane), but also include products that are not used to insulate buildings. At the same time, the category "Insulation" in Tables 6.4 and 6.5 does not include a number of other insulation materials such as cellulose, stone wool, hemp, or sheep wool.

that the industry is of limited importance to employment in all member states. It does not exceed half a percent of total employment in any member state and remains below this number in most. Nevertheless, we should expect companies and sector associations for the energy-efficiency-relevant construction products industry to have a strong interest in EU-level building energy efficiency legislation.

Table 6.5: Employment in relevant construction product industry sectors, 2007

Country	Insulation	Windows	Boilers/Radiators	Lighting	Total
Belgium	0,18%	0,14%	0,09%	0,07%	0,47%
Bulgaria	N/A	N/A	0,03%	0,04%	0,07%
Czech Republic	N/A	N/A	0,10%	0,13%	0,22%
Denmark	0,04%	N/A	0,03%	0,09%	0,15%
Germany	0,23%	0,07%	0,04%	0,09%	0,43%
Estonia	N/A	0,07%	0,03%	N/A	0,10%
Ireland	N/A	N/A	0,02%	0,01%	0,03%
Greece	N/A	N/A	0,02%	0,05%	0,07%
Spain	0,07%	0,08%	0,01%	0,05%	0,22%
France	0,05%	0,06%	0,03%	0,04%	0,17%
Italy	0,07%	0,11%	0,06%	0,08%	0,32%
Cyprus	0,00%	0,07%	0,00%	0,05%	0,12%
Latvia	0,09%	0,03%	0,03%	0,02%	0,17%
Lithuania	0,03%	0,12%	0,10%	N/A	0,25%
Luxembourg	0,00%	N/A	0,00%	0,00%	0,00%
Hungary	N/A	0,07%	0,04%	0,47%	0,59%
Malta	N/A	N/A	N/A	N/A	N/A
Netherlands	0,11%	0,03%	0,02%	0,03%	0,19%
Austria	0,06%	0,06%	0,05%	0,06%	0,23%
Poland	N/A	0,09%	0,06%	0,12%	0,27%
Portugal	N/A	0,06%	0,01%	0,05%	0,12%
Romania	0,03%	0,05%	0,02%	0,04%	0,15%
Slovenia	N/A	N/A	0,04%	0,03%	0,07%
Slovakia	0,16%	0,06%	0,04%	0,20%	0,46%
Finland	0,13%	0,10%	0,02%	0,05%	0,30%
Sweden	N/A	N/A	0,01%	N/A	0,01%
United Kingdom	0,07%	0,06%	0,02%	0,06%	0,21%

* Incl. Manufacture of Glass Fibre (DI26.14), Manufacture of Plastics in Primary Forms (DI24.16)
** Incl. Manufacture of Flat Glass (DI26.11), Shaping and Processing of Flat Glass (DI26.12)
*** Manufacture of central heating radiators and boilers (DJ28.22)
**** Manufacture of Lighting Equipment and Electric Lamps (DL31.50)
Source: Eurostat Structural Business Statistics (NACE Rev1.1)

(5) Finally, one might expect a fifth group to be relevant to member states' position on the energy efficiency of buildings: energy providers. Those companies that produce and market electricity, heating oil, coal, and natural gas stand to lose from stricter energy efficiency rules in buildings, as these tend to reduce demand for their products (and by extension their profits). Yet there are three reasons why we should not expect these companies to have a strong impact on policy in most member states. First, the short-term impact of energy efficiency legislation on their profits is likely to be rather small. Secondly, lobbying against energy efficiency legislation would be blatantly offensive to energy providers'

own customers (and might be exploited by their competitors[198]). Thirdly, a large share of the fossil fuels consumed in the EU are imports – most of the benefit of the inefficient use of energy thus goes to countries that are politically rather unpalatable: this should give energy companies an incentive to keep a relatively low profile on questions of energy efficiency. Largely, this seems to be what happened: I have not found indications that energy companies tried to obstruct the EPBD.[199]

Overall, the rational choice baseline thus leads us to expect a relative stalemate between different societal groups. Property owners would be rather skeptical of EU building energy efficiency rules, tenants and the construction industry would benefit somewhat (though the added value of EU as supposed to national legislation is likely to be limited from their perspective). Certain parts of the construction products industry would benefit, though others might lose. Energy providers lose (a bit in the short run), but are likely to remain silent. Member state governments may still prefer one or another of the groups, depending on their specific relative strength and other domestic factors. Yet on average, we can expect the domestic "status quo" in each member state to represent an equilibrium between these forces. Hence we can expect governments to primarily defend their national legislation in order to avoid the costs caused by the transposition and implementation of European rules. In other words, we can predict member states' position based on the administrative adaptation costs they would incur from particular rules.

6.3.1.2 Measuring Administrative Adaptation Costs

Tables 6.6 and 6.7 provide an indication of the adaptation costs caused by the Commission proposal for each of the 15 member states that participated in the negotiation of the 2002 EPBD and the 27 member states that negotiated the 2009 recast. In order to gauge how much member states would have to change their domestic arrangements as a result of the new directive, I have identified the main elements of the Commission proposals and provided information on whether and what kind of equivalent legislation already existed in the member states.[200]

198 If company A lobbied actively against energy efficiency legislation, for example, company B could point this out to customers and instead offer energy efficiency tips to any new customers and portray itself as the "good energy company."

199 Though I cannot exclude the possibility that the energy industry tried to weaken energy efficiency policy clandestinely.

200 The tables draw on a variety of sources. The above-mentioned "Concerted Action"-program compiled a set of "Country Reports" on the implementation of the EPBD in the 27 member states in 2008, which in many cases also discussed the status-quo-ante in the respective countries. Similarly, the ASIEPI (Assessment and Improvement of the EPBD Impact) project financed by the Commission compiled reports on implementation in 14 member states, which were especial-

Where member states already had equivalent legislation in place, we would expect them to go along with the Commission proposal – where no legislation existed, we would expect resistance. In many cases, I described previous policies as "partly existing": this means that either an instrument is used for certain types of buildings or for certain energy-relevant components or parts of the building only.

Table 6.6 provides us with an indication as to which aspects of the Commission proposal member states would find most difficult to accept and for which aspects a consensus (or a qualified majority) might be achieved. As mentioned above, the main elements of the Commission's EPBD proposal were the introduction of an integrated energy performance calculation procedure, the setting of energy efficiency requirements for new and existing buildings based on the calculation method, the establishment of an energy certification system for buildings, and the inspection of boilers and air conditioning systems. Table 6.6 shows us that most member states had moved to a partly integrated energy efficiency standard, meaning that standards were set for an average heat transmission value for the building shell, yet excluded various other aspects that affected overall energy consumption. This means that a majority of member states (though not the biggest ones, i.e. Germany, France, UK, and Italy) had to design completely new calculation methodologies and energy efficiency standards. While most member states had energy efficiency standards for buildings (and almost as many had standards for existing ones), they were not based on an integrated methodology. Thus, the directive proposal meant significant administrative adaptation costs. Based on the rational choice baseline, we would not expect most member states to go along with these requirements. In any case, we would expect member states to ask for as much autonomy in setting the standards as possible: adaptations to pre-existing systems would probably be less costly than entirely starting from scratch.

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ly helpful regarding the issue of "independent experts" and "independent control systems" in the EPBD recast. For Table 7.6, the "Energy Efficiency Report" (O'Neill/Warren 2001) published by the lobby-group EuroACE, a Fraunhofer study of European building regulations (Eichhammer/Schlomann 1998) and the IEA's "Energy Policy Reviews" of the various EU member states also provided useful information. To depict the status quo before the recast in 2008 (Table 7.7), I also relied on the Commission's (2008e) impact assessment, a Commission note on "very low energy buildings" (2009b), a Danish study on threshold levels in building regulations (Thomsen et al. 2009) and another EuroACE-financed study on low energy buildings (Thomsen/Wittchen/EuroACE 2008). To complement the information, in particular for the status quo in 2008, I also contacted the authors of the individual country reports mentioned above via email to ask for the relevant specifics, though the response rate was unfortunately limited.

Table 6.6: Relevant previous policies in EU-15 member states 2001

Member state	Integrated Methodology	Energy efficiency requirements for new buildings	Energy efficiency requirements for existing buildings undergoing renovation	Energy certification for all buildings	Inspections for heating and air conditioning*
Belgium	Partly existed	Partly existed	Partly existed	Did not exist	Boiler inspections only, not for AC
Denmark	Partly existed	Existed	Existed	Existed	Boiler inspections partly existed, not for AC
Germany	Existed	Existed	Existed	Partly existed	Boiler inspections only, not for AC
Ireland	Partly existed	Existed	Existed	Did not exist	Did not exist
Greece	Partly existed	Existed	Partly existed	Partly existed	Boiler inspections partly existed, not for AC
Spain	Partly existed	Existed	Did not exist	Did not exist	Boiler inspections partly existed, not for AC
France	Existed	Existed	Existed	Did not exist	Did not exist
Italy	Existed	Existed	Existed	Did not exist	Boiler inspections only, not for AC
Luxembourg	Partly existed	Existed	Existed	Did not exist	Boiler inspections only, not for AC
Netherlands	Existed	Existed	Existed	Partly existed	Boiler inspections only, not for AC
Austria	Partly existed	Existed	Existed	Partly existed	Boiler inspections only, not for AC
Portugal	Did not exist	Existed	Existed	Did not exist	Boiler inspections partly existed, not for AC
Finland	Partly existed	Existed	Existed	Did not exist	Did not exist
Sweden	Partly existed	Existed	?	Did not exist	Did not exist
United Kingdom	Existed	Existed	Did not exist	Partly existed	Did not exist
No. "Existed"	5	14	10	1	0
No. "Partly Existed"	9	1	2	5	10
No. "Did not exist"	1	0	2	9	5

* Count for "Partly Existed" refers to those countries that already had some form of boiler inspection.

We would expect agreement on the mandatory certification of all buildings sold or let to be particularly difficult, as no member state except Denmark had such a system in place at the time of the negotiation. Experts in several more member states had considered and experimented with certificates, but most had not introduced them on a mandatory basis even for new buildings. At most, we might expect governments to accept a limited certification system for certain types of buildings with very minor European prescriptions. Similarly, we would expect agreement on boiler inspections to be difficult and agreement on AC inspections to be virtually impossible, given that no member state actually had an AC inspection system in place. We need to also take into account that implementing these provisions is quite difficult: while certification and inspection schemes are not very ambitious measures in terms of GHG reduction, they are very ambitious in terms of implementation. Given the large number and uneven geographical distribution of buildings, applying these provisions requires significant resources, in particular a sufficient number of certifiers and inspectors.

Table 6.7: Status of relevant previous policies in EU-27 member states in 2008*

Member state	Energy Efficiency Requirements for Existing Buildings <1000m2 undergoing Renvoation (COM Art. 7)	Promotion of the uptake of low- or zero-carbon buildings (COM Art. 9)	Certification requirements for buildings >250m2 occupied by public authority (COM Art. 11)	Independent control system for certification and inspection (COM Art. 17)**
Austria	Partly existed	Partly existed	Did not exist	Existed
Belgium	Partly existed	Did not exist	?	Partly existed
Bulgaria	?	Did not exist	Did not exist	Partly existed
Cyprus	Did not exist	Did not exist	?	Partly existed
Czech Republic	Existed	Did not exist	Did not exist	Existed
Denmark	Existed	Partly existed	?	Existed
Estonia	Did not exist	Did not exist	Did not exist	Partly existed
Finland	Existed	Partly existed	?	Partly existed
France	Existed	Partly existed	?	Partly existed
Germany	Existed	Partly existed	Did not exist	Did not exist
Greece	Did not exist	?	Did not exist	Partly existed
Hungary	Did not exist	Partly existed	Did not exist	Did not exist
Ireland	Did not exist	Partly existed	Did not exist	Existed
Italy	Existed	Did not exist	?	Partly existed
Latvia	Existed	?	Did not exist	?
Lithuania	Did not exist	?	?	Existed
Luxembourg	Existed	Partly existed	Did not exist	?
Malta	Did not exist	?	Did not exist	Partly existed
Netherlands	Existed	Partly existed	Did not exist	Partly existed
Poland	Did not exist	Did not exist	Did not exist	Did not exist
Portugal	Existed	Did not exist	Did not exist	Existed
Romania	Did not exist	Did not exist	Did not exist	Exsted
Slovakia	Existed	Did not exist	?	Partly existed
Slovenia	?	??	Did not exist	Existed
Spain	Did not exist	Partly existed	Did not exist	?
Sweden	Existed	Partly existed	Did not exist	Existed
United Kingdom	Partly existed	Partly existed	Did not exist	Existed
No. "Existed"	12	0	0	9
No. "Partly existed	3	12	0	11
No. "Did not exist"	10	10	19	3

* Includes planned measures for implementation of the oritinal EPBD

** Refers to control system for certificates, most MS had no control system for inspections at the time

Summing up, the rational choice baseline would lead us to expect that a majority of member states in 2001/2002 would oppose most of the provisions of the Commission's proposal. We would expect member states to have the easiest time agreeing on the provision that all member states introduce energy efficiency requirements for all new and existing buildings, with as little EU interference in the details as possible. Certification and inspection regimes would be much more contentious and have virtually no chance of passing.

Table 6.7 provides an indication of administrative adaptation costs caused by the Commission proposal for the EPBD recast. It focuses on four central elements of the EPBD recast proposal: the removal of the 1000 m^2 threshold for energy performance requirements for buildings undergoing renovation, the introduction of national action plans for the introduction of low- and zero-energy buildings, the requirement that all buildings used by public authorities above 250 m^2 be certified[201]

201 Buildings not occupied by public authorities only required a certificate if sold or rented out – according to the original EPBD, all buildings occupied by public authorities and larger than 1000 m^2 also had to be certified. The Commission now wanted to expand the range of public sector buildings requiring certification.

and the establishment of an independent control system for certification and inspection procedures. Based on the rational choice baseline and the data presented in Table 6.7, we would expect none of these measures to find the support of a qualified majority of member states. The 1000 m^2 threshold still applied in 10 member states.[202] None of the member states had action plans for very low energy buildings in place that conformed to the ideas of the Commission[203], though a number of member states had already developed definitions of such buildings and trajectories for when these buildings would become the norm. No member state required buildings occupied by public authorities to be certified unless they were sold, rented or larger than 1000 m^2. A number of member states had implemented independent control systems for certificates that came close to (or went beyond) what the Commission was proposing. Several others were going in the same direction while some, notably Germany, had no control system at all.

Thus, we would expect member states to have a very hard time finding an agreement on the directive. In none of these aspects would we expect a qualified majority without a significant adaptation of the directive's provisions. The administrative adaptation costs of abolishing the 1000 m^2 threshold are probably lower than those of the other aspects of the directive: simply applying the rules for larger buildings to smaller ones should not cause significant additional costs for governments. The other three provisions, however, are potentially quite costly: we would expect at least a blocking minority to reject them without substantial modifications.

6.3.2 Empirical evidence on the rational choice baseline

Having outlined the rational choice baseline expectations, we can now turn to the empirical evidence. In the following paragraphs, I first discuss the development of the original EPBD and then turn to the recast. I try to show that in both cases, the Commission, helped by the EP, pushed for increasingly ambitious EU-level building energy efficiency rules, while the avoidance of administrative adaptation costs was indeed the overriding concern for most member states. Though none of the member states thus had a strong interest in the directive, they did accede to Commission demands on a number of quite costly points, which the rational

202 The word "partially existed" in the column on the 1000 m^2 threshold means that requirements existed, but were not formulated in terms of overall energy performance (but for certain components of technical systems).

203 I.e. including targets for refurbished buildings approaching very low energy standards, public sector buildings taking the lead, and specific targets for the share of all buildings being very low or zero energy buildings.

choice baseline cannot account for. The development of the discursive environment in both episodes can fill this void, as I discuss in section 6.4.

6.3.2.1 Evidence from negotiations about the original EPBD

Commission Preferences

The Commission's May 2001 proposal for the EPBD outlined the four main elements described above: an integrated methodology, energy efficiency requirements for new and existing buildings undergoing renovation, energy certification, and inspections. Overall, the European Commission thus proposed a low ambition policy – yet towards the maximum of what it might reasonably expect member states to accept. When choosing the specific elements of the directive, the Commission was careful to stay within the realm of the politically possible. Thus, the drafters drew on examples that were already implemented in member states: the certification system was inspired by Denmark, the integrated methodology by Holland (Interview Bowie[204] 2009). In the explanatory memorandum to the directive, the Commission also cited a Fraunhofer Institute study (Eichhoff/ Schlomann 1998) that had calculated the energy savings that would result from an extension of Danish building standards to other EU member states[205] (European Commission 2001f, p.10). Overall, the Commission left much room for subsidiarity in order to make the legislation palatable to member states.

Within the Commission, there was little controversy about the EPBD. [206] DG Enterprise had set up a Task Force on Sustainable Construction in 1999, which recommended the strengthening of the SAVE Directive. In particular, it recommended the certification of new and existing buildings, the implementation of accurate billing for energy consumption, minimum energy requirements for existing buildings, and to make all these measures mandatory (European Commission 2001g; Interview Warren 2009). At the same time, DG Environment seems to have mainly been preoccupied with drafting the EU ETS directive. Nevertheless, Working Group 3 of the European Climate Change Program, the Commission's multi-stakeholder consultation exercise, which ran in parallel,

204 Randall Bowie was the desk officer in DG Tren in charge of the directive, also lauded by multiple other interviews as the "father of the EPBD". Much of the information given here (both on the Commission and the other actors) draws on two interviews with him, each of which lasted about one hour.

205 Though the Commission did, of course, stop short of suggesting common European building energy efficiency standards.

206 According to one former Commission official, there was virtually nothing to be opposed to in the directive, because there was so much subsidiarity (Interview Henningsen, 7 April 2010).

supported the EPBD and assessed its impact on CO2 emissions to be around 35-45 mtons of CO2 per year (European Commission 2001d, p. 44)[207].

Both the actual position adopted by the Commission and the process through which it arrived at the proposal confirm the rational choice baseline prediction. The Commission did indeed seek the most ambitious piece of legislation member states might be willing to accept – in terms of climate policy ambition, this meant a low ambition proposal.

European Parliament Preferences

The European Parliament's First Reading position added several elements to the Commission's proposal, which made it somewhat but not significantly more ambitious (European Parliament 2001a). In particular, the First Reading position included an amendment that asked for common minimum standards for energy efficiency requirements to be adopted in comitology, i.e. at the EU level. By adding a minimum level of quantitative targets, the EP would thus have raised the EPBD's climate policy ambition to a "medium" level. Most other amendments clarified definitions, added more references to cost-effectiveness and to the importance of indoor climatic conditions. Still other amendments concerned the definition of "major renovations", the mandatory inclusion of a CO2-indicator on energy certificates, the transition period within which member states had to implement energy certificates, qualifications of inspectors, the directive's application to sports facilities, information campaigns, and the transposition period for member states, which it extended to three years. Finally, the EP demanded an evaluation of the directive by the Commission, considering among other things the extension of the directive's provisions to smaller buildings.[208] The EP's Environment Committee further demanded that the scope of the minimum efficiency standards for existing buildings and the requirement to assess alternative energy systems for new buildings be extended to existing buildings above 500 m^2.

Overall, we can thus detect preferences for moderately more ambition in the European Parliament than in the Commission or Council. The negotiation of the original EPBD thus offers support to the hypothesis that the EP will generally support medium or high ambition policies across sectors, though the evidence is not overwhelming.

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207 In total, the ECCP estimated potential reductions from buildings related measures to be on the order of 220 to 247 Mt CO2 (European Commission 2001d, p. 43).

208 The EP also added recitals allowing the member states to take a number of support measures for improved building energy efficiency and calling on the Commission to improve efficiency standards for air conditioning systems.

Member state preferences

As outlined above, the rational choice baseline leads us to expect the Council to accept no more than a low ambition policy and to be quite reluctant towards both energy certificates and inspections. We would expect individual member states to oppose those elements of the directive that require significant adaptations. This is largely born out by the evidence, though member states in fact accepted more than the rational choice baseline would lead us to expect.

We can observe member state positions in the aggregate by looking at the Council's Common Position (Council of the European Union 2002a), adopted in June 2002. It made a number of amendments to the Commission proposal, which ensured greater flexibility for member states but accepted most of the Commission's ideas in general. Thus, the Common Position clarified that member states may distinguish between new and existing buildings when setting their standards and that standards for existing buildings can refer to individual components or systems (i.e. not to the integrated energy performance). It also specified the list of exempted buildings. The Council proposed to leave member states more freedom in setting the definition of major renovations and of cost-effectiveness. Concerning energy certificates, the member states expanded their validity from five to ten years and limited the display requirement for certificates in public buildings to a more narrowly circumscribed set of buildings. In addition, the Council limited the range of boilers that would fall under the inspection scheme[209] and allowed member states to devise alternative measures instead of inspections if they had broadly equivalent effects. Both certification and inspection tasks could be performed "in an independent manner by qualified and/or accredited experts" (Council of the European Union 2002a, Art. 10) – the experts themselves did not have to be independent, as the Commission had demanded. Finally, the Council specified that member states would have three years for transposition, plus an additional four years to implement all aspects of the directive. Overall, the Council's common position suggests that member states wanted significantly more leeway in implementing the directive than the Commission had proposed. Such leeway tends to reduce administrative adaptation costs, as we expected.

This impression is confirmed when we look at the positions of individual member states. While the EPBD was drafted and negotiated at the EU level, i.e. from the late 1990s to 2002, *Germany* was in the process of revising its own Energy Savings Ordinance (*Energie-Einsparverordnung – EnEV*), which the

209 While the Commission proposal referred to all boilers with a rated thermal output of more than 10 kW, the Council raised the minimum to 20 kW and specified that only for boilers above 100 kW inspections would have to take place every 2 years.

German parliament adopted in 2002. Hence Germany's main concern during the negotiations was to not create new obligations that required changes to the EnEV's provisions (Interview Schettler-Köhler 2010). Germany did not want to block the proposed legislation, but it wanted safeguards for its existing legislation (Ibid.). The upper chamber of the German Parliament, the *Bundesrat*, which represents the federal states[210] (*Länder*), also voiced these concerns in its statement on the directive proposal (Deutscher Bundesrat 2001a).[211] It did argue that it was in Germany's interest to see other member states raise their energy efficiency standards to levels already achieved in Germany. It also called for an expansion of requirements for existing buildings beyond the 1000 m^2 threshold suggested by the Commission, which was already part of the EnEV and hence required no additional effort by Germany. At the same time the *Bundesrat* emphasized that the directive should not intrude far into the competences of member states. It opposed elements of a common methodology that would require changes to the EnEV's methodology. In addition, it asked for a number of amendments to the provisions on energy certificates. The *Länder* wanted certificates to be issued by private entities (i.e. not require additional administrative work) and to require no more than a brief energy audit (so as to limit costs). They opposed the public display requirement for energy certificates, claiming that it had no impact on energy consumption and argued that the regular inspection of air-conditioning systems would be too expensive.[212] The Bundesrat also called for a longer implementation period.[213] As we have seen in Table 6.7, Germany's previous legislation was largely in line with the Commission proposal – nevertheless it opposed those elements of the proposal that required adaptations to pre-existing arrangements. It thus conforms to the predictions of the rational choice baseline.

The same holds for the *UK*. As we can see from Table 6.7, the UK was already working with an integrated calculation methodology for building energy performance, the Standard Assessment Procedure, which could also serve as a basis for the rating in a building energy certificate. British building regulations did not foresee inspections of boilers and air-conditioning systems, however. Thus, it was this element of the directive proposal that the UK most actively opposed. Besides questioning their cost-effectiveness, the UK also argued that such inspections

210 These are responsible for implementing most aspects of building energy efficiency legislation.

211 The committee recommendations were adopted in the full Bundesrat on 27 September 2001, see Deutscher Bundesrat, 767. Sitzung, Plenarprotokoll, p. 495.

212 Boiler inspections posed no problem as they already existed.

213 A majority of the federal states supported this position. The state of Bavaria introduced its own resolution stating that the EPBD violated the subsidiarity principle and would impose a signficant administrative and financial burden on member states and homeowners (Deutscher Bundesrat 2001b).

constituted an intrusion into people's private homes (Interview Bowie 2009). Hence, the UK government proposed (and ultimately got) a provision that lets member states achieve the objective by other means (UK House of Commons 2002d, 2002e). Other issues that appear to have been important to the UK government related to the common methodology, the possibility of differentiating between new and existing buildings when setting minimum energy requirements, a longer validity period for energy certificates, higher limit values for boiler and air-conditioning inspections, as well as more time for implementation (Ibid.).

The limited evidence available on other member states largely confirms this picture. No member state appears to have had a strong interest in the legislation; member states merely accepted certain provisions and toned down others. The most supportive member state according to various interviewees was Denmark (Interviews Bowie, David, Warren 2009). In light of the rational choice baseline this is not surprising: it was probably the member state with the lowest administrative adaptation costs, given that it already had a comprehensive certification system in place. In addition, the Belgian (EPF 2002; European Report, 19 September 2001; Interview Bowie 2009) and Spanish presidencies (Interviews David 2009, Warren 2009) appear to have been quite important in bringing about a compromise on the directive – though their main motivation was to "get the job done" rather than to promote particular content. A number of member states besides the UK were very negative about inspections, notably Portugal (Interviews Bowie 2009, Maldonado 2011), as they did not believe inspections to be cost-effective. Interestingly, the Netherlands were quite negative about the EPBD even though they already fulfilled most of the requirements: they simply did not want to have to change domestic legislation.

Summing up, there is strong evidence that member states were concerned about limiting the costs of adapting to EU level building energy efficiency legislation. Individually, they argued against provisions that would have been particularly onerous to implement; collectively, they introduced several elements of greater subsidiarity. Nevertheless, they did accept a number of significant new requirements, which the rational choice baseline would have anticipated them to oppose. The discursive environment provides a plausible explanation for why they were willing to accept more than predicted: having just salvaged the Kyoto protocol at the international level, member states could hardly argue against legislation that was intended to make possible the EU's compliance with Kyoto. I elaborate on this point below (in section 6.4.1). Before, let's first turn to the negotiating outcome.

Bargaining Outcome

As in the other cases, the rational choice baseline would lead us to believe that the European Parliament would not be able to significantly increase the proposal's

climate policy ambition, while the most reluctant member states won't get their way either. As we have seen, the European Parliament tried to add some climate policy ambition to the Commission proposal by setting minimum energy performance standards at the European level. The Council, on the other hand, tried to introduce additional elements of subsidiarity into the directive. It accepted some of the more minor amendments by Parliament but not EU-level minimum energy performance standards. The EP gave in relatively quickly on this point: instead the final negotiations mainly dealt with the time period member states would have for implementation (Council of the European Union 2002b). While the Commission had proposed a maximum of three years, the European Parliament had raised this to five years and the Council to seven if an insufficient number of experts for certification and inspection were available. In the end, the two institutions agreed on six years.

Some observers commented to me that in the end the directive was a very Spanish affair: the Commissioner, the Rapporteur, and the Council Presidency all came from the same "political family", Spain's Partido Popular (Interviews David 2009, Warren 2009). Yet simple rationalist bargaining theory can also account for the outcome: both the Parliament and the Council wanted an agreement and hence they met in the middle between their demands on the extension. As expected by the rational choice baseline, no member state was able to entirely hold up the directive: yet various coalitions of the unwilling ensured greater flexibility on energy requirements, certification, and inspections. The European Parliament, as expected, had to give up those elements of its position that would have made the directive more ambitious and accept the limited concessions on wording offered by the Council. From Parliament's perspective, the resulting directive was still much better than the status quo.

6.3.2.2 Evidence from the Negotiation of the EPBD Recast

The case of the EPBD recast offers strong support for the rational choice baseline's predictions regarding the driving role of the European Commission and the European Parliament. Again, member states appear to have been primarily concerned with administrative adaptation costs. Yet they accepted obligations that went beyond their existing legislation in many cases, which suggests a limitation of the rational choice baseline. I discuss the positions of the Commission, EP, and member states in turn before considering the bargain that emerged from the given preference constellation.

European Commission Preferences

To many observers, the Commission's recast proposal for the EPBD came very early – many member states were still in the process of fully implementing the

original EPBD. Its proposal, as noted above, would have increased the legislation's climate policy ambition in several ways (European Commission 2008f): it would have extended the scope and tightened the stringency of energy efficiency requirements and it would have strengthened compliance mechanisms for the requirements, the certification and inspection procedures. In addition, the proposal contained a number of clarifications to improve the quality and impact of the certification and inspection procedures as well as provisions on a leading role for the public sector.

Concerning the scope of energy efficiency requirements, the Commission proposed the removal of the 1.000 m^2 threshold for buildings undergoing renovation.[214] On the level of energy efficiency requirements, the Commission suggested a gradual increase of all member states' requirements to "cost-optimal" levels. This meant that buildings should be built (or renovated) in a way that would minimize costs to the owner over the life-cycle of an investment.[215] The Commission would provide a comparative methodology that would allow each member state to calculate cost-optimal requirements for its climatic conditions (Art. 5). These calculations would first be conducted as a benchmarking exercise. In a second step, from 2014, member states would only be able to give financial incentives to building renovations that complied with cost-optimal energy efficiency requirements. From 2017, member states would have to bring their minimum energy efficiency requirements to cost-optimal levels. In addition, each member state would have to develop national action plans to increase the number of low- or zero-carbon buildings. In terms of compliance, the Commission sought to strengthen the directive by demanding that member states lay down penalties that are "effective, proportionate, and dissuasive" to ensure that the provisions of the directive are actually applied (European Commission 2008f, Art. 22). To ensure the quality of certificates and inspections, the Commission demanded that member states introduce random controls of energy certificates and inspection reports (Art. 17 and Annex II). At several points, the proposal called for the public sector to "take the lead": thus it extended the requirement to display energy certificates to a wider range of buildings occupied by public authorities. Moreover, public authorities also were to set special targets for the uptake of low- or zero-energy buildings and to apply the directive earlier than other market participants. In addition, the Commission's proposal clarified that independent

214 It also lowered the threshold in regard to the requirement that alternative heating systems must be considered before new buildings are constructed.

215 This would apply whether the investment were made in a new building or in a major renovation of an existing one. Thus, the rules would require owners to invest more upfront (e.g. in better insulation), yet only to a level where the additional costs could be recouped within a certain time-span.

experts[216] needed to be accredited, that energy certificates had to include recommendations for cost-effective improvement measures, and that owners or tenants be provided with an inspection report. Finally, member states were asked to conduct information campaigns.

Overall, the Commission thus proposed a directive that was significantly more ambitious than the previous legislation – it contained fewer exceptions, more specific and stricter requirements, and introduced a stronger compliance mechanism. At the same time, it paid heed to what member states might reasonably be expected to swallow. Fancier ideas contained in the Energy Efficiency Action Plan (European Commission 2006a), such as moving towards EU-wide kkWh/m^2-standards approaching the level of passive houses, did not make it into the directive proposal. As noted above, the Commission had participated in the Concerted Action program's meetings of national experts and consulted extensively on the EPBD recast in 2008, both at the EU Sustainable Energy Week in early 2008 and with the help of questionnaires to member states (European Commission 2008e)[217]. Thus, the Commission had a good idea of what member states would and would not accept. Its behavior thus conforms to expectations derived from the rational choice baseline.

European Parliament Preferences

The same holds for the European Parliament. As predicted by the rational choice baseline, the EP presented itself as a climate champion by adopting a First Reading Position that would have made the EPBD recast significantly more ambitious. Its amendments covered all aspects of the Directive, and introduced financing as an additional issue. In terms of energy efficiency requirements, the EP asked that all new buildings constructed from 2019 be "net zero energy buildings", a term that was to be defined by the Commission (European Parliament 2009c). It also tightened the deadline for member states' minimum requirements to achieve "cost-optimal" levels: by 2015, all member state building energy efficiency requirements would have to be "cost-optimal"; by 2012, member states would no longer be able to subsidize construction of buildings that did not meet cost-optimal levels of energy performance[218] (European Parliament 2009c, Amendments 51, 52). The parliament also sought a more harmonized calculation methodology for identifying cost-optimal levels than proposed by the Commission.

216 For certification and inspection.

217 The consultation is documented in the Annexes to the Commission's Impact Assessment (European Commission 2008k).

218 The Commission, as noted above, wanted 2017 and 2014 respectively.

A multitude of other amendments concerned improvements to the stringency and effectiveness of the directive. Thus, the parliament wanted member states to report on barriers to the uptake of more efficient building technologies. It attempted to strengthen the role and relevance of energy certificates by making state financial support for building or renovation dependent on achieving certain levels of energy performance, by specifying the contents of energy certificates, and by expanding display requirements to all buildings above 250 m^2 frequently visited by the public. It also expanded the range of air conditioning systems subject to regular inspection and gave the Commission greater power to ensure member state compliance. Other amendments concerned the mandatory introduction of smart meters whenever meters are replaced in new and renovated buildings, as well as investments in training and information campaigns.

The parliament also extended the obligations on public authorities "taking the lead": thus, it wanted all new public buildings to be "net-zero-energy" from 2014. The First Reading Position would have also required the certification of all buildings occupied by public authorities and the implementation of all recommendations spelt out in the energy performance certificate within ten years. Finally, the EP introduced a further issue into the directive and fought adamantly for its inclusion, especially the Rapporteur Silvia-Adriana Ticau (Socialist, Romania). Arguing that the "aim of the Directive will be achieved only if a mix of financial instruments is made available" (European Parliament 2009b, p. 67), the Parliament's First Reading Position asked member states to draw up national action plans to incentivize energy efficiency measures in buildings by 2011. In addition, the EP called for the establishment of an Energy Efficiency Fund in the context of Community structural assistance (Amendments 95, 110, 120).

Overall, the EP thus made itself the champion of a highly ambitious EPBD recast and conforms to the predictions of the rational choice baseline. The parliament overwhelmingly voted in favor of the First Reading Position (Europolitics, 24 April 2009), though there was a significant contingent of EPP deputies who opposed the legislation. Besides a number of very committed MEPs like the Rapporteur, Fiona Hall (ALDE) or Claude Turmes (Greens), two additional factors probably played a role in getting such an ambitious list of amendments approved: European elections were coming up and MEPs probably wanted to demonstrate their relevance to European publics, and the Parliament wanted a lot of bargaining chips in the negotiation with Council. As shown in the following section, they would need them.

Member state preferences

Member states' negotiating positions were much as the rational choice baseline would lead us to expect: negative. As most member states were still in the

process of implementing the original EPBD there was little enthusiasm for additional EU legislation. No member state actively asked the Commission for an EPBD recast proposal and several indicated that the proposal came "too early" in their view (e.g. European Commission 2008e). Yet the member state that held the rotating Council Presidency in the second half of 2009, namely Sweden, decided to make the passage of the "Energy Efficiency Package" and thus of the EPBD recast a priority of its Presidency. It invested a lot of resources, expertise and time into finding a compromise on the issue and eventually succeeded. As one WWF official described it: "There was no content champion for the EPBD recast, but one process champion, the Swedish presidency" (Interview Vitali 2010). It made sure the process came to an end by December 2009.

While member states all agreed on the general objective of improving the energy efficiency of buildings, their main concern during the negotiations was to avoid changes to pre-existing national legislation.[219] Thus, member states varied in the degree of and reasons for their opposition to the directive, but there was no strong support. A number of member states with fairly stringent domestic legislation opposed the EPBD not because of its content, but because of the additional administrative burden it would impose. As they felt that they were already doing enough, they opposed additional EU legislation for this sector. The Netherlands and Germany were the main exponents of this position, which was also supported by Belgium, Denmark and a few others[220] (eceee 2009a, p. 5, Interview Schettler-Köhler 2010). Member states from Central and Eastern Europe were generally the most reluctant, in particular because many were struggling with the implementation of the first EPBD. The new member states were, however, supportive of the European Parliament's efforts on financing. The UK and France were relatively supportive of the Commission's recast proposal, as they had just introduced national legislation that went into a similar direction. At the same time, they tried to defend the provisions of their national legislation so as to not face additional implementation burdens. This general impression of member state preferences is confirmed by a more specific analysis of Germany's position, as well as a closer description of the UK, French, and Spanish positions.

Many *German* policy-makers perceived the recast as too early and too onerous. There was a sense that domestic legislation was sufficient and that Germany did not need "help" from Brussels. This attitude is reflected in the reports by the

219 The member state officials from Germany, France, the UK, Spain, and Portugal I interviewed (by phone or via email) all identified this as their primary concern, the idea was also confirmed by a European Council Secretariat Official present at most of the meetings of the Energy Working Group.

220 Most of my interviewees identified the Netherlands and Germany as rather opposed to additional action. A few interviewees ascribed a rather positive attitude to Denmark.

parliamentary committees in the Bundestag and Bundesrat (representing federal state governments) that dealt with the Commission's recast proposal (Deutscher Bundestag 2009; Deutscher Bundesrat 2009). Apart from the general goal of reducing emissions from buildings, they agreed with little in the proposal, citing concerns about subsidiarity and unnecessary bureaucracy. They did not accept the proposed requirement that building standards conform to a commonly defined measure of cost-optimality, saying that such a measure could at most be used for benchmarking purposes. The committees also opposed the introduction of specific targets for low-energy buildings. Another contentious point concerned building certification. German policy makers did not want further specifications of the requirements for energy certificates, e.g. concerning more detailed advice on cost-effective energy efficiency measures. They also opposed further rules to ensure the quality of certification and inspection procedures as well as the accreditation of certification and inspection experts. These would cause unnecessary bureaucratic costs. Finally, the committees opposed the extension of display requirements for energy certificates and the earlier application of the rules to public authorities – noting that construction of public buildings was no less challenging than that of private ones. The *Bundesrat*, representing the federal states that would have to bear most of the additional costs, even went so far as to suggest that the German government should pursue a two year delay in further discussion of the proposal (Deutscher Bundesrat 2009). In the negotiations, the German delegation tried in particular to avoid further requirements concerning energy certificates but also sought common ground with other member states and the European Parliament. Thus, it was an early supporter of accepting the goal of introducing "nearly-zero energy buildings" by 2020, as this was already planned in domestic German legislation (Interview Schettler-Köhler 2010).

As noted above, Germany had reformed its own building energy efficiency legislation, the EnEV 2002, in parallel to the negotiation of the original EPBD. While the 2002 EnEV contained most elements of the EPBD, it still required some adaptation concerning elements of the integrated energy performance calculation methodology, certification of existing buildings, and inspections for air conditioning systems. Germany implemented these missing elements through the EnEV 2007, yet did not tighten energy performance requirements at the time.[221] The certification system established by the EnEV 2007 was meant to impose as little burden as possible on citizens. Hence Germany did not specify in great detail the contents of energy certificates; it did not specify additional certification demands on the public sector, and it established neither a system to supervise the

221 The EPBD was to be transposed into a new version of the EnEV by 2005, yet a snap election in the summer of 2005 delay adoption until 2007 (Schettler-Köhler 2008).

quality of certification nor a qualification scheme for certifiers: certain professions and crafts were simply identified as being qualified to issue certificates.

In 2007, when the EPBD was finally transposed into German law, however, climate change had risen to the top of the public agenda in Germany and in the summer of 2007, the government adopted its Integrated Energy and Climate Program. In this context, it announced a further tightening of building energy efficiency standards with the aim of reaching zero carbon emissions from heating energy provision in new buildings by 2020. To achieve this target, new buildings would have to be 30% more energy efficient from 2009; a further 30% efficiency improvement was to follow in 2012; by 2020, a "passive-house"-standard would be achieved (Deutsche Bundesregierung 2007c, Schettler-Köhler 2008, 2009).

The German position thus seems to be consistent with the rational choice baseline's prediction: it was accommodating on those issues that did not require much change from existing domestic legislation (1000 m^2 threshold, nearly zero energy buildings) but fought against those aspects of the EPBD that would have required an alteration of domestic arrangements. While there is thus strong evidence that concerns about administrative adaptation costs drove the German position towards the EPBD recast, it is also worthwhile to consider German interest group constellations. These were largely as described above in the section on rational choice baseline predictions. While there were voices both in favor of and against the directive, the latter appear to have been somewhat stronger. Real estate owners were opposed, the consumer peak association was in favor, the construction industry split, and the construction products industry in favor.

Real estate owners bear most of the cost imposed by the directive, whether for higher initial investments (in new buildings or in renovations) or in the administrative costs for certification and inspections. The peak association of German real estate owners, the *Bundesvereinigung Spitzenverbände der Immobilienwirtschaft (BSI)*[222], held a rather negative view of the directive. It published a 16-page position paper on the recast in which it argued that the repeated updating of energy efficiency legislation at the European and national level caused insecurity among home owners and thus constituted an obstacle to investment (BSI 2009).

222 The signatories on the BSI statement that is described here were *Haus & Grund* (representing mainly owner occupiers), BFW Bundesverband Freier Immobilien- und Wohnungsunternehmen, GdW Bundesverband deutscher Wohnungs- und Immobilienunternehmen (representing mainly cooperatives owning buildings), Immobilienverband Deutschland IVD Bundesverband der Immobilienberater, Makler, Verwalter und Sachverständigen (representing real estate dealers and administrators), BFV Bundesverband Wohnungs- und Immobilienverwalter (BFW), DDIV Dachverband Deutscher Immobilienverwalter (also representing housing administrators), Verband Deutscher Pfandbriefbanken (representing mortgage lenders), and the VGF Verband Geschlossene Fonds (representing large real estate investors).

Real estate owners were particularly adamant about their opposition to European rules that would require changes to the energy certification system, they opposed an independent quality control system, and they sought to ensure that certificates remained purely informational.[223] They also opposed improvement suggestions to be included in the certificates, as these would require comprehensive energy audits, which were too costly. In addition, they maintained that low- or zero-energy buildings would require financial incentives, and that cost-optimality calculations include the level of rent to be obtained from buildings.

Germany's consumer peak organization *Verbraucherzentrale Bundesverband* (vzbv), which also represents tenants, on the other hand, advocated more stringent legislation than the Commission had proposed (vzbv 2009). It also tried to form a coalition with environmental NGOs (notably the Deutscher Naturschutzring) and the union of construction workers (*IG Agrar, Bauen, Umwelt)* to lobby the German government to take a more positive position in EU negotiations (Interview Seo 2010). In particular, the vzbv demanded a binding emission reduction target for the buildings sector, set at 20% relative to 2008 by 2020. In addition, it considered the instruments of the directive, i.e. energy certificates and inspections, as insufficient – instead, it argued for requirements on local governments to ensure that energy efficiency improvements in their community were actually implemented.

The construction industry was split. The *Hauptverband der deutschen Bauindustrie (HVBI)*, the association representing medium-sized and larger enterprises in the construction industry, was generally supportive of the directive, but noted that without additional incentives and better information for home-owners, tighter standards would not necessarily lead to more renovation (HVBI 2009). Yet, the HVBI did not treat the issue as particularly important – it agreed with most of what the Commission had proposed and saw national implementation as much more consequential to its members (Email Correspondence Sauer 2010). The *Zentralverband Deutsches Baugewerbe (ZDB)*, however, which represents small companies in the construction industry, was less enthusiastic: it opposed an independent control system for building certification and the establishment of an accreditation procedure for issuers of energy performance certificates (ZDB 2009, p. 10). In general, the ZDB did not want any European rules that would go beyond existing German rules. The construction products industry, notably window and insulation manufacturers were supportive of the directive (*Verband der Fenster- und Fassadenhersteller* 2009). Yet they asked for more financial incentives to induce home owners to renovate and proposed an inspection scheme for the building envelope (the business interest behind the suggestion being quite obvious).

223 I.e. tenants should not be able to derive additional rights from these certificates.

Overall, German national interest group constellations were relatively indeterminate, though slightly negative towards EU-level building energy efficiency legislation. While this negative attitude may have had some impact on the German negotiating position, the decisive factor was probably the government's unwillingness to change pre-existing domestic legislation.

The *UK* government officially took a more favorable position on the Commission's recast proposal than Germany. Yet on details, it also tried to avoid provisions that would require changes in domestic legislation. The UK government had committed itself to making all homes built from 2016 onwards "zero-carbon" (e.g. UK Department of Trade and Industry 2007, UK Department of Environment, Food, and Rural Affairs 2007). Thus, it did not want to block similar efforts at the European level, but also wanted to ensure that EU-legislation did not run counter to domestic efforts (Interview UK Official 2011). In various policy documents, the UK government specified what aspects of the EPBD it opposed (e.g. UK House of Commons 2009a, 2009b, UK Department of Communities and Local Government 2009). In particular, these documents identified four issues. (1) The UK wanted to preserve its right to subsidize construction even if the construction did not meet cost-optimal energy efficiency requirements. (2) Similarly, the UK did not want to allow the Commission to develop guidelines for the definition of low or zero-carbon buildings, fearing that these might be incompatible with UK definitions. In addition, the UK also did not accept precise targets for low or zero carbon buildings. (3) The UK's third gripe was with the provision that energy certificates be displayed in buildings occupied by public authorities above the size of 250 m^2, deeming it not to be cost-effective. Finally, (4) the UK considered the time-frame for implementation suggested by the Commission as too short. Given the UK's ambitious domestic policies on zero-carbon buildings, it is not surprising that it would also be relatively favorable towards the EPBD recast – yet where the recast threatened to interfere with UK domestic legislation, it also sought to minimize administrative adaptation costs.

France also took a relatively positive attitude towards the EPBD, as it had implemented most of its provisions already. Shortly after his election in 2007, French President Sarkozy had launched the *Grenelle de l'environnement*, a stakeholder consultation on all aspects of sustainable development and the creation of a low carbon economy. One of the results to which he personally committed himself in his speech at the end of the consultation was to make low-energy buildings (*Bâtiments Basse Consommation – BBC*) the norm by 2012, and to require all new buildings from 2020 to be "positive-energy" buildings, i.e. to produce more energy on site than they consume (Présidence de la République 2007). These targets were cast into the "Grenelle 1" law in August 2009 and a revision of the *Régulation Thermique* for 2012 was developed in 2008 and 2009 (Ministère de

l'écologie 2009). French negotiators then tried to make the EPBD's language as compatible as possible with the domestic Grenelle-legislation on buildings (Interview Chauveau 2010).

The Spanish position on the EPBD was also animated by the goal of avoiding adaptation costs. Thus, the Spanish Permanent Representation in Brussels published a document on its recast position, saying that most of the Commission proposal was compatible with its own Energy Efficiency Law. It also pointed out that the directive would positively impact Spain's renewables industry (Spanish Permanent Representation to the EU 2009). Yet like the other member states, Spain sought to avoid rules that were incompatible with domestic legislation: as Spain's energy performance ratings for certification were expressed as kg $CO2/m^2$, Spain opposed legislation that would have required the certificates to express energy demand in kWh/m^2 (Email correspondence Gonzalez Álvarez 2010). Spain also sought to preserve subsidiarity in calculating energy performance and tried to keep in check the EP's demands for moving towards "Net Zero Energy Buildings" as too ambitious.

Summing up, apart from Sweden, there was no strong support for an EPBD recast among EU member states. They generally felt that they were doing enough and that EU-level rules only brought additional administrative burdens. Some issues were relatively un-contentious because most member states already had appropriate legislation in place: this holds for issues like the 1000 m^2 threshold or the independent control system for energy certificates. Other measures, in particular those suggested by the European Parliament, were considered as going too far.

Bargaining outcome

Given the fairly negative attitude of most member states, we might have expected them to simply block the Commission's and the EP's efforts to increase the directive's ambition level. They might have sought to water down all of the provisions to levels where nobody had to effectively change anything. Moreover, their attitude was very different from the EP's stance on energy efficiency in buildings. After the adoption of the EP's first reading position, the Council and the EP thus were very far apart. Given that the EP was far less satisfied with the status quo than the member states, we would also expect the EP to accept more or less any offer by the Council that went beyond the status quo.

Yet, the EP gained significantly more than this minimum – member states thus did accept certain administrative adaptation costs. In the end they reached an agreement with the following main features. The EP's demand for "zero net energy buildings" was toned down to "nearly zero energy" buildings, thus giving

member states more leeway but setting at least some target along the lines of the EP's thinking. The Council's "offer" for the second trilogue on October 14 had been to move towards "low energy buildings" by the same deadline (Council of the European Union 2009b); in the second the offer turned into "very low energy buildings" (Council of the European Union 2009c), and emerged as "nearly zero energy buildings" in the last minutes of the fourth and final trilogue (Interview Persson 2010). Thus, member states went significantly beyond what they were already doing anyways. The EP was also keen on including strong language on existing buildings. To accommodate this, a clause was introduced in Article 7 that required the setting of minimum standards for individual parts of the building envelope being renovated, independently of the total value or size of the renovation. In addition, the EP secured an article on financing, though its language is rather weak:

> "In view of the importance of providing appropriate financing and other instruments to catalyse the energy performance of buildings and the transition to nearly zero-energy buildings, Member States shall take appropriate steps to consider the most relevant such instruments in the light of national circumstances." (Directive 2010/31/EU, Art. 10.1)

Member states have to submit a report to the Commission on their financial support to building energy efficiency programs; the Commission then is to conduct analyses and publish reports and potentially legislative proposals to further strengthen financial instruments in support of energy efficiency improvements. Other provisions suggested by the Parliament were also weakened: the requirement that the public sector implement the recommendations of energy certificates is merely included as an option. Similarly, member states no longer have to achieve cost-optimal levels of energy performance standards – the cost-optimality calculation framework merely serves as a benchmarking tool. Further requirements that went beyond the status quo in many member states remained in place, though in a toned down form relative to the Commission proposal. Thus, buildings occupied by public authorities that are larger than 500 m^2 need to be certified and display the energy certificate; the threshold is lowered to 250 m^2 in 2015. Similarly, member states have to establish an independent control system, but the requirements concerning the number of controlled certificates and inspection reports was less clearly specified. Finally, the member states managed to reject the provision on cost-optimality, replacing it with a voluntary benchmarking framework.

Overall, the EPBD recast thus constitutes a compromise between the Council and the Parliament. The latter had to yield on a number of issues, as we would expect. Yet the compromise goes significantly beyond the lowest common denominator of the member state status quo. Member states accepted new obligations even though the rational choice baseline would have predicted them to hold out longer to have to do even less. Given the EP's preferences, time would have seemed to be on their side.

What does this tell us about the accuracy of our explanatory model? For the most part, it is confirmed. Most member states wanted a low to medium ambition directive, the EP went for high ambition, and out came a medium ambition piece of legislation. What is missing, however, is an explanation of why the huge divergence of preferences led to a compromise rather than deadlock. Most observers credit the Swedish presidency's persistence and determination to get an agreement. Yet even this begs the question as to why the other member states went along rather than putting up more resistance. My answer to this question is that the member states' ability to oppose the directive was limited by the proponents' argument that the EU would need to have "something" to show at the upcoming Copenhagen Climate Conference. We thus find the explanation at the level of the discursive environment, to which we now turn.

6.4 Explaining EU building energy efficiency policy – the analysis of rhetorical possibilities

As we have seen, the rational choice baseline correctly predicted the Commission's and the EP's behavior on EU energy efficiency legislation for buildings. It also correctly identified the main factor that drove member state behavior, namely administrative adaptation costs. Based on this criterion, however, we would have expected member states to prefer a much less ambitious EU policy or to prefer no EU policy at all for building energy efficiency. We can fill this gap in the rational choice baseline's explanation by considering the rhetorical dynamics at the time. The first EPBD was negotiated in a tightening but still relatively permissive discursive environment, the recast negotiation took place in a more restrictive discursive environment in the months leading up to the Copenhagen Climate Conference. It is highly likely that the respective discursive environment in the two episodes led member states to accept legislation that they did not trongly favor and in many cases oppose.

6.4.1 The discursive environment in 2001/2002

The negotiation of the original EPBD took place slightly before, but largely in parallel with the EU ETS negotiation discussed in the previous chapter. While the ETS proposal came out in November of 2001, the Commission proposed the EPBD in May of that year. The negotiations of the EU ETS lasted until mid-2003, most of the negotiation of the EPBD was completed by 2002. As I already presented the data on the general and climate political discursive environment in 2001/2002 in Chapter 5, I only briefly summarize it here. After that, I discuss the

sectoral policy environment and present evidence to show how the discursive environment mattered in facilitating the adoption of the EPBD.

The general policy environment in 2001/2002 was relatively permissive, though opinion data suggested a widespread latent concern about global warming. Thus, most people did not identify climate change as a major concern when asked about what environmental issues they were most concerned about. Yet when asked specifically about whether they considered climate change a serious issue, majorities in virtually all EU countries said yes. The climate policy environment was becoming much more restrictive: the Kyoto protocol was particularly popular among the European public, a fact that developed particular salience when U.S. President George Bush withdrew his country from the Protocol. The international climate negotiations on the Kyoto protocol reached a conclusion with the Marrakech Accords of 2001: the protocol's entry into force thus had become much more likely. EU member states ratified the Protocol in April 2002 (Council of the European Union 2002c). Moreover, several EU-level sectoral climate policies had already developed, notably the voluntary agreement on car CO2 emissions and the directive on electricity from renewable sources; the EU ETS directive was under negotiation.

While the climate policy environment was thus tightening, the sectoral environment was still somewhat permissive. Buildings-related emissions had remained relatively stable throughout the 1990s for the EU-15 overall, as shown in Table 6.8: the Scandinavian countries, Ireland and Germany actually lowered their emissions, while most other countries were not as successful. Emissions varied significantly from year to year depending on weather patterns. It is important to bear in mind that these numbers understate overall building-related emissions and probably overstate emission reductions. The categories of the IPCC's Common Reporting Framework for building-related emissions (Commercial/ Institutional and Residential) only refer to on-sight combustion activities at buildings. Therefore, merely moving from individual heating units to district heating will lower emissions in the Buildings-category, even though the emissions show up elsewhere in GHG emission inventories. The buildings sector was thus at most "average" in terms of the overall emissions trajectory, which means that its supporters could hardly argue it was "already doing its part." On the other hand, it was hard to argue that it needed special attention relative to other sectors because of its alarming emission trajectory. Similarly, the case for ambitious additional EU-level legislation was still relatively hard to make. The only relevant previous policy, the SAVE-directive, had contained virtually no binding provisions, not even on purely informational measures. Thus, one could still argue that a low-ambition directive that induced member states to "do something" might potentially produce the desired improvements in energy efficiency. One might be skeptical at the time that these efforts would suffice – yet there was no clear evidence.

Table 6.8: Change in buildings-related GHG emissions since 1990 in 2000 and 2001*

Member state	1999	2000	2001
Austria	2,9%	-6,5%	6,6%
Belgium	14,3%	9,1%	18,4%
Denmark	-11,6%	-20,4%	-17,7%
Finland	-22,9%	-29,0%	-24,5%
France	5,7%	2,5%	12,7%
Germany	-13,7%	-16,6%	-6,1%
Greece	48,1%	59,8%	74,9%
Ireland	-9,4%	-7,9%	-4,3%
Italy	9,8%	3,7%	7,3%
Luxembourg	15,1%	10,8%	23,6%
Netherlands	-2,0%	0,0%	8,8%
Portugal	76,3%	77,1%	85,8%
Spain	31,8%	38,2%	42,8%
Sweden	-28,5%	-29,5%	-38,6%
UK	6,4%	6,1%	8,7%
EU-15	**0,0%**	**-2,4%**	**5,0%**

* Contains CRF Categories 1A4a and 1A4b (Commercial/Institutional and Residential)
Source: UNFCCC Website

Taking together the three dimensions, we can thus describe the discursive environment as relatively permissive but tightening. While the evidence on the original EPBD's negotiation process is quite limited, it does suggest that this discursive environment mattered. The proponents of the legislation used the materials available at the time. Thus, on the first page of the explanatory memorandum for its proposal, the Commission pointed out that "At present, greenhouse gas emissions in the European Union are on the rise, making it difficult to respond to the challenge of climate change and to meet its commitments under the Kyoto Protocol" (European Commission 2001f, p. 2). It also used the EU's obligations under the Protocol to justify EU involvement in a sector that had previously been largely in the remit of member state competence. Finally, it exploited the sectoral discursive environment by pointing out that "the SAVE directive had not proven to be completely adequate in reaching the important objective of improving the energy performance of buildings to the degree which is judged to be economically and technically feasible" (European Commission2001f, p. 16). The Parliament's Rapporteur Alejo Vidal-Quadras made the same point more strongly in the explanation for his proposed amendments: "The experience amassed from implementation of the 'SAVE' Directive has shown that strictly voluntary measures are patently inadequate and that binding standards are therefore required" (European Parliament 2001a, p. 25f.). In his negotiations with the Council, Vidal-Quadras

argued that the seven year implementation period in Council's Common Position was too long because it was "incompatible with the Community commitments under the Kyoto Protocol … Credibility of these climate commitments would be strengthened, if the total transposition would end sometime before [2008]" (Council of the European Union 2002b, p. 1-2).

While it is not clear that this argument genuinely convinced member states in the end, it is clear that member states also had Kyoto and the EU's credibility on climate change in mind when they negotiated about it. According to one of the few media articles about the negotiation process, achieving consensus on the EPBD was "rather important for the Belgian presidency since it represents a concrete measure labelled 'Kyoto'" (European Report, 1 December 2001). Similarly, UK Environment Minister Michael Meacher informed the British Parliament that his government "supported the proposal , which had 'the potential to make a significant impact in reducing greenhouse gas emissions and saving energy through increased energy efficiency'" (UK House of Commons 2002d).

While this evidence cannot constitute decisive proof that the discursive environment mattered, it does suggest that concerns about the EU's credibility in light of its pronouncements on the Kyoto Protocol kept member states from resisting more strongly to the EU provisions. At the same time, the discursive environment did not exert so much pressure on them that they would have accepted to go much further and adopt a medium or high-ambition policy. The SAVE Directive had failed – yet making rules more binding than envisioned by the old directive did not require particularly ambitious legislation. The situation would be different seven years later, as I discuss in the next subsection.

6.4.2 The discursive environment in 2008/2009

By 2008/2009, the discursive environment had become much more restrictive on all three dimensions. The negotiation of the directive took place during 2009: while the year's politics were dominated by the economic crisis, climate change still featured quite high on the agenda. In the following paragraphs, I first discuss data on public attention to climate change in 2009. I then describe the climate political environment, which was shaped by the upcoming climate conference in Copenhagen and the previous passage of the Energy- and Climate Package in 2008, as well as the development of the sectoral discursive environment. Finally, I show how proponents of ambitious rules exploited the discursive environment during the negotiations, in particular the upcoming Copenhagen Conference and the EU's desire to present itself as a leader on the issue. Without these discursive materials, it is highly unlikely that the EPBD recast would have been as ambitious or passed as quickly as it did.

*Table 6.9: Replies to the question "In your opinion, which of the following do you consider to be the most serious problem currently facing the world as a whole? Firstly? Any others?" (8 Options given, three answers possible, top 3 reported here)**

Country	% Poverty, lack of food and drinking water	% A global economic downturn	% Climate change
Germany	75	54	65
UK	49	55	46
France	80	44	51
Spain	73	50	44
EU-27	66	52	50
Sweden (most concerned about climate change)	82	33	82
Portugal (least concerned about climate change)	77	52	30

** If only the first answer by all respondents is counted, global warming/climate change ranks third at 18%.*
Source: European Commission 2009a, p. 10.

Despite the economic crisis, climate change remained high on the agenda during 2009; the general policy environment thus remained quite restrictive. This can be seen from the newspaper data presented in chapter 4. Data from three cross-national opinion polls points in the same direction. A *Special Eurobarometer on Climate Change* conducted in January and February 2009 found that a significant share of Europeans still ranked climate change as one of the most significant international issues (European Commission 2009a). As shown in Table 6.9, climate change appeared to concern more people than the economic crisis in some European countries. In the same survey, 67% of EU citizens ranked climate change as a "very serious" problem, ranging from 94% in Greece to 49% in Estonia (European Commission 2009a, p. 17).

A survey by the German Marshall Fund of the United States (2009) found similar results in 11 EU countries during the summer of 2009. Responding to a question that asked participants to identify what should be the top priority for American and EU leaders, climate change ranked third among eight potential issues.[224] Even more striking were the responses to two other questions posed in the same survey, which I present in Tables 6.10 and 6.11. Thus, majorities in the 11 EU

224 The precise question was "Which among the following tasks should be the top priority for the American president and European leaders?", to which respondents could give one of eight provided answers. Climate change ranked third out of eight issues given for the 11 EU member states, after managing international economic problems and fighting international terrorism. (German Marshall Fund of the United States 2009, question 8).

countries surveyed said that they supported domestic action against climate change even if others didn't act in the same way or if such action slowed down economic growth. Results from the 2009 Pew Global Attitudes Survey, conducted in May and June of that year, complete our picture of the general policy environment. In the five European countries it covered (Germany, France, UK, Spain, Poland), large majorities considered the issue very or somewhat serious (Pew Research Center 2009, p. 173f.).

*Table 6.10: Replies to the question "Some people say that the European countries should do as much as they can to fight climate change, even if others do less. Others say that the European countries should do only as much as other countries do. Which view is closer to your own?"**

Country	**% We should do as much as we can, even if others do less**	**% We should only do as much as other countries do**
Germany	86	13
UK	81	17
France	82	16
Spain	84	15
Europe-11**	81	16
Italy	87	12
Netherlands	74	24
Poland	67	24
Portugal	90	8
Slovakia	72	23
Bulgaria	65	24
Romania	71	21

** Rows don't add up to 100 because "don't know" not included. ** All EU member covered by the survey*
Source: German Marshall Fund of the United States 2009, question 27.

The climate policy environment was similarly restrictive during 2009. In late 2007, the UNFCCC conference of the parties at Bali had agreed to reach an agreement on a post-Kyoto climate regime by COP-15 in Copenhagen in December 2009. The EU had committed itself with great fanfare to reduce its own emissions by 30% in the context of an international agreement and to reduce emissions by 20% unilaterally. During 2009, EU leaders repeatedly confirmed their commitment to playing a leading role in these negotiations (European Council 2009a, 2009b). Moreover, the EU had succeeded in introducing a much more ambitious set of climate policies targeted at road transport, industry, and electricity related emissions during 2008 (see chapters 2, 5, and 8). Thus, the climate policy environment was restrictive both on the international level and on the domestic level. The EU's pronouncements at the international level made it diffi-

cult to oppose climate legislation outright within the EU; the fact that ambitious policies were in place in other sectors made it difficult to argue that buildings were unfairly singled out.

*Table 6.11: Replies to the question "Some people say that we should do everything possible to fight climate change, even if it slows economic growth. Others say that we should do everything possible to maximize economic growth, even if it hurts efforts to combat climate change. Which view is closer to your own?"**

Country	**% We should fight climate change even if it slows economic growth**	**% We should maximize economic growth even if it hurts efforts to combat climate change**
Germany	68	23
UK	61	30
France	79	17
Spain	76	20
Europe-11**	69	22
Italy	78	17
Netherlands	67	24
Poland	54	25
Portugal	74	17
Slovakia	53	25
Bulgaria	63	15
Romania	60	19

** Rows don't add up to 100 because "don't know" not included. ** All EU member covered by the survey*
Source: German Marshall Fund of the United States 2009, question 28.

Like the general and the climate political discursive environment, the sectoral environment had also become more restrictive by 2009. Table 6.12 contains data on the emissions trajectory for building-related emissions in EU member states for the years 2006, 2007 and 2008. Again, we see large variation from year to year – the strong reduction in 2007 was mostly caused by mild weather. Moreover, the same caveats as above (Table 6.8) concerning shifts to district heating apply, meaning that the emission reductions are probably somewhat overstated. Overall, only a moderate reduction in emissions took place between 1990 and the years prior to the recast negotiation. The same holds for the time period since the adoption of the original EPBD in 2002. For the EU-15, emission reductions were not even in line with the Kyoto Protocol's commitment of achieving an 8% decrease. Thus, it was again hard to argue that the buildings sector was "already doing enough"; at the same time, it was in a better position than transport given that emissions at least didn't rise.

The other aspect of the sectoral discursive environment concerns previous policies. The original EPBD had sought to induce member states to strengthen energy efficiency legislation for buildings. Yet the implementation record of the original EPBD was quite poor and the directive had not noticeably accelerated emission reductions in the buildings sector. While one might argue that six years were not enough to gauge the effects of a policy in as slow-moving a sector as building construction, the fact that apparently insufficient legislation was already on the books gave proponents of more ambitious legislation rhetorical ammunition, which – as I discuss below – they were quite happy to use.

Table 6.12: Change in buildings-related GHG emissions since 1990, 2006-2008*

	Change since 1990			Change since 2002		
Member State	**2006**	**2007**	**2008**	**2006**	**2007**	**2008**
Austria	-11,0%	-24,6%	-16,6%	-10,6%	-24,2%	-16,2%
Belgium	7,1%	-2,1%	10,6%	-3,5%	-11,7%	-0,2%
Bulgaria	-70,5%	-74,1%	-72,4%	-2,4%	-14,2%	-8,8%
Czech Republic	-58,0%	-66,4%	-65,0%	-2,5%	-22,0%	-18,7%
Denmark	-24,6%	-31,3%	-32,7%	-4,2%	-12,8%	-14,5%
Estonia	-79,8%	-78,8%	-77,4%	-18,3%	-14,5%	-8,5%
Finland	-33,5%	-36,3%	-42,5%	-10,2%	-14,0%	-22,4%
France	3,3%	-4,6%	2,8%	2,4%	-5,4%	1,9%
Germany	-21,3%	-37,5%	-26,0%	-9,8%	-28,4%	-15,2%
Greece	111,5%	91,8%	87,8%	17,4%	6,5%	4,2%
Hungary	-22,8%	-36,3%	-37,1%	7,6%	-11,2%	-12,3%
Ireland	0,5%	-1,6%	5,5%	6,5%	4,2%	11,7%
Italy	14,3%	6,3%	13,0%	10,4%	2,7%	9,1%
Lavia	-69,3%	-69,3%	-70,2%	14,6%	14,6%	11,3%
Lithuania	-77,1%	-78,4%	-79,8%	21,1%	14,1%	6,6%
Luxembourg	5,1%	0,1%	5,8%	-6,1%	-10,6%	-5,5%
Netherlands	4,6%	-6,5%	3,6%	-2,1%	-12,5%	-3,0%
Poland	-7,1%	-14,0%	-10,3%	14,5%	6,0%	10,6%
Portugal	77,2%	75,0%	48,9%	-8,9%	-10,1%	-23,5%
Romania	66,9%	51,5%	34,3%	53,3%	39,2%	23,4%
Slovakia	-58,8%	-66,7%	-62,6%	-18,3%	-33,9%	-25,8%
Slovenia	45,0%	13,9%	38,6%	-23,2%	-39,7%	-26,6%
Spain	54,3%	55,8%	57,4%	5,1%	6,1%	7,2%
Sweden	-70,1%	-71,2%	-74,1%	-45,8%	-47,8%	-53,1%
UK	-3,7%	-7,5%	-4,0%	-5,2%	-9,0%	-5,5%
EU-15	*-4,0%*	*-13,9%*	*-6,3%*	*-2,7%*	*-12,7%*	*-5,1%*
EU-27	**-8,5%**	**-18,1%**	**-11,8%**	**-1,0%**	**-11,4%**	**-4,5%**

* Contains CRF Categories 1A4a and 1A4b (Commercial/Institutional and Residential)
Source: UNFCCC Website

The proponents of the recast, notably the Commission, the EP, the Swedish Council Presidency as well as environmental NGOs and energy efficiency lobbies, tried to exploit the restrictive discursive environment. And the decision-making process suggests that in particular the need to produce "something" before the Copenhagen Climate Conference helped to facilitate an agreement in the end. On

the very first page of its Directive proposal, the European Commission presented the need for an EPBD recast in the context of the Energy and Climate Package and the 2020 targets, noting that the "buildings sector provides many cost-efficient opportunities for action" in this regard (European Commission 2008f, p. 2). As these opportunities had not been sufficiently exploited, partly as a result of "limitations of the wording and scope of some provisions of the current EPBD and the low level of ambition of its implementation by some Member States" (European Commission 2008f, p. 3), the Commission argued that a more ambitious EPBD was necessary. Similarly, the EP's rapporteur placed the EPBD recast in the context of the EU's climate commitments as well as concerns about energy security and economic recovery (European Parliament 2009b, p. 66). She further noted that most member states' transposition and implementation had been disappointing and that the "significant energy efficiency improvements" in new and renovated buildings were not as widespread as would be desirable (European Parliament 2009b, p. 67).

The insulation manufacturers' association Eurima – clearly a beneficiary of tighter energy performance requirements for buildings – also used all the arguments made possible by the discursive environment in its position paper on the EPBD recast. It stated that the achievement of the EU's 2020 targets depended "to a large extent on improving the energy performance of buildings" (Eurima 2008, p. 1). Eurima also pointed to the poor implementation record of member states and argued that "[a]n ambitious recast of the Directive would allow Member States to improve their transposition, implementation and compliance" (Eurima 2008, p. 2). Similarly, EuroACE, an alliance of companies that make energy efficiency equipment, claimed that the EPBD's implementation "at national level ha[d] proved lengthy and insufficient …" meaning that only a fraction of the potential energy efficiency improvements had actually materialized (EuroACE 2008, p. 1).

As described above, Sweden identified the EPBD and the "Energy Efficiency Package" of which it was a part as a key issue for its Council Presidency. Early on, it set the Energy Council of 7 December 2009 as the deadline for the negotiation with the EP, which coincided with the opening of the Copenhagen Climate Conference. Swedish Energy Minister Maud Olofsson tied the two issues together by stating at the beginning of her Presidency that "I see the EU reaching an agreement on a directive with such a great potential to affect energy usage in the EU as an important message to send to the negotiations in Copenhagen" (Swedish Presidency of the European Union 2009a). Similarly, the Minister celebrated the achievement of a political agreement on the directive as "clear signal ahead of the Copenhagen Summit that the EU is able to move from words to action on climate measures" (Swedish Presidency of the European Union 2009b).

While there is strong evidence that the proponents of an ambitious EPBD sought to exploit the more restrictive discursive environment, the evidence that this actually swayed reluctant member states is more limited. The UK did support the EPBD recast's passage before the Copenhagen Climate Summit in December 2009, as requested by the Presidency (Sweden) and the Commission. The government declared to the House of Lords that "we are ready to play our part to ensure that this deadline is met" (UK House of Lords 2009[225]). Moreover, a British government official involved in the negotiation told me that "it got through because people supported the principle" and "nobody felt comfortable to be saying this is the wrong thing to be doing" in that context (Interview UK Official 2011). The German Parliament (Bundestag) also acknowledged that the proposal was an important aspect of EU climate policy, though it did not identify the deadline of the Copenhagen Conference as important (Deutscher Bundestag 2009). Yet it is – for obvious reasons – difficult to find open acknowledgements that the discursive environment was such that member states were no longer able to resist.

Table 6.13: Answers to the interview question "Why was it possible to pass more ambitious EU building energy efficiency legislation in 2009 than in 2002?"

Affiliation of Interviewee	Greater importance of climate change as a political issue	Learning Effects/Step-by-Step Approach	Original EPBD had not been effective enough	Other*
European Commission	x			
European Parliament	x	x	x	
European Parliament	x			x
European Parliament	x		x	
European Council		x		
Member State Government		x		
Member State Government		x		
Member State Government	x			
Member State Government	x	x		
Indstry/Property Owners	x			x
Environmental NGO			x	
* Other included: Hope for job creation, already had same ambition at domestic level, international competitiveness concerns				

Two additional pieces of evidence suggest that the discursive environment helped pass the EPBD recast in a context where many member states were reluctant to introduce additional EU level energy efficiency legislation for buildings. First, many of my interviewees identified either climate change more generally or the upcoming Copenhagen Climate Conference as important factors in ensuring the passage of the EPBD. Table 6.13 summarizes the main answers to the question "Why was it possible to pass more ambitious EU building energy efficiency legislation in 2009 than in 2002?" A majority identified the greater role of climate policy in 2009 relative to 2002, as well as the failure of the original EPBD to

225 The quote is from the "Letter from Ian Austin, MP to the Chairman" – the document does not contain page numbers.

cause sufficient energy efficiency improvements as the main factors. Yet a substantial number also described the development of the EPBD as a step-by-step process: the Commission tried to get its foot in the door with a low-ambition directive and then gradually expanded the scope of European rules. Throughout the process, people learned about energy efficiency in buildings and its potential, and thus agreed to more ambitious legislation at a later point in time.

I only posed this exact question to 11 of my interviewees. Other interviewees responded to questions like "Why was the recast passed so quickly after the original EPBD?", "Why was an agreement reached so quickly on the recast despite the divergence of views between the Commission, the European Parliament, and the member states?" or "Why is there any European building energy efficiency legislation at all and why is it not more ambitious?" The answers to these questions were similarly distributed as the ones presented in Table 6.13: a large share of respondents mentioned the importance of climate change and the EU's 2020 commitment. At the same time, other reasons like the sheer commitment of the Swedish presidency and the specific compromises with their protection of subsidiarity were also identified as important factors. My interview data thus lends some support to the idea that a tightened discursive environment made possible the EPBD recast, in particular concerning the more ambitious elements introduced by the EP.

A second additional piece of "evidence" is provided by the counterfactual. If the discursive environment had been less restrictive, would such an ambitious recast of the EPBD have been possible? To answer the question, let me first specify what a more permissive discursive environment would have looked like. There would have been less public attention to climate change (general environment). EU commitments in the context of international climate negotiations would have been less firm, e.g. by not making a unilateral commitment, and the Energy and Climate Package would have set less ambitious sectoral policies, e.g. with indicative targets, rather than binding ones (climate policy environment). Finally, buildings-related emissions would have come down consistently across member states, and implementation of the original EPBD would have gone smoothly in most countries. Had this been the case, it is hard to imagine that member states would have gone along with the demands of the Commission and the EP. More member states might have joined the Netherlands and Germany in saying that they were doing enough and needed no European help. Moreover, the Swedish presidency would probably not have been as pushy if the EU had not been so keen on presenting its self as a leader in Copenhagen. Of course, without the Copenhagen deadline, the EP negotiators might have held out longer before giving up on certain of their demands. Yet member states would have had even less of a reason to give in to EP demands if it wasn't for their claim to climate leadership. Overall,

it is thus highly likely that the restrictive discursive environment in 2009 made possible a more ambitious Energy Performance of Buildings Directive.

6.5 Alternative explanatory factors

Summing up the discussion so far, the rational choice baseline provided a fairly accurate account of preference constellations among the main actors. The discursive environment helped us to explain why these actors accepted policies that were more ambitious than what we would expect based on their preferences and decision-making procedures. In the following paragraphs, I consider additional explanatory factors to further strengthen my inferences. As in previous chapter, I consider the impact of transnational non-governmental actors, party politics, general leader-laggard dynamics, and package deals. Finally I consider other factors identified by my interviewees, e.g. learning effects and the idea that the development of the EPBD was simply a "normal" process of European Integration.

6.5.1 Transnational non-governmental actors

Transnational non-governmental actors did play a role in the development of both the original EPBD and of the recast, yet their impact on the ambition level of the directives was rather limited. There is evidence to suggest that transnational non-governmental actors did influence certain specific proposals by the Commission and the European Parliament. Moreover, transnational non-governmental actor support for the recast in 2009 was much more widespread and more vocally articulated than for the original EPBD in 2001/2002, which is consistent with the development of the directive's ambition level. Yet on balance transnational non-governmental actors in Brussels were much more ambitious than what the member states were willing to accept, which suggests that their influence on the final directive(s) was limited.

Transnational interest group constellations were similar to those described for member states in the rational choice baseline. The construction products industry was most favorable towards the directive, especially those players that made components and equipment needed for energy efficiency improvements. Among them, Eurima (2008), representing insulation manufacturers, and EuroACE (2001, 2008a, 2008b), an alliance of companies making energy efficiency equipment, were particularly active both on the original and the recast EPBD. Their key demands in both 2001/2002 and in 2008/2009 were to make the EPBD applicable to as many buildings as possible, i.e. to remove the 1000 m^2 threshold, and to make the implementation of the energy efficiency improvement suggestions on energy certificates

mandatory (at least for the public sector). During the recast, they also pushed for making very low- or zero-energy buildings the norm, for the introduction of national action plans to support the spread of such buildings, and for the introduction of provisions on financial incentives (also see Eurima/EuroACE/ EREC 2009). Other construction products associations that were active during the recast included those of lighting manufacturers (CELMA/ELC 2008), glass manufacturers (Glass for Europe 2009), and smart meter producers (ESMIG 2009), each of which pushed rules that were particularly favorable to their products.

The construction industry, notably FIEC, the construction industry's European peak association, was also quite supportive of the EPBD. As part of the European Construction Forum, a lose group of various sector associations, it lobbied against the 1000 m^2 threshold in 2002 and called for additional funding and fiscal incentives from member states to enable renovation (FIEC 2002, p. 46). During the recast negotiations, its main focus was on the need to provide financial incentives for energy efficiency improvements (FIEC 2008, 2009). FIEC also called for a link between energy performance certificates and financial incentives. A number of smaller associations representing specific types of construction industry contractors also lobbied in favor of the directive, though with more specific concerns (e.g. AIE 2009; European Builders Confederation 2008a, 2008b).

Two organizations mainly represented property owners at the European level: UIPI, the International Real Estate Union and the European Property Federation (EPF). While the former primarily represents owner-occupiers and small landlords, the latter represents mainly large institutional investors. During the negotiation of the original EPBD, both association were mainly concerned about requirements, certification, and inspection provisions for existing buildings (EPF 2002, UIPI 2002). UIPI (2002) also emphasized the need for adequate financing from the EU and member states to pay for energy efficiency renovations. The EPF (2002) wanted to ensure that owners had enough time to get their buildings certified. On new buildings, both were relatively positive. On the recast, the two organizations were more split. UIPI was quite hostile to the directive pointing out that all those supporting the directive hoped to gain money from it, which property owners would have to provide without adequate financial incentives or support. Energy performance certificate were merely "a mechanism of defamation of the older buildings, turning away prospective tenants" (UIPI 2009). The EPF took a more favorable view, calling in particular for a harmonized methodology for the calculation of energy performance as well as the ratings contained in Energy Performance Certificates (EPF 2008).[226] It cautiously supported a reduction of the 1000 m^2 threshold in steps but also called for an expansion of financial incentives.

226 This would allow internationally active property developers and investors to compare energy efficiency levels across Europe.

Consumer or tenant organizations were very inactive during both the original and the recast EPBD negotiations. Similarly, environmental NGOs did not get involved much in discussions of the original EPBD. This changed, however, in 2008/2009. Both the European Environmental Bureau (EEB) and the WWF European Office published extensive position papers on the Commission draft. The WWF even hired a designated policy officer for the EPBD in October 2008 (Interview Vitali 2010). The European Council for an Energy Efficienct Economy (eceee) also lobbied heavily in favor of a more ambitious EPBD and used its website to report in detail on the legislative process. The main NGO demand was to make net zero energy buildings the norm for new construction by 2015, and to move quickly towards cost optimal requirements for existing buildings. NGOs also advocated to make the implementation of recommendations contained in energy certificates mandatory for all public buildings, called for more financial incentives, e.g. from EU structural funds and from the European Investment Bank, and demanded stronger enforcement and compliance procedures (eceee 2009b, EEB 2009, EEB et al. 2009, WWF2009).

On balance, there appears to have been more demand and support for the EPBD and its recast at the transnational than at the national level. This may be because buildings have traditionally been regulated at the national and regional level. Thus, the political representation of real estate owners is much more strongly developed at the national than at the transnational level. Construction products companies, on the other hand, make tradable goods, which should have provided them with an incentive to organize more strongly at the European level. Moreover, EU-level lobbies of the construction industry may have a stronger interest in EU-level building energy efficiency legislation than national organizations, simply by virtue of representing industry interests in Brussels.

Be that as it may, among EU-level lobby groups there seems to have been much stronger support for ambitious building energy efficiency rules than among member state governments. Some of the demands of EU-level lobbies appear to have found their way into Commission or EP positions. National action plans to spread low or zero-energy buildings, a net-zero energy standard for new construction, a provision on financing, and a requirement for public authorities to actually implement the recommendations on energy performance certificates were all demanded by Eurima, EuroACE, FIEC or the environmental NGOs. They also found their way either into the Commission's proposal or into the EP's First Reading Position. Yet many of the most ambitious demands made at the European level were cut back in negotiations with the Council and didn't make it into the final directive: the provision on financing, for example, only has a "should"-character, even though seemingly powerful transnational actors demanded a more ambitious provision. Thus, if we want to understand the genesis of specific provisions of the EPBD, we need to take transnational non-governmental

actors into account. For an understanding of the overall ambition level of EU building energy efficiency rules they are of lesser importance.

Table 6.14: Ideological positions of member state governments 2009

Member State**	Left-Right Score***
Denmark	7,3
Italy	7,1
Sweden	7,1
France	6,8
Czech Republic	6,8
Greece	6,4
Germany	6,3
Latvia	6,3
Finland	6,1
Estonia	6,0
Belgium	5,8
Ireland	5,8
Poland	5,8
Romania	5,5
Austria	5,0
Netherlands	4,9
Slovakia	4,4
UK	4,4
Portugal	4,1
Spain	3,7
Slovenia	3,6
Hungary	2,8
* Data is for second half of 2009	
** Cyprus, Malta, Lithuania, Luxembourg, Bulgaria unavailable	
*** Smaller number indicates further to the left	
Source: ParlGov Database (Döring/Manow 2010)	

6.5.2 Party politics in the European Parliament and the member states

Similarly, there is some but very limited evidence that party politics mattered in the European Parliament and for the member state governments' positions. The left had a weaker position during the recast negotiations than during the original EPBD. The EP Rapporteur for the original EPBD, Alejo Vidal-Quadras Roca was a Conservative, while the Rapporteur for the recast, Silvia-Adriana Ticau was a Socialist. In both episodes, the EP sought to make the directive more ambitious, though in the recast, the EP's position was probably more "extreme." Interviews with three parliamentary assistants who were closely involved in the recast negotiation suggest that the ambitious First Reading Position emerged primarily as the result of a Red-Green-Liberal coalition, whereas the EPP was more skeptical of the Parliament's ambitious amendments. Yet in the plenary vote on the First Reading, most EPP deputies voted in favor of the directive

nonetheless. Overall, party politics seem to have mattered somewhat in determining the EP's position on the EPBD, though the evidence is not overwhelming.

Party politics are much less relevant in explaining member state government's positions. Table 6.14 lists the average left-right scores for member state governments during 2009, when the main negotiations on the EPBD recast took place.[227] We can see that Sweden's government was relatively far to the right, yet nonetheless used its presidency to cajole other member states into accepting more ambitious energy efficiency rules for buildings. France and the UK both adopted relatively neutral stances even though their governments were relatively far apart on the political spectrum. The same holds for Denmark and Portugal, which also both adopted relatively positive attitudes on the EPBD even though their governments were ideologically far apart. Germany and the Netherlands had governments that were relatively closer to the center, yet both mounted a lot of resistance to the directive.

6.5.3 General Leader-Laggard Dynamics, Package Deals, and Other Factors

There is no evidence that general leader-laggard dynamics significantly shaped the EPBD. On the contrary, a number of very advanced countries were strongly opposed to the directive because of the administrative burden they feared. Poorer member states, notably from Central and Eastern Europe, were "leaders" when it came to including provisions on financing for building renovation, though they were quite negative overall.

Similarly, there is no indication that package deals of any sort played an important role in the negotiations of the original EPBD or in the recast. No interviewee ever suggested that this was the case, no government document, lobby text or media article ever hinted that it might have been. The original EPBD was a very low-profile affair and the Council's political agreement on it appears to have been one of the Belgian presidency's few achievements in 2001. The recast was part of an Energy Efficiency Package that also included directives on tire labeling and on a reform of labels for energy-using products. Yet the other two directives were also quite technical and not dominated by strong national economic interests. Thus, it is unlikely that trade-offs between different parts of the Energy Efficiency Package were important in raising the ambition level of the EPBD.

Another factor cannot be dismissed, however. As discussed above, many interviewees simply described the EPBD's development as "the normal way things go" in Europe: The Commission starts with a small piece of legislation to "get its

227 I only consider the evidence on the EPBD recast here, as I have more evidence on specific member states' positions regarding the recast than the original EPBD.

foot in the door" and then gradually expands European influence from there. In the process, there is a lot of exchange of opinions, information and best practices between member states and as a result cooperation becomes easier. Thus, the original EPBD required all member states to work in a similar direction: while they did not develop the same methodology for calculating the energy performance of buildings, they all adhered to a certain framework, making their scores at least more comparable than the energy efficiency requirements that existed prior to the EPBD. Similarly, all member states had to introduce energy efficiency rules for buildings undergoing major renovations, all member states introduced certification schemes, and most introduced some form of boiler and air conditioning inspection system. While there was much divergence in the implementation, these requirements forced a certain level of convergence in member states' energy efficiency requirements. As a result, the starting point for the recast was probably less diverse than for the original EPBD. Moreover, the abovementioned "Concerted Action" program brought together member state experts in charge of implementing the EPBD: this allowed for an exchange of good or best practices and probably facilitated a certain level of convergence. Moreover, the work on building energy efficiency that was induced by the original EPBD gave rise to new knowledge about the potential of energy savings in buildings and new mechanisms for the distribution of that knowledge.

While such "normal" processes of EU task expansion through collective learning and gradual convergence may have played some role in the development of the EPBD and especially of its recast, one should not overestimate their causal importance for the much more ambitious recast. After all, not all Commission initiative to expand the remit of European legislation succeed. Thus, the Commission has repeatedly made attempts to increase EU-level social policy rules, but the process has not advanced to significantly deeper integration. Moreover, it seems as though some member states, e.g. the Netherlands and Germany, were rather reluctant participants in this process. In the counterfactual situation, i.e. with a much more permissive discursive environment, they probably would not have gone along with a recast that came as early and was as ambitious.

6.6 Conclusion

With the EPBD and its recast, the EU has greatly increased its relevance for building energy efficiency rules in Europe over the past decade. It has ensured that all member states – including the new Central and Eastern European ones – now have minimum energy efficiency requirements for new buildings and buildings undergoing renovation. It has also set in motion a dynamic of gradual up-

grading of these standards, to reach "nearly zero net-energy" by 2020. Of course, how "nearly" zero the different member states will get is still unclear – nonetheless, the EPBD and its recast are likely to put in motion a process of further development and uptake of building energy efficiency technology and thus gradually lead to a reduction in building-related emissions.

The chapter has shown that my two-part explanatory framework is able to account for the gradual advancing of climate policy ambition levels in the buildings sector. From the beginning, the EPBD was very much a Commission project – there is no indication that member states ever really "asked" for it. The European Parliament, on the other hand, was increasingly supportive of the endeavor to regulate building energy efficiency standards. The member states went along with these endeavors but tried to make them as inexpensive to themselves as possible. Their ability to "resist", however, was restrained by the discursive environment: had they been too obstructive they might have appeared to not uphold the climate protection norm and the claims to international leadership they themselves had endorsed in many other instances.

This may not be the entire story of the EPBD – the incremental convergence brought about by initial steps towards greater integration of building energy efficiency legislation probably facilitated further steps towards more ambitious EU legislation. EU-level lobby groups pushed for the EPBD and ensured that its recast had a prominent place on the political agenda. Yet my explanatory framework does tell an essential part of the story that appears to have been common to most sectoral EU climate policy-making. How this story played out in the field of renewable energy is the subject of the following chapter.

Chapter 7: Promoting renewable energy – the creation of favorable interest group constellations

7.1 introduction

67% of greenhouse gas emissions worldwide and about 80% of GHG emissions in the European Union come from "energy activities", i.e. from the extraction and burning of fossil fuels (World Resources Institute 2005, European Environment Agency 2008). Accordingly, it is not surprising that the promotion of renewable energy sources such as hydropower, wind, solar, and biomass would constitute an important element of climate policy. While large hydro-power plants have been competitive with fossil fuels, most other renewable energy sources have required support systems. This chapter deals with the EU's efforts to harmonize and strengthen the effectiveness and scope of such systems. Specifically, it analyzes the development of Directive 2001/77/EC on the promotion of electricity from renewable energy sources[228], as well as its revision, Directive 2009/28/EC on the promotion of renewable energy[229]. While the first directive constituted a low ambition policy, I code the latter one as a case of "medium climate policy ambition."

EU renewable energy policy offers an interesting additional test for my theoretical framework. In 2001, interest group constellations in most member states were fairly unfavorable towards renewable energy promotion. Partly as a result of the 2001 directive, however, the renewable energy industry experienced tremendous growth in subsequent years. This made renewable energy lobbies a significantly stronger political force when the Renewable Energy Directive was negotiated. In both episodes, however, interest group constellations alone would lead us to expect less ambitious EU policies for renewable energy technologies other than biomass. Yet both in 2000/2001 and especially in 2008, renewable energy lobbies and their allies could draw on a favorable discursive environment to overcome resistance from traditional energy companies and energy consumers.

This chapter starts with a historical account of the development of EU renewable energy policy and a justification of the coding of the dependent variable. After

228 Henceforth "RES-E Directive" (for renewable energy sources – electricity).

229 Henceforth "Renewable Energy Directive": this directive also included the promotion of renewables in transport and heating and cooling.

that, I first discuss the predictions derived from the rational choice baseline and present evidence to show that it provides us with a decent explanation of why the EU adopted no more than a low ambition directive in 2001. It also helps us to understand the negotiations of the 2009 Renewables Directive. After that, I consider how the discursive environment changed between 2001 and 2008 and discuss how it was relevant to the development of EU renewable energy policy. Finally, I discuss a number of control variables, before I draw conclusions from the case.

Throughout the chapter, I focus on renewables in the electricity sector; I only discuss renewable energy in the transport and heating/cooling sector at the margin where it is necessary to understand overall policies. I do so mainly for reasons of convenience. Biofuels in the transport sector were initially seen as almost a panacea for reducing transport related emissions, but in 2007 and 2008 a lot of scientific evidence accumulated suggesting that they had very negative environmental impacts. Moreover, interest group constellations in the sector are extraordinarily complex. Doing justice to the complexity of biofuels policy would thus require an entire other chapter. The heating and cooling sector, on the other hand, played only a very limited role throughout the negotiations – hence there would be little to report. This chapter is based both on original research and the fairly extensive previous literature. In addition, I draw on original research of Commission, EP, and member state documents, media articles, documents from industrial and environmental lobbies, as well as interviews with 17 stakeholders involved in the negotiations.

7.2 Developing an EU policy to support renewable energy – from low to medium ambition

Many Western countries have supported renewable energy sources at least sporadically for several decades. In the wake of the oil crises in the 1970s, governments made substantial investments in research and development of renewable energy technology[230], but support levels gradually declined throughout the 1980s (IEA 2004). With the emergence of global warming as a political issue, support for renewables received an additional boost in many countries. In this context, the European Commission also tried to expand the EU's role in renewables promotion. It launched the ALTENER program in 1993 and set a target of doubling the share of renewables in total energy consumption by 2005. Yet the Council was not willing to provide more than 40m ECU over the period from 1995 to

230 Though much larger sums were in most cases invested in nuclear and (indigenous) fossil fuel research.

2000, which funded some pilot and demonstration projects but probably did not make a major impact (Collier 1997a, p. 57).

Table 7.1: Share of renewable energy sources in gross inland energy consumption

Member State	**1990 (%)**	**1995 (%)**
Austria	22.1	24.3
Belgium	1.0	1.0
Denmark	6.3	6.7
Finland	18.9	21.3
France	6.4	7.1
Germany	1.7	1.8
Greece	7.1	7.3
Ireland	1.6	2.0
Italy	5.3	5.5
Luxembourg	1.3	1.4
Netherlands	1.3	1.4
Portugal	17.6	15.7
Spain	6.7	5.7
Sweden	24.7	25.4
United Kingdom	0.5	0.7
European Union	5.0	5.3

Source: Eurostat, cited in European Commission 1997d

In 1996, the European Commission published a Green Paper (European Commission 1996b) and launched a stakeholder consultation about renewable energy policy in an increasingly integrated internal energy market (e.g. Rowlands 2005, IEA 2004). In the Green Paper, it set the target of doubling the share of renewables in gross inland energy consumption[231] in the EU from less than 6% to almost 12% by 2010 (European Commission 1996b). It argued that such an increase was necessary for the Community to comply with international environmental commitments, in order to improve the security of the energy supply and to increase economic competitiveness in the long term. At the time, the share of renewable energy in gross inland consumption of energy varied significantly between member states (see Table 7.1). Most of this variation was due to different geographical conditions. Countries with greater potential for large hydro-power plants had relatively high shares, e.g. Austria and Sweden, while those with a less hydro-susceptible topography had lower shares. As the potential sites for large hydro-power plants were already in use by the mid-1990s, most additional

231 I.e. of all primary energy consumed during the year.

renewable energy capacity would have to come from biomass, wind, solar, small-hydro and other renewable energy sources.

An expansion of these energy sources required some form of state intervention or support. This meant that renewable energy policy was bound to come into conflict with another major EU objective at the time, namely the liberalization and integration of an internal market in energy. Since the late 1980s, the Commission had pursued the liberalization of the gas and electricity markets (e.g. Oschmann 2002, p. 56f.). In 1996, the EU adopted Directive 96/92/EC, which required member states to open up their electricity markets to competition and broke up the electricity monopolies that still existed in most member states at the time (Cross/Hancher/Slot 2001; Oschmann 2002, p. 62f.). The Directive allowed member states to give priority access to the electricity grid to electricity from renewable sources and to make environmental performance requirements for electricity producers. Other than that, however, it did not include provisions on renewable energy – instead, the liberalization of electricity markets was intended to lower prices, which would hamper the competitive position of renewables.

The question of what a support system in a liberalized electricity market should look like, and whether and how such a scheme should be harmonized at the EU level, hence became a central concern. In the Green Paper and subsequent publications on renewable energy policy, the Commission made it clear that it considered a "renewable energy credit" or "green certificate system" to be most compatible with a liberalized electricity market (European Commission 1996b, p. 34ff., Hirschl 2008, p. 337ff.; Reiche/Bechberger 2004, Rowlands 2005, 971-972). Such a system would require utilities to provide a certain quota of their electricity from renewable sources. Utilities would then have the option to either invest in renewable generation capacity themselves, or to buy certificates from other generators that had made such investments. As a result, generators of electricity from renewable sources would receive the market price for their electricity as well as a premium determined by the value of the tradable certificates. The Commission believed that this model of support would increase renewable generation capacity at the lowest possible cost, as the market would decide which renewable energy projects were most worth supporting.

The Commission, in particular DG Competition, was not favorably inclined towards so-called feed-in tariffs. Under a feed-in tariff scheme, investors in renewable energy generating capacity are guaranteed a fixed price per kWh of electricity they feed into the electricity grid. Such support systems give investors great planning security and hence have led to remarkable increases in renewable generation capacity in countries that introduced them, notably Germany, Denmark, and Spain (Meyer 2003, p. 668). Yet many Commission officials saw feed-in tariffs as a form of illegal state aid at the time, as did a number of (primarily

German) electric utilities. At the instigation of one such utility, Preussen Elektra, DG Competition first investigated the compatibility of Germany's 1991 *Stromeinspeisegesetz* (StrEG) in 1995 (Hirschl 2008, p. 334ff.). The StrEG had introduced Germany's feed-in tariff and required utilities to pay a fixed price to generators of renewable energy. The utilities tried to challenge this law in German courts and from 1995 on also challenged the feed-in tariffs as a violation of European law. The Commission largely adopted the utilities' argumentation and asked the German government to amend the law. The conservative-liberal German government at the time tried to introduce the changes demanded by the Commission yet its legislative proposal was rejected by the German parliament. The debate about the legality of feed-in tariffs thus continued until the European Court of Justice decided in its 2001 *PreussenElektra v. Schleswag* case that feed-in tariffs for renewable energy do not constitute illegal state aid (Lauber 2005, p. 43).

In its 1997 White Paper, the Commission confirmed and elaborated on the 12% target for 2010, which it called ambitious yet realistic (European Commission 1997d). Most of the increase would come from an expansion in biomass and wind energy, with smaller roles for solar thermal, photovoltaic, geothermal, heat pumps, and an expansion of hydro power generation. Acknowledging that member states already had policies to promote renewable energy, the Commission argued that a common framework for such policies could reinforce the efforts and "provide added value in terms of the sharing and transfer of successful technological and market experiences" (European Commission 1997d, p. 10). It also reiterated its position that a tradable certificate system would be the most compatible with the internal energy market. While the Council of Ministers supported the general ideas presented in the White Paper, ministers did not commit to the goal of 12%, merely calling it "indicative" and "offering useful guidance" (ENDS Report, May 1998). The European Parliament, on the other hand, made clear that it considered the Commission's ideas as not ambitious enough. Prior to the Green Paper, it had adopted a resolution demanding an EU-wide Renewable Energy Action Plan with a 15%-target for the share of renewables in total primary energy consumption by 2010 (Hirschl 2008, p. 331f.). In response to both the Green Paper and the White Paper, it passed resolutions that called for a mandatory minimum target of doubling the share of renewables in gross inland consumption (Hirschl 2008, p. 343f.). The parliament also called for an EU-wide feed-in tariff to support renewable energy.

7.2.1 Directive 2001/77/EC on the promotion of Electricity from Renewable Energy Sources – The slow adoption of a low ambition policy

After the publication of the White Paper, it took the Commission more than two years to agree on a formal proposal for a directive on the promotion of electricity from renewable sources. For a long time, the Commission worked towards a harmonization of support schemes: early drafts of the directive proposal foresaw a gradual phase-out of feed-in tariffs, which would be replaced by a tradable certificate system (Hirschl 2008, p. 347). Yet over time, the Commission relaxed its stance somewhat. This may have been partly due to the change of the Energy Commissioner from Yannis Papoutsis to Loyola de Palacio from Spain, a country that had introduced feed-in tariffs to support renewable energy development. More importantly, however, the Commission realized that its plans for harmonization were not politically feasible, as member states were not willing to give up their established support schemes. In particular the supporters of feed-in tariffs – both among member states and in the EP – were sure to thwart Commission efforts towards a tradable certificate scheme. Finally, the renewable energy lobby in Brussels gained increasing clout – and the German renewable energy industry, a big supporter of feed-in tariffs, was central in these lobbying efforts.

In May 2000, the Commission thus finally introduced a draft directive on the promotion of renewable sources in electricity generation (European Commission 2000d). According to the proposal, there would be a common definition of renewable energy sources and indicative targets for the share of renewables in each member state's gross inland consumption of energy. In addition, the proposal contained requirements for member states to issue guarantees of origin for electricity from renewable sources, to investigate and report on their administrative procedures for renewable energy investments, and to give priority grid access to electricity from renewable sources. While a harmonization of support systems was off the table for the moment, the proposal asked the Commission to publish a report on the effectiveness of different such schemes within five years and "if necessary" to come forward with a proposal for a harmonized support scheme.

In the subsequent negotiations, the European Parliament adopted a report by Mechthild Rothe, which raised the targets and sought to make them mandatory. The Council, in turn, resisted such efforts and sought to water down the provisions: it expanded the definition of renewable energy to include landfill and sewage treatment plant gas as well as the biodegradable fraction of various types of waste, it lowered the indicative targets for Finland (from 35% to 31.5%), the Netherlands (from 12% to 9%), and Portugal (from 45.6% to 39%), though not the overall EU target, and it made priority grid access for renewables optional rather than mandatory (Council of the European Union 2001, ENDS Report,

January 2001). Moreover, the Council changed the legal basis of the directive from Article 95 (referring to the internal market) to Article 175 of the Treaty, making the directive a piece of environmental legislation and thus allowed individual member state to go beyond the requirements of the directive.

Table 7.2: Reference values for the indicative targets spelt out in Directive 2001/77/EC

Member state	RES-E in 1997 (TWh)	RES-E in 1997 (%*)	Indicative Target RES-E 2010 (%*)
Belgium	0.86	1.1	6.0
Denmark	3.21	8.7	29.0
Germany	24.91	4.5	12.5
Greece	3.94	8.6	20.1
Spain	37.15	19.9	29.4
France	66.0	15.0	21.0
Ireland	0.84	3.6	13.2
Italy	46.46	16.0	25.0
Luxembourg	0.14	2.1	5.7
Netherlands	3.45	3.5	9.0
Austria	39.05	70.0	78.1
Portugal	14.3	38.5	39.0
Finland	19.03	24.7	31.5
Sweden	72.03	49.1	60.0
United Kingdom	7.04	1.7	10.0
European Union	338.41	13.9	22

** National production of RES-E divided by gross inland electricity consumption*
Source: Directive 2001/77/EC, Annex

In the end, the EP had to compromise on most issues (ENDS Report, July 2001; European Parliament 2001b, Directive 2001/77/EC). Energy from waste incineration was included in the definition of renewables at the insistence of Dutch, British, Spanish, and Italian governments (Lauber 2005, p. 39).[232] The targets in the directive remained indicative, though for the most part at the level suggested by the Commission. The directive does ask the Commission to review the necessity of mandatory targets and a greater harmonization of support systems at a later point in time. Priority access to the grid remained optional for member states to adopt, rather than mandatory as envisioned by the Commission and the EP.

232 Yet it was limited to the biodegradable share of municipal and industrial waste and member states had to demonstrate to the Commission that the practice did not undermine efforts to limit and recycle waste (i.e. the "waste hierarchy").

When dispatching electricity generators, however, transmission system operators had to give priority to generators using renewable sources.[233]

Table 7.3: Coding of the ambition level of Directive 2001/77/EC of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market

Dimension	**Description**	**Score**
Nature of targets	Member states "shall take appropriate steps" (Art. 3.1) to increase share of electricity from renewable sources in total energy consumption to the level of indicative targets specified in the directive	1
Behavioral prescriptions	Member states have to provide "guarantees of origin" for electricity produced from renewable sources, review their administrative procedures for approval of renewable energy projects, and ensure equal and transparent grid access for electricity from renewable sources	3
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	No enforcement mechanism	0
Degree of flexibility	Low scores on targets and financial incentives	0
Overall score::		**4 (Low)**

Overall, we can thus rate the directive, which was adopted under Article 175, a "low-ambition" climate policy, as detailed in Table 7.3: it includes a number of behavioral prescriptions and indicative numerical targets, but no financial incentives and no penalties for non-compliance. The indicative targets were accompanied by the provision that "Member States shall take appropriate steps to encourage greater consumption of electricity produced from renewable energy sources in conformity with the national indicative targets. These steps must be in proportion to the objective to be attained" (Art. 3, Directive 2001/77/EC). While these clauses gave the Commission a way to open legal procedures against member states that clearly made no effort to reach the targets, member states were under no obligation to actually achieve the targets, which made the directive hard to enforce (van Steen 2010).

233 Priority access would mean that the transmission system operator has to buy at a fixed price all available renewable electricity; priority in dispatching means that when making plans to meet a certain level of electricity demand, the transmission system operators would have to first take into account electricity from renewable sources (see Herscuth 2010, p. 161-162).

7.2.2 Towards greater policy ambition –Developing and Negotiating an integrated Renewable Energy Directive (2009/28/EC)

The RES-E Directive constituted a compromise without firm targets and without any harmonization of support schemes. It did ask the Commission to monitor progress, however, to assess the effectiveness and efficiency of different national support schemes and to propose harmonizing measures at a later point if necessary. It also served as a model for a second directive, aimed at the promotion of biofuels in transport (2003/30/EC), which the EU adopted in 2003 (Howes 2010, p. 122). The latter directive set an indicative target of a 5.75% renewable share in fuel consumption by 2010 and asked the Commission to monitor progress. Over the following years, the Commission published a number of reports on progress towards the 12% renewables target and developed additional policy ideas. These culminated in the proposal for an integrated "Renewables Directive" (covering electricity, transport fuels, and heat) in January 2008, which was part of the Climate and Energy Package.

In its first progress report on the implementation of the RES-E directive, published in May 2004, the Commission found that insufficient measures had been implemented to achieve the 22% RES-E target by 2010. Only Germany, Denmark, Finland, and Spain were on track to meet their targets. (European Commission 2004a). In late 2005, the European Commission published its report on the pros and cons of different support schemes required by Article 4 of the RES-E Directive (European Commission 2005c). It found some evidence that feed-in tariffs worked better for wind energy generation, while both feed-in tariffs and green certificates worked for biogas promotion. Yet no support scheme was clearly superior. Thus, the Commission decided against pursuing a particular harmonized support schem, but made a number of suggestions concerning administrative procedures and grid access. In early 2006, the Commission published a Green Paper on European energy policy, announcing that it intended to publish a "Renewable Energy Roadmap" with targets beyond 2010 (European Commission 2006c). Less than a year later, in January 2007, the Commission published this Roadmap, proposing "that the EU establish a mandatory (legally binding) target of 20% for renewable energy's share of energy consumption in the EU by 2020" (European Commission 2007g, p. 3). In response to the Green Paper, the European Council in March 2006 had been moderately supportive of such a step (European Council 2006), while the European Parliament had endorsed a 25% mandatory target in December 2006 (European Parliament 2006a).

The roadmap itself was part of a wider package of Commission Communications regarding the future of EU energy and climate policy, in which the Commission proposed the 2020 targets described in chapter 1 (European Commission 2007a). In the Roadmap, the Commission noted that there had been some progress on RES-E since its last report: now nine rather than four member states

were on track to meet their targets. Yet progress on transport fuels and renewables in heat provision had been insufficient in order to achieve the 12% target for 2010. From this, the Commission concluded that "it is clear that a change in the way in which the EU promotes renewables is needed" (European Commission 2007g, p. 9). A legally binding target was now warranted. In March 2007, the European Council endorsed the targets proposed by the Commission for both GHG emissions and renewables and asked the Commission to come forward with legislative proposals. Specifically, it endorsed:

- "a binding target of a 20 % share of renewable energies in overall EU energy consumption by 2020;
- a 10 % binding minimum target to be achieved by all Member States for the share of biofuels in overall EU transport petrol and diesel consumption by 2020 … introduced in a cost-efficient way." (European Council 2007, p. 21).

The Commission duly obliged and published its proposal for a "Renewable Energy Directive" to replace the previous RES-E and Biofuels directives as part of its "Climate and Energy Package" on 23 January 2008 (European Commission 2008g). The proposed Directive established the binding target of a 20% share of energy from renewable sources in the EU's final energy consumption by 2020, as well as a 10% share for renewables in total transport energy consumption.[234] While the transport target was the same for all member states (as there is a European-wide market for biofuels), each member state's individual mandatory target was spelled out in an Annex. These targets, presented in Table 7.4 were based both on studies of each member states' potential for renewable energy penetration by 2020 and on member states' economic capacity to invest new capacity (Howes 2010, p. 128f.). They ranged from 10% overall for Malta (which had no renewable energy capacity in 2005), to 49% for Sweden (which started at almost 40%). Member states were to submit "National Action Plans" to the Commission by 2010 to lay out how they intended to achieve their targets.

These mandatory targets were the main element of the proposal that made it into the final directive without alterations.[235] Two other issues became very contentious within the Council and between the Council Presidency and the European Parliament's Rapporteur Claude Turmes (Greens, Luxembourg): (1) the flexibility mechanisms envisioned by the Commission to allow member states to more easily achieve their targets, and (2) the biofuels target as well as sustainability criteria for biofuels.

234 Note the difference between the Council Conclusions, which endorsed a "Biofuels"-target, and the Commission proposal which emphasized renewable energy in the transport sector, which did not necessarily refer to biofuels, but also included renewable electricity used in transport, as well as hydrogen (if won through the use of renewable energy).

235 There was a minor adaptation for Latvia from 42 to 40% in the final directive – this was due to a previous miscalculation by Eurostat (van Steen 2010, p. 59).

(1) The Commission's proposal had suggested a version of green certificate trading to allow member states to more easily reach their targets (i.e. by paying for renewable energy from countries with greater renewable energy potential). While the Commission insisted that this would not endanger national support schemes for renewable energy based on feed-in tariffs, member states that had feed-in tariffs in place thought otherwise. Hence, they set out to alter the system in a way that would safeguard national support schemes, while at the same time allowing member states to limit costs.

(2) While there was much enthusiasm for biofuels in 2006 and 2007, a spike in food prices in 2007 and 2008 led many to question the effect of biofuels production both on food production and on the natural environment. There were growing concerns that crop production for biofuels caused "indirect land-use changes" – by displacing food production in one place, food production moved elsewhere, thus leading to the conversion of forests and grasslands. Due to the GHG emissions that resulted from such land-use changes, but also because of the emissions that occurred due to biofuels production and transportation, as well as fertilizer use and fertilizer production, biofuels did not nearly make possible the GHG reductions that were previously often assumed to take place (e.g. Renewable Fuels Agency 2008; Sachverständigenrat für Umweltfragen 2007; WBGU 2008). Thus, the Parliament's Rapporteur Claude Turmes even wanted to entirely scrap the transport renewables target (European Parliament 2008e).

In the end, the Council and Parliament reached a compromise, which they announced after the Council meeting of Energy Ministers on 8 December 2008 (Euractive 9 December 2008, Directive 2009/28/EC). Under the new directive, member states that exceed their renewables targets can make so-called "statistical transfers" of renewable energy to member states that do not meet their targets. For this purpose, the directive prescribed an "indicative trajectory" for the share of renewable energy that specified targets for each year up to 2020 – only those countries exceeding these interim targets could make statistical transfers to others. The directive also included provisions for various forms of cooperation between member states and between member states and non-member states. These included so-called "joint projects" located in one member state but (at least in part) financed by other member states, the option for member states to set up joint support schemes, and the possibility to set up renewable energy installations in third countries and have them count towards national targets.[236] On biofuels, a number of legislative shenanigans led to an effective lowering of the 10% target

236 The requirements for third country projects are quite restrictive. While in joint projects and joint support schemes, only statistical transfers of renewable energy from one member state to another takes place, third country projects need to deliver energy to EU member states in order to count towards the national targets (Howes 2010, p. 134f.).

(though the headline figure was maintained): thus, the denominator for calculating the share in transport energy use does not include aircraft and shipping energy use, and a number of energy sources are double counted in the numerator (Hodson 2010). The overall 20% target, however, was unaffected by these changes. Moreover, the GHG reduction achieved through biofuels was set at 35% relative to fossil fuel equivalents for all installations from 2013, and increase again in 2017 and 2018 (Art. 17). Finally, the European Commission was to report on the effects of indirect land-use change on GHG emissions by the end of 2010 and review the minimum GHG thresholds for biofuels by 2014.

Table 7.4: National targets for the share of energy from renewable sources in gross final energy consumption in member states according to Directive 2009/28/EC

Member state	Share of energy from renewable sources in 2005 (%)	Target share of energy from renewable sources for 2020 (%)
Belgium	2.2	13
Bulgaria	9.4	16
Czech Republic	6.1	13
Denmark	17.0	30
Germany	5.8	18
Estonia	18.0	25
Ireland	3.1	16
Greece	6.9	18
Spain	8.7	20
France	10.3	23
Italy	5.2	17
Cyprus	2.9	13
Latvia	32.6	40
Lithuania	15.0	23
Luxembourg	0.9	11
Hungary	4.3	13
Malta	0.0	10
Netherlands	2.4	14
Austria	23.3	34
Poland	7.2	15
Portugal	20.5	31
Romania	17.8	24
Slovenia	16.0	25
Slovak Republic	6.7	14
Finland	28.5	38
Sweden	39.8	49
United Kingdom	1.3	15

In addition, to the targets, flexibility mechanisms, and biofuel issues, the directive contained a number of other provisions. Most importantly, member states have to submit a National Renewable Energy Action Plan, the detailed template for which is provided by the Commission. The directive also gave priority access to the grid for electricity from renewable energy sources. It prohibited discriminatory pricing against gas from renewable sources (Art. 9) and required member states to assess the need for an expansion of the grid infrastructure and of district heating and cooling (Art. 16), but did not give priority grid access for biogas (as demanded by the EP). Moreover, it contained provisions on the simplification of administrative procedures and the use of renewables in buildings. Overall, the directive constituted a medium ambition policy. While its targets were mandatory, it did not set financial incentives or impose an adequate enforcement and compliance mechanism.

Table 7.5: Coding of the ambition level of Directive 2009/28/EU of 23 April 2009 on the promotion of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC

Dimension	**Description**	**Score**
Nature of targets	Member states have targets for the share of energy from renewable sources in total final energy consumption by 2020, adding up to a share of 20% in total final energy consumption in the EU by 2020	3
Behavioral prescriptions	Member states have to provide national renewable energy action plans, ensure appropriate administrative procedures, give priority grid access to electricity from renewable energy sources, adapt building codes so as to promote use of renewable energy in buildings, maintain guarantees of origin for renewable energy	3
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	Commission reports on member state progress	1
Degree of flexibility	Significant cost containment measures: statistical transfers between member states (Art. 6), joint projects (Art. 7, 8) and joint support schemes (Art. 11) with other member states and with third states (Art. 9, 10)	2
Overall score:		**9 (Medium)**

After this mainly descriptive account of EU renewable energy policy, let us now turn to explaining the observed gradual increase in climate policy ambition. Why did the EU adopt a directive on electricity from renewable energy sources in 2001, and why was it no more than a low-ambition climate policy? Why did the EU adopt an integrated Renewable Energy Directive in late 2008 with mandatory

targets, a medium ambition climate policy? In the following two sections of this chapter, I apply my theoretical framework to the case of renewable energy policy and show that interest constellations became much more favorable in 2008 than in 2001. Yet at neither point in time, we can fully explain the increase in the ambition level without recourse to a discussion of the discursive environment and the rhetorical constraints it imposed on the opponents of ambitious policies.

7.3 Explaining EU renewable energy policy – the rational choice baseline

The rational choice baseline carries us quite far in explaining the development of renewable energy policy in the EU, as I show in this section of the chapter: I first derive predictions from the rational choice baseline for Commission, EP, and member state preferences as well as the bargaining outcome in 2001 and 2008. After that, I discuss evidence both from the negotiation of the original RES-E Directive and from the negotiation of the Renewable Energy Directive. I argue that the main actors behaved largely as predicted. The Commission and especially the Parliament were the drivers towards greater policy ambition. Member states defended the interests of domestic industry and their previous policies, though the two cannot always be clearly distinguished. In the end, the EP managed to slightly nudge member states in the direction of greater ambition; individual member states were unable to block the advance of policy ambition.

7.3.1 Rational Choice Baseline Predictions for Renewable Energy Policy

According to the rational choice baseline, we expect the Commission to pursue the most ambitious policy that might be accepted by a qualified majority of member states at a given point in time. We expect the European Parliament to favor medium or high ambition policies. In order to specify hypotheses about member state preferences, we first need to identify the societal groups that lose and benefit from EU-level legislation on renewable energy support. In doing so, I focus on the electricity sector, as it was the main sector of concern in the RES-E and in the Renewable Energy Directive.

How does the setting of targets and the establishment of support systems for renewable energy sources in the electricity sector affect different interest groups? And what kind of preferences would we then expect on the part of member states? At a basic level, renewable energy support policies in the electricity sector affect two sets of interest groups: “traditional” electric utilities tend to lose,

while the producers and operators of renewable energy equipment and fuels[237] benefit from such legislation. In addition, support for renewable energy may negatively affect two other economic sectors: energy intensive industry through higher electricity prices and industries relying on biomass feed-stocks (e.g. the paper industry) through increased demand (and hence higher prices) for biomass. It may also have an indirect positive effect on agriculture, namely by raising the price of biomass and thus providing an additional income source to farmers.

As I show in the following paragraphs, the renewables sector has gained in importance (in employment terms) relative to traditional utilities in most member states between 1999 and 2007. Nevertheless, it remains smaller than traditional utilities in most member states, and definitely accounts for a smaller share of employment than traditional utilities and other affected industries combined. Farmers, however, who tend to support ambitious support schemes for renewables, are a relatively large force in most member states and thus add weight to the supporters of renewable energy policy. Thus we would expect a relative stalemate between proponents and opponents of ambitious renewable energy policy, though the balance would be more favorable towards renewables in 2007/2008 than in 2000/2001. As a result, we would expect member states to primarily defend existing national policies for the promotion of renewable energy in the electricity sector, and to be slightly more open to ambitious legislation in 2007/2008 than in 2000/2001.

For traditional electric utilities, support policies for renewable energy pose a threat on a number of levels. By "traditional electric utilities" I mean primarily the owners of electricity generation capacity based on fossil fuels or nuclear energy. In many cases[238], the same companies also own transmission (and to a lesser extent distribution) networks[239]. The first threat traditional utilities face is that the value of their fossil fuel or nuclear generation assets might decrease. If a certain share of electricity consumption is effectively reserved for renewable sources, this limits the amount of electricity from traditional generation assets on

237 Fuel in the context of renewables usually refers to biomass – for other renewables, the sun, wind, or naturally occurring water flows provide the "fuel".

238 The Commission has made significant efforts since the liberalization of electricity markets in 1996 to split up traditional integrated electricity utilities or at least to deter them from using their ownership of the network to give preference to their own generation assets. Its success has been rather moderate (European Commission 2010a).

239 Transmission networks/grids are those high-voltage grids that transport electricity over longer distances from power plants to transformer stations, from where distribution networks carry electricity to final consumers. Distribution networks are in many countries locally owned and not operated by the large utilities. In recent years, there has been disintegration between production and transmission capacity in a number of countries.

the market. A second threat is that support for electricity from renewables may raise the price of electricity, which in the longer term might lead to lower energy demand, thus further lowering traditional utilities' potential revenues and profits. Finally, renewables pose difficulties for the operation of electricity networks, the costs of which utilities might potentially bear. The traditional model of electricity supply relies on large power stations that continuously provide stable amounts of electricity to the grid. Renewables, on the other hand, in particular wind and solar, rely on the decentralized production of electricity from intermittent sources. Maintaining grid stability under these conditions is more difficult than under the centralized model, as utilities have to maintain backup capacity in case the flow of electricity from renewable sources is interrupted. Traditional utilities with assets in large hydro-power plants do not face the first of these threats (as large-hydro-power won't be replaced by other renewables), but face the other two problems as well, if "new" renewables are to be supported. This is, of course, a somewhat simplified description of utilities' interests. After all, in many cases they can invest in renewable energy assets themselves and thus benefit from support schemes. In recent years, many of the largest utilities have established renewables units and become large investors in the renewables market[240]. Nevertheless, the description corresponds closely to the arguments utilities made during the negotiations of the RES-E and the RES-Directive, as I show below.

Traditional utilities are likely to find allies among energy intensive industries and from industries using biomass as a production input. Most renewable energy support schemes in some way distribute their costs among electricity consumers. For most consumers, this doesn't make much of a difference, yet for energy intensive industry this potentially[241] means a significant additional cost. This should not be overstated, however, as some energy intensive industries also benefit significantly from renewables promotion: wind turbines, for example, require a lot of steel as an input; similarly, the chemical industry provides important inputs for the production of renewable energy equipment, e.g. for solar cells or coatings for wind turbines. Thus, these industries are probably not unified in their opposition. In addition, those industries that rely on wood or other biomass inputs, e.g. the paper industry, wood panel manufacturers, or oleo-chemical producers, will have no interest in additional demand and hence higher prices for biomass: we would hence expect them to not favor a renewable energy policy for electricity that relies heavily on biomass.

The beneficiaries of renewable energy support policy are quite obvious, namely the producers, developers, installers, and operators of renewable energy

240 Especially in capital-intensive renewables like offshore-wind.

241 Of course, this depends on the precise level of support.

generation capacity and fuels. The main beneficiaries of *EU-level* targets and support policies for renewable energies are companies that offer goods and services that can be exported to other EU countries. For a farmer who puts solar panels on his buildings and a wind-farm on his field, a national renewable support policy is completely sufficient, though an EU-level reinforcement of national efforts may be helpful. For equipment manufacturers or developers, however, more ambitious renewables policies in other EU member states mean additional export markets. Thus, we should expect particular support for EU-level policies from the largest exporters of renewable energy equipment. In addition, providers of biomass, i.e. farmers and forest owners will support renewable energy policies for the same reason biomass users oppose such policies: they expect a higher price for biomass due to additional demand. Farmers also gain as land owners – by providing land for solar or wind energy installations.

Table 7.6: Employment in the electricity sector and share of large hydro-power in EU-15 member states

Member State	Employment in Electricity Sector*	Employment in Electricity Sector, % of total	Share of large hydro-power, in %**
Sweden	23.617	0,57%	45,37%
Austria	28.515	0,77%	40,54%
Portugal	14.829	0,30%	32,32%
Greece	N/A	N/A	22,35%
Spain	37.375	0,25%	21,80%
Italy	95.798	0,46%	19,50%
France	N/A	N/A	16,25%
Finland	15.328	0,67%	15,92%
Ireland	N/A	N/A	4,58%
United Kingdom	78.162	0,28%	1,87%
Germany	239.852	0,66%	1,73%
Belgium	19.224	0,48%	0,28%
Netherlands	N/A	N/A	0,18%
Denmark	11.167	0,41%	0,00%
Luxembourg	946	0,54%	0,00%
EU-15***	564.813	0,64%	13,80%

* UK data is for 1998 (latest available)
** Net installed capacity in hydro-power (capacity >10MW) as share of total net installed capacity
*** Numbers for absolute total employment are understated, as data is missing for some countries
Source: Eurostat Structural Business Statistics, Eurostat

Besides the mere electoral strength of renewable energy industries, governments might consider three additional aspects in their favor. The first aspect is that renewable electricity tends to require more domestic labor inputs per unit of energy produced than traditional forms of electricity generation. This makes the

renewables sector attractive to governments and might make it stronger relative to traditional utilities than the pure numbers would suggest. Of course, this is limited by the effect of lower labor productivity on electricity costs: higher prices will lead to more opposition from energy-intensive industry. The second aspect governments might take into account is the indigenous nature of most renewable energies: thus they add to the security of energy supply, which may be relevant to some governments for security reasons. The third aspect governments might take into account when deciding about their position on EU-level renewable energy policy is that such a policy might lead to additional exports and – by extension – jobs. Thus, governments of member states with an export oriented renewable energy industry are likely to be particularly committed to EU-level renewables policy.

Table 7.7: Employment in the electricity sector and share of large hydro-power in EU-27 member states 2007

Member State	Employment in Electricity Sector*	Employment in Electricity Sector, % of total*	Share of large hydro-power, in %**
Latvia	5.664	0,51%	70,87%
Sweden	22.505	0,50%	45,58%
Austria	21.105	0,52%	36,29%
Romania	51.047	0,55%	30,27%
Slovenia	6.633	0,67%	28,57%
Portugal	9.550	0,18%	24,28%
Slovakia	16.549	0,70%	21,04%
Bulgaria	28.139	0,87%	18,78%
Greece	N/A	N/A	16,96%
Finland	12.001	0,48%	16,68%
France	112.802	0,44%	16,14%
Spain	37.858	0,19%	12,72%
Italy	61.773	0,27%	11,92%
Czech Republic	16.396	0,33%	4,29%
Ireland	N/A	N/A	2,69%
Poland	87.653	0,58%	2,07%
Lithuania	10.280	0,67%	1,96%
Germany	204.061	0,53%	1,62%
United Kingdom	81.986	0,28%	1,61%
Hungary	16.449	0,42%	0,43%
Belgium	15.759	0,36%	0,32%
Netherlands	N/A	N/A	0,16%
Denmark	9.191	0,33%	0,00%
Luxembourg	782	0,39%	0,00%
Estonia	4.189	0,64%	0,00%
Cyprus	1.116	0,30%	N/A
Malta	N/A	N/A	N/A
EU-27***	832.372	0,40%	11,40%

* Data for 2006 (latest available) for Czech Republic, Estonia, and Portugal, 2003 for Slovakia and Luxembourg; 1999 for Cyprus

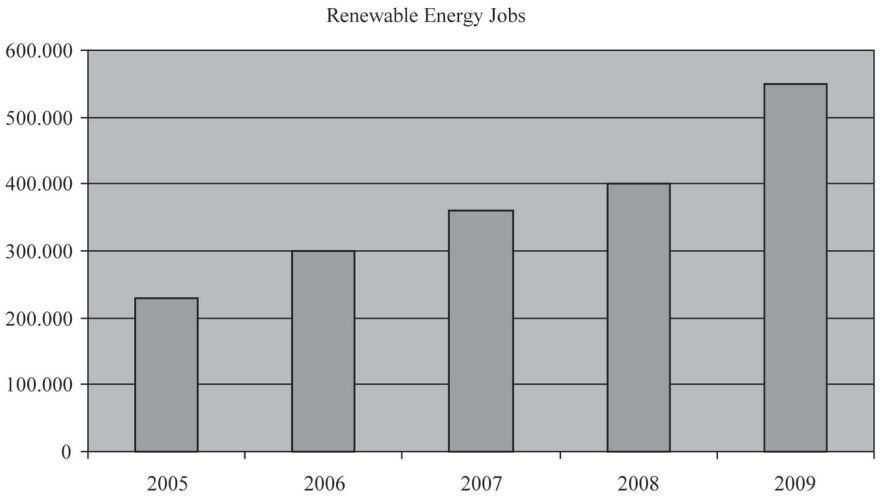
** Net installed capacity in hydro-power (capacity >10MW) as share of total net installed capacity

*** EU-27 for 2007, numbers for total employment are understated, as data is missing for some countries

Sources: Eurostat Structural Business Statistics, Eurostat

How, then, might we expect member state governments to weigh the interests of traditional utilities relative to renewable energy producers? According to the rational choice baseline, we can expect governments to compare the relative electoral strength of the affected sectors. In other words, we have to compare the employment generated by traditional electric utilities and by the renewable energy sector. We also need to consider which member states have a big export potential in renewables. In addition, we need to analyze the strength of other affected groups: energy-intensive industry, biomass consumers, and farmers. Finally, we need to identify the types of previous renewable energy support schemes to see what kind of policy specific member states might favor. I present the data on each in turn.

Fig. 7.1: Jobs provided by RES Industry in the EU (2005-2009)



Source: EREC Website

The data on employment in traditional utilities versus the renewable sector suggest that the former were more powerful than the latter in the majority of member states, though renewables did catch up significantly between the 2000/2001 and the 2007/2008 episodes. Tables 7.6 and 7.7 present data on employment in the electricity sector by member state in 1999 and 2007 (i.e. in the years prior to the negotiations of the two directives). They include employment in electricity production, transmission, and distribution and offer a fairly good indicator for the numerical strength of the traditional utilities. As we can see from the tables, employment in the electricity sector accounted for between 0.25% and 0.77% of

total employment among the EU-15 in 1999 and between 0.18% and 0.87% among the EU-27 in 2007. The indicator has shortcomings, however, as the figures also include electricity generation activities from renewable sources – while their share is relatively small overall, it certainly varies between member states. The second indicator included in Tables 7.6 and 7.7 is hence the share of hydropower. In those countries where the share of hydropower is high, we should expect the opposition from traditional utilities to be relatively muted, even if their share in total employment may be higher.

Table 7.8: Comparison of Traditional Utility and RES employment, 2007 and 2009

Member state	Employment in Electricity Sector 2007	Total RES electricity* employment 2009	Balance in favor of
Belgium	15.759	11.050	Utilities
Bulgaria	28.139	1.785	Utilities
Czech Republic	16.396	3.150	Utilities
Denmark	9.191	27.700	Renewables
Germany	204.061	212.300	Renewables
Estonia	4.189	1.200	Utilities
Ireland	N/A	3.100	N/A
Greece	N/A	3.900	N/A
Spain	37.858	64.845	Renewables
France	112.802	58.420	Utilities
Italy	61.773	45.600	Utilities
Cyprus	N/A	100	N/A
Latvia	5.664	400	Utilities
Lithuania	10.280	700	Utilities
Luxembourg	N/A	170	N/A
Hungary	16.449	1.600	Utilities
Malta	N/A	50	N/A
Netherlands	N/A	8.180	N/A
Austria	21.105	9.250	Utilities
Poland	87.653	4.915	Utilities
Portugal	9.550	5.300	Utilities
Romania	51.047	1.100	Utilities
Slovenia	6.633	615	Utilities
Slovakia	N/A	650	N/A
Finland	12.001	3.370	Utilities
Sweden	22.505	11.100	Utilities
United Kingdom	81.986	16.500	Utilities
EU-27	815.041	497.050	Utilities

* Includes wind, photovoltaic, small hydro, geothermal, biogas, and waste
Source: Observ'ER (2010)

Consistent cross-national data on employment in the renewable energy sector is not as readily available. Figure 7.1 is from the website of EREC, the European Renewable Energy Council, the renewable industry's main EU-level lobby group. It put the number of jobs in renewable energy sectors at 230 000 in 2005, rising to 550 000

by 2009. It is fairly safe to assume that the number was not significantly higher prior to 2005. Moreover, this includes all renewable energy sectors, i.e. electricity, transport, and heating/cooling. Thus, in the aggregate, we can see that traditional utilities probably had a fairly large advantage over the renewables sector in 2000/2001. By the time the Renewable Energy Directive was negotiated, the renewable sector had caught up somewhat, but clearly not surpassed traditional utilities.

A second set of employment data for the renewable energy sector largely confirms this view. EurObserv'ER, a project financed by the European Commission, compiled data on employment in the renewable energy sector (and its subsectors) by member state (Observ'ER 2010). Table 7.8 compares the number of employees working for traditional utilities (according to Eurostat) in 2007 to the number of people working in the renewable electricity sector[242] in 2009 (according to EurObserv'ER).[243] Given that the numbers for 2009 are for the year after the Renewables Directive was passed, they probably overstate employment in the renewables sector prior to the Directive's negotiation. Nevertheless, we find that in most member states, traditional utility employment still outweighed renewable energy employment – the exceptions are Germany, Spain, and Denmark, though even in these cases, the balance is close. Knowing that renewables went through a phase of rapid growth between 2000 and 2007, it is quite clear that the balance was – if anything – worse for renewables in 2000/2001.[244]

As noted above, we would expect rational vote-maximizing governments to also consider the export potential for renewable energy technologies. Again, however, the relevant data is tricky to obtain: international trade statistics usually do not have separate categories for renewable energy related goods. Thus, individual parts of electricity generation equipment are often classified in the same category whether or not they are used with non-renewable or renewable fuels. Table 7.9 presents data on exports of wind-powered generating sets for 1999 and 2007. The absolute numbers may look relatively small to people familiar with

242 These include wind energy, photovoltaic, small hydro, geothermal, biogas, and waste – it does not include solid biomass, biofuels, and solar thermal. While only the first three (wind, photovoltaic, small-hydro) can clearly be counted for electricity, all the others are also (or mainly) used to generate heat or propel transport. I excluded those sources where the share of non-electricity uses was highest.

243 The comparison of data from two different years is necessary as it is the latest available for the Eurostat data, and the earliest available for EurObserv'ER.

244 "EmployRES", another study on employment effects and the wider economic impact of renewables deployment, financed by the Commission comes to roughly equivalent results, though its results are not directly comparable and for 2005 (see Ragwitz et al. 2009).

the industry: this is because the HS-classification system[245] does not capture all exports related to wind-industry in this category – individual components such as towers, blades, etc. might appear in statistical categories with other products. Table 7.10 provides data on exports of "Photosensitive semiconductor devices", the HS category that includes photovoltaic modules and panels. It is probably less accurate for the current purposes, as it also includes other semiconductor devices, in particular light-emitting diodes.[246]

Table 7.9: Exports of "Wind-generating sets", 1999 and 2007*

	1999		2007	
Member state	**Exports in current EUR**	**As a share of total exports**	**Exports in current EUR**	**As a share of total exports**
Denmark	556.781.221	1,66%	493.829.037	0,94%
Germany	23.412.521	0,01%	381.034.347	0,06%
Italy	8.167.652	0,01%	551.481	0,00%
United Kingdom	763.152	0,00%	8.600.809	0,00%
France	140.154	0,00%	204.028	0,00%
Finland	69.595	0,00%	N/A	N/A
Ireland	49.830	0,00%	N/A	N/A
Sweden	49.589	0,00%	2.176	0,00%
Netherlands	10.243	0,00%	8.896.318	0,00%
Austria	7.673	0,00%	762.006	0,00%
Belgium	1.282	0,00%	95.621	0,00%
Spain	N/A	N/A	338.691	0,00%
Greece	N/A	N/A	3.708.627	0,03%
Luxembourg	N/A	N/A	N/A	N/A
Portugal	N/A	N/A	19.158.802	0,06%
Bulgaria			N/A	N/A
Cyprus			N/A	N/A
Czech Republic			4.471	0,00%
Estonia			667.000	0,01%
Hungary			N/A	N/A
Lithuania			N/A	N/A
Latvia			N/A	N/A
Malta			N/A	N/A
Poland			16.165	0,00%
Romania			N/A	N/A
Slovenia			N/A	N/A
Slovakia			0	0,00%

HS 8502.31 Other generating-sets : Wind-powered
Source: Eurostat EU-27 Trade Since 1995 by HS6

Though the quality of the data is not as good as would be desirable, the tables show two things. First, the renewable energy sector (at least wind and solar) did

245 HS stands for "Harmonized System" and refers to the trade classification system developed by the World Customs Organization and was established through the "International Convention on the Harmonized Commodity Description and Coding System" (see Wind 2008).

246 The latter appear to be the reason for the Netherlands' top-spot in 1999.

not contribute strongly to exports in most member states and was thus of limited interest to governments. Secondly, in Denmark and Germany, renewable energy equipment appears to have played the largest role in exports. Denmark also had a fairly high share of employment in the renewable sector and a relatively low share of employment in traditional utilities. In Germany, both the share of employment in renewables according to EmployRES and the share of employment in traditional utilities appear to have been fairly high. Nevertheless, the data suggests that the two countries would have a particular interest in expanding EU legislation in favor of renewables.

Table 7.10: Exports of "photosensitive semiconductor devices", 1999 and 2007*

	1999		2007	
Member state	**Exports in current EUR**	**As a share of total exports**	**Exports in current EUR**	**As a share of total exports**
Netherlands	314.316.096	0,19%	397.285.576	0,13%
Germany	212.205.476	0,06%	2.185.935.604	0,35%
Belgium	48.835.997	0,04%	350.506.484	0,15%
United Kingdom	42.180.569	0,03%	480.760.561	0,26%
France	32.952.734	0,02%	161.273.971	0,06%
Austria	17.052.239	0,04%	248.370.635	0,29%
Spain	15.409.106	0,02%	94.727.557	0,07%
Italy	15.250.777	0,01%	59.839.705	0,03%
Sweden	13.790.039	0,03%	190.413.202	0,25%
Denmark	8.662.196	0,03%	14.971.154	0,03%
Finland	3.224.483	0,01%	13.685.039	0,04%
Ireland	2.179.683	0,00%	4.647.423	0,01%
Portugal	1.916.455	0,01%	19.311.462	0,07%
Luxembourg	41.622	0,00%	3.666.482	0,03%
Greece	31.391	0,00%	78.215	0,00%
Czech Republic			242.222.622	0,32%
Hungary			177.513.095	0,32%
Cyprus			45.260.351	6,20%
Poland			14.784.569	0,02%
Slovenia			9.822.570	0,06%
Romania			7.733.662	0,04%
Estonia			5.447.955	0,10%
Bulgaria			2.341.235	0,03%
Malta			932.903	0,08%
Slovakia			702.252	0,00%
Lithuania			453.781	0,01%
Latvia			78.681	0,00%

* HS8541.40 Photosensitive semiconductor devides, incl. Phtovoltaic cells, whether or not assembled in modules or made up into panels; light-emitting diodes
Source: Eurostat EU-27 Trade Since 1995 by HS6

As noted above, certain additional industries might be affected by the promotion of electricity from renewable sources. Energy intensive industries and biomass users tend to lose, while farmers and forest owners gain. Tables 7.11 and 7.12

provide data on employment in agriculture and in energy intensive industries (including paper) as a share of total employment in 2000 and 2007. In both episodes, energy-intensive industry outweighed agriculture in a majority of member states. In 2007, however, a number of new member states with relatively large agricultural sectors had joined the EU – thus we might expect them to support at least those aspects of renewables policy that promote the use of biomass.

Overall, the following picture thus emerges: we should generally *not* expect strong and relatively uncontested domestic demand for ambitious EU renewables policies. In terms of employment, neither the balance between traditional utilities and the renewables sector, nor the balance between the secondary interest groups favors renewables. Even if governments do take into account the three additional aspects – positive employment effects of renewables, security of supply concerns, and export potential – we would expect at most a stalemate between domestic forces and normally a policy in favor of traditional utilities in most member states. It is important to note, however, that the balance was much more favorable towards renewables in 2007/2008 than in 2000/2001.

Table 7.11: Employment in secondary interest groups by member state, 2000

Member state	Agricultural Labor Force as % of Total Employment	Employment in Energy-Intensive Industries* as % of Total Employment	Balance between Secondary Interest Groups
Luxembourg	2,37%	8,65%	-6,28%
Belgium	1,83%	5,75%	-3,92%
Germany	1,88%	5,59%	-3,71%
Sweden	1,89%	5,50%	-3,61%
United Kingdom	1,22%	3,77%	-2,55%
Denmark	2,78%	4,03%	-1,25%
Finland	4,76%	5,79%	-1,04%
Netherlands	2,79%	3,44%	-0,65%
France	4,41%	4,86%	-0,45%
Austria	4,68%	4,77%	-0,10%
Italy	6,56%	6,51%	0,05%
Spain	7,10%	5,00%	2,11%
Ireland	9,01%	3,31%	5,70%
Portugal	10,01%	4,02%	5,99%
Greece	14,33%	2,45%	11,87%

* Includes Basic Metals and fabricated metal products, coke, refioned petroleum products and nuclear fuels, non-metallic mineral products, pulp, paper and paper products, chemicals and chemical products

Source: Eurostat Structural Buinsess Statistics, Eurostat Economic Accounts for Agriculture

In cases where there is a stalemate between domestic forces, the rational choice baseline leads us to expect that member states seek to avoid administrative adaptation costs. In other words: if there has to be EU renewables policy, at least it

should not impinge on pre-existing national policies. Tables 7.13 and 7.14 provide an overview of the main renewables support mechanisms in different member states prior to the negotiation of the RES-E Directive in 2000/2001 and of the Renewables Directive in 2007/2008. In both situations, a majority of member states had some form of feed-in tariff in place, while a substantial number of member states still used other schemes, notably tradable quotas or some form of tendering. Given this diversity, we would expect any attempt at harmonization of support schemes to fail.

Table 7.12: Employment in secondary interest groups by member state, 2007

Member State	Agricultural Labor Force as % of Total Employment	Employment in Energy-Intensive Industries* as % of Total Employment	Balance between Secondary Interest Groups
Luxembourg	1,87%	7,00%	-5,12%
Czech Republic	2,81%	7,59%	-4,79%
Sweden	1,51%	5,31%	-3,80%
Germany	1,45%	5,12%	-3,67%
Belgium	1,51%	5,08%	-3,57%
Denmark	2,08%	3,93%	-1,86%
United Kingdom	0,97%	2,75%	-1,79%
Finland	3,65%	5,40%	-1,75%
Italy	5,24%	6,03%	-0,79%
Austria	3,85%	4,60%	-0,76%
Netherlands	2,21%	2,83%	-0,62%
Slovakia	3,87%	4,47%	-0,59%
France	3,53%	4,01%	-0,48%
Malta	2,69%	2,74%	-0,05%
Spain	4,90%	4,19%	0,71%
Slovenia	8,53%	7,62%	0,91%
Estonia	5,02%	3,81%	1,21%
Portugal	7,23%	3,70%	3,54%
Cyprus	6,85%	2,78%	4,08%
Ireland	7,10%	2,68%	4,42%
Latvia	9,61%	2,41%	7,19%
Hungary	11,70%	4,45%	7,25%
Lithuania	10,30%	2,67%	7,63%
Greece	12,75%	2,46%	10,28%
Poland	15,09%	4,46%	10,63%
Bulgaria	15,20%	4,26%	10,94%
Romania	23,57%	3,16%	20,42%

* Includes Basic Metals and fabricated metal products, coke, refioned petroleum products and nuclear fuels, non-metallic mineral products, pulp, paper and paper products, chemicals and chemical products

Source: Eurostat Structural Buinsess Statistics, Eurostat Economic Accounts for Agriculture

We can sum up the predictions of the rational choice baseline concerning electricity from renewable sources as follows. Most member states will oppose ambitious (or in fact any) EU policies to support electricity from renewable energy sources. At most, they will accept legislation that largely leaves in place domestic arrangements. If we do find countries to be supportive of ambitious EU renewables legislation, those would be Germany and Denmark as significant exporters of renewable energy technology, as well as (at least in 2007/2008) Spain, where the balance between traditional utilities and renewable energy producers favored the latter. Moreover, we should expect most member states to be less hostile to renewables promotion in 2008 than in 2001, but very few to be genuinely enthusiastic.

Table 7.13: Support schemes for renewable energy in member states, 2000

Member State	**Type of Support Scheme***
Austria	Mix of Feed-in Tariff, Quotas, Tradable Certificates
Belgium	Feed-in Tariff, Quotas with Tradable Certificates planned
Denmark	Feed-in Tariff, Quotas with Tradable Certificates planned
Finland	Tax-Incentives
France	Feed-in Tariff, Tendering Program for Wind
Germany	Feed-in Tariff
Greece	Feed-in Tariff
Ireland	Tendering Program
Italy	Feed-in Tariff, Quotas with Tradable Certificates planned
Luxembourg	Feed-in Tariff
Netherlands	Tax-Incentives, voluntary Green Certificate Trading
Portugal	Feed-in Tariff
Spain	Feed-in Tariff
Sweden	Feed-in Tariff
UK	Tendering Program, Quotas with Tradable Certificates planned

* In addition, all member states had some form of tax or investment incentive
Source: Haas (2001, p. 12ff.)

Table 7.14: Support schemes for renewable energy in member states, 2007

Member State	Type of Support Scheme*
Austria	Feed-in Tariff
Belgium	Mix of Feed-in Tariff and Quota
Bulgaria	Tendering
Cyprus	Feed-in Tariff
Czech Republic	Feed-in Tariff
Denmark	Feed-in Tariff
Estonia	Feed-in Tariff
Finland	Tax-Incentives/Investment Grants
France	Feed-in Tariff
Germany	Feed-in Tariff
Hungary	Feed-in Tariff
Greece	Feed-in Tariff
Ireland	Feed-in Tariff
Italy	Mix of Feed-in Tariff and Quota**
Lithuania	Feed-in Tariff
Luxembourg	Feed-in Tariff
Latvia	Mix of Feed-in Tariff and Quota
Malta	Feed-in Tariff
Netherlands	Feed-in Tariff
Poland	Mix of Feed-in Tariff and Quota
Spain	Feed-in Tariff
Romania	Quota and Green Certificate Trading
Sweden	Quota and Green Certificate Trading
Slovenia	Feed-in Tariff
Slovakia	Feed-in Tariff
UK	Quota and Green Certificate Trading

* Usually, the main support scheme is combined with some form of investment support
** Feed-in tariff only for solar PV
Source: European Commission 2008x, pp. 21-22

7.3.2 Empirical Evidence on the Rational Choice Baseline

In the following subsections, I present evidence on the rational choice baseline regarding the development of the RES-E Directive and of the Renewable Energy Directive. I show that as predicted, the Commission and the EP were the driving forces behind both efforts. Most governments' enthusiasm for ambitious EU-level policies to promote renewables was limited in 2000/2001, but increased somewhat in 2007/2008. In both episodes, however, member states tried to preserve their domestic arrangements when negotiating about renewables policy. The rational choice baseline reaches its limits concerning the agreement to a 20% mandatory renewables target at the March 2007 European Council: the constellation of interest groups suggests that governments would not have been willing to be this ambitious. As explained below, the discursive environment at the time probably helped to reach the agreement.

7.3.2.1 The negotiation of Directive 2001/77/EC

European Commission Preferences

The Commission's May 2000 proposal for the RES-E Directive did not display great policy ambition: it set no firm targets, had no compliance mechanism and set no financial incentives, though it did make some behavioral prescriptions (European Commission 2000d). It contained a definition of renewable energy, indicative targets for the share of electricity from renewable sources in total consumption, and various requirements for member states regarding grid access, an investigation of their administrative procedures, and the provision of guarantees of origin to electricity from renewable sources. While the low ambition of the Commission's proposal appears to contradict the rational choice baseline expectations, the process through which the Commission arrived at its proposal suggests a different story. In fact, the Commission initially pursued a more ambitious directive and only as it became clear that these pursuits had no chance of being accepted, the less ambitious version emerged (ENDS Report, February 1999, February 2000, May 2000; Hirschl 2008; Lauber 2005).

Within the Commission, work on the RES-E Directive proposal was pursued from two different viewpoints. On the one hand, there were strong advocates of renewable energy as a means for achieving environmental and climate political goals, in particular in DG Environment (European Voice, 27 April 2000; Hirschl 2008, p. 337ff., Lauber 2005). On the other hand, there was a strong desire in the Commission to make the support of RES-electricity compatible with the internal electricity market that was being established at the time, e.g. by opening domestic support schemes to foreign competition. DG Competition and the unit within DG Energy responsible for renewables policy at the time[247] were proponents of the latter view. From about 1996 onwards, the Commission thus pursued a harmonization of support systems around a quota and tradable certificate system, which would facilitate the international trade in renewable energy (ENDS Report, February 2000, Lauber 2005, p. 47). Energy Commissioner Papoutsis argued that a quota system with tradable certificates was the only one compatible with a liberalized electricity market and that the competition it induced would lead to lower costs faster than other systems (Lauber 2005, p. 47). Initial drafts for the proposal would have introduced a harmonized certificate trading system by 2006 and replaced all national support schemes (Hirschl 2008, p. 347f.).

While we cannot speak to the precise ambition level that such a system would have achieved, it is quite likely that it would have been relatively high. After all, in

247 The responsible unit was in charge of the "Internal Market and Competition", i.e. it approached the task primarily as deregulation (Lauber 2001, cited in Hirschl 2008, p. 338).

order to work, it would have had to spell out precise and mandatory quotas and fairly strong compliance provisions so as to make trading viable. Things never advanced this far, however, because the Commission received extensive comments from member states and lobbies about successive drafts for the directive, which suggested that member states were not willing to accept such a proposal. Germany in particular was vocal in its opposition to a harmonized support system based on tradable green certificates (e.g. ENDS Report, February 1999). Instead, as described above, it defended its feed-in tariffs and rallied other member states using the same support scheme to its cause. Moreover, member states were quite clear that they were willing to accept no more than indicative targets. Energy Commissioner Loyola de Palacio even said publicly at the time that "she would have preferred to propose binding targets, but had been forced to abandon the plan in the face of stiff resistance from member states" (European Voice, 19 April 2001).

Thus, the Commission was left with no chance but to propose a low-ambition policy. It tried to push for a more ambitious piece of legislation but strategically decided to retreat to a "realistic" position. A low ambition policy was better than no policy at all. I hence consider the observation of the Commission's behavior to support the rational choice baseline hypothesis outlined above. As other motives, notably concerning the internal electricity market proved as important in its decision making, however, I consider the support to be moderate.

European Parliament Preferences

The European Parliament's behavior in the case also provides evidence in support of the rational choice baseline. Even before the formal legislative process started, the European Parliament was the main promoter of an EU directive to promote renewable energy sources (e.g. Oschmann 2002, p. 79ff.). As early as 1991, it had called for a directive on renewable energy. In response to the Commission's Green Paper, it specifically called for an EU-wide feed-in tariff and reiterated this demand in subsequent resolutions (Ibid.).

In the fall of 2000, the EP adopted a range of amendments to the Commission's proposal based on a Report by Rapporteur Mechthild Rothe (Socialists, Germany).[248] Most importantly, its first reading position would have required member states to adopt binding national minimum targets for the share of renewables in total electricity consumption, rather than indicative ones. The EP thus

248 The environment committee issued an opinion. Beyond the amendments outlined here, it wanted to improve the directive's compliance mechanism. It suggested that the amount of renewable electricity by which a member state missed its objective in any given year be added to the member state's objective for the following year. It also explicitly called on the Commission to develop a system of penalties for non compliance (European Parliament 2000b, p. 56).

sought a more ambitious policy than the Commission had deemed feasible. The targets would be included in the Annex to the directive and amount to an overall European target of 23.5% of electricity consumption, i.e. more than the 22.1% suggested by the Commission (European Parliament 2000b, p. 35). In addition, member states would have to set targets for installed renewables generation capacity. On grid connections, the EP's amendments would impose the costs of connecting to the grid on the operators of renewable energy plants, while grid operators would be required to bear the costs of grid improvements and expansions necessary to transport the additional electricity generated from renewables. The EP also demanded a certification of origin for all electricity to further increase transparency in the market. The EP asked the Commission to not come forward with proposals for harmonized support systems for ten (rather than five) years so as to allow for a better evaluation of the relative success of different national support schemes. Finally, the EP extended the definition of renewable energy sources somewhat by adding landfill gas, the "biodegradable byproducts of the pulp and paper industry and the digestion of the biodegradable fraction of separated municipal waste" (European Parliament 2000b, p. 19).

Overall, we can thus consider the European Parliament's first reading position on the RES-E Directive to support the rational choice baseline explanation. While it did broaden the definition of renewable energy, which made any targets easier to achieve, it did increase the level of the target and changed the nature of the target from indicative to mandatory. Once again, it thus acted as a champion of greater climate policy ambition.

Member state preferences

As predicted by the rational choice baseline, member states' enthusiasm for an EU renewable energy directive was muted. Their main concern was the preservation of national renewable energy support schemes. Prior to the Commission proposal, when debates about a potential harmonization and "liberalization" of support schemes were still ongoing, only those countries planning to introduce such a system anyways favored the move. These included "Denmark, the Netherlands, the United Kingdom, Italy and the Flemish part of Belgium" (Lauber 2005, p. 48). Leading the opposition was Germany, defending its feed-in tariff. When discussing the Commission's proposal, the member states also first reached agreement on the (at least temporary) preservation of their national support schemes; other issues proved more contentious (European Report, 29 November 2000).

There were few calls for greater policy ambition: only Denmark and Germany supported mandatory national targets for the share of renewables; all other member states preferred non-binding indicative targets (Lauber 2005, p. 45). As the home

of relatively large renewable industries and as the largest exporters of renewable energy equipment this also tends to confirm the rational choice baseline. Even though the targets were merely indicative, three member states (the Netherlands, Finland, Portugal) demanded and got lower targets. The UK, Netherlands, and Italy demanded an expansion of the definition of renewable energy: as in their domestic legislation, they wanted waste incineration to be counted as a renewable energy source (ENDS Report, September 2000; Lauber 2005, p. 39, Rowlands 2005, p. 968). The Council's Common position accommodated most of these demands (European Council 2001): it expanded the definition of renewables to include landfill gas and sewage treatment plant gas and it voted in favor of indicative rather than mandatory targets. The Council's Common Position also expanded the definition of renewables to include large-hydro-electric power plants and turned the shall-provision on priority grid access into a "may" provision. Both of these changes tended to favor large traditional utilities, as the rational choice baseline would lead us to expect.

As the directive was relatively un-ambitious and hence uncontroversial, not much public information about member state preferences is available. Thus, I will limit my more detailed analysis to Germany. At the time of the negotiation of the RES-E Directive, German traditional utilities still clearly employed more people than the renewable energy sector. As noted above, the German electricity sector employed a bit more than 200 000 people in 1999, which compares to estimates of direct and indirect renewable energy employment (for electricity, transport, heating/cooling) of between 80 0000 and 130 000 in 2000 (Staiß 2001, p. I-17).[249] Germany at the time was already one of the bigger exporters of renewable energy equipment, though the share in total exports was still small. Overall, we would thus expect the German government to not be overly ambitious in terms of promoting EU renewables legislation. Instead, we would expect it to merely defend its own pre-existing national policies.

In fact, the German position was more ambitious than predicted, though Germany was quite adamant in the defense of its domestic renewable energy support mechanisms (e.g. Hirschl 2008). Thus, the German Parliament's resolution on the directive suggested that the directive oblige each member state to adopt mandatory rather than merely indicative targets for renewables penetration (Deutscher Bundestag 2000). At the same time, it insisted on subsidiarity in terms of the support system adopted by member states, as long as they achieved their targets. It went on to point out the huge success of Germany's feed-in tariff system during the 1990s (compared to the UK's tendering system) and proposed

249 Staiß 2001 only calculated employment effects of renewables in Germany, not in all EU countries, which is why I do not cite his data when developing baseline predictions.

that other member states adopt German (and Danish) rules concerning priority grid access for electricity from renewable sources. Prior to the Commission proposal, as described above, Germany had already vehemently opposed plans for a quota and tradable certificates system and thus led the Commission to reconsider its plans (ENDS Report, February 1999).

While the defense of domestic arrangements is consistent with the rational choice baseline's predictions, the greater ambition in terms of mandatory targets requires some additional explanation. According to Hirschl (2008, p. 355f.) the 1998 change of the government from a conservative-liberal to a "Red-Green" coalition was important in this regard. The conservative government had initially introduced the StrEG, Germany's first feed-in tariff law in 1991, which had required utilities to connect renewable electricity installations to the grid and to pay a fixed rate for the electricity received (Jacobsson/Lauber 2006, p. 264). This had led to a significant increase in renewable energy production, notably in wind-power. Throughout the 1990s, the German utility industry had sought to weaken or abolish the feed-in law by lobbying coalition politicians with increasing success. Yet when the Red/Green government came into power, one of its stated goals was to expand and reform the previous feed-in system. In March 2000, it passed the new Renewable Energy Sources Act (Erneuerbare-Energien-Gesetz – EEG) which established higher feed-in rates than previously, differentiated by energy source, and set a target of 12.5% of total electricity consumption for renewables by 2010, as well as a 20% renewable electricity share for 2020 (Jacobsson/ Lauber 2006, p. 268). The same politicians who shaped the EEG, notably Hermann Scheer (SPD) and Hans-Josef Fell (Greens), also worked closely with the EP Rapporteur Mechthild Rothe (also from the German SPD) to ensure the German government took a positive (i.e. ambitious) stance on the RES-E Directive (Hirschl 2008, p. 355f.). These politicians worked closely with renewable energy lobbies and thus sidelined the traditional utilities despite their numerical superiority.

Overall, member states thus seem to have behaved in line with the rational choice baseline: they neither favored more ambitious rules, nor were they willing to change domestic arrangements significantly. If anything, the rational choice baseline would have led us to believe that member states would have even less ambitious preferences. The example of Germany, however, has shown that some additional factors were also important, notably the commitment of Green and Social Democratic politicians that happened to be in a majority at the time.

Bargaining Outcome

Given this constellation of preferences among the Commission, the EP and the member states, the rational choice baseline would lead us to expect a low ambition policy. The EP would not manage to introduce significant additional policy ambition into the directive, while the least ambitious member states would not be able to hold up progress. And this is largely what happened. After the European Parliament adopted its first reading position and the Council adopted its "Common Position", EP Rapporteur Mechthild Rothe and the Swedish Council Presidency negotiated a compromise during the first half of 2001 (Hirschl 2008, p. 370f.). As predicted by the rational choice baseline, the European Parliament was unable to score big points in the negotiation with a largely un-ambitious Council. Rather than raising the overall target for renewables to 23.5%, the member states managed to keep the Commission's target in place and to lower the targets for three individual member states.[250] The targets remained indicative rather than mandatory, though as a concession to the EP the Commission was to review at a later point whether mandatory targets were necessary (Hirschl 2008, p. 371). Parliament managed to ensure that only the biodegradable fraction of waste would be counted as a renewable energy source. Moreover, the EP managed to restore the Commission's suggested clause on priority grid access for renewables.

Overall, the rational choice baseline thus seems to offer a fairly good explanation of what happened. It correctly predicted that the Commission and in particular the European Parliament would be the driving forces behind the directive. Member states also preferred provisions that left national policy arrangements in place and did not overly burden traditional utilities. In the end, the EP got a few concessions, but in terms of the overall ambition level, the Council majority carried the day in the final negotiations.

7.3.2.2 Empirical Evidence from the negotiations of the Renewables Directive

We can now turn to evidence from the Renewables Directive. In order to understand the decision-making in this case, one needs to consider two "steps." The negotiation from the Commission proposal in January 2008 to the final political agreement in December of that year was only the second of these steps. The more important first step was taken in March 2007, when the European Council (i.e. the heads of state and government) endorsed the mandatory target of 20% renewables by 2020. Thus, in the following paragraphs, I discuss the main actors' positions from 2006 onwards, when ideas for the Directive were first floated. I

250 Not even the rules of mathematics stood in the way of this move …

discuss the positions in terms of the two most contentious elements of the directive: the nature and level of targets and the support system for renewable energy.

European Commission Preferences

The development of the Renewables Directive lends further support to the rational choice baseline's expectation about the Commission. While initially cautious, the Commission set the agenda by proposing a mandatory target for renewable energy and by offering an ambitious proposal for a directive. Its initial caution is observable in the 2006 Green Paper on Energy Policy, which did not yet include the proposal for mandatory renewables targets, though it identified sustainable development as a key objective for EU energy policy (European Commission 2006c). In its Renewable Energy Roadmap (European Commission 2007g), which was part of its "Strategic European Energy Review", the Commission proposed the mandatory 20% target for 2020. It also included a suggestion for the 10% biofuels target, arguing that this was "currently the only form of renewable energy which can address the energy challenges of the transport sector" (European Commission 2007g, p. 10).

After the endorsement from the March 2007 European Council, the European Commission developed the directive proposal throughout 2007, conducting an impact assessment and analyzing different options, especially for the distribution of targets among member states. The Commission investigated two ways of dividing up the targets: according to the "potential" (i.e. considering wind, sunshine, available biomass, etc.) of different member states and according to their economic capacity. In the end, the Commission decided on a hybrid system, which it considered to be most politically palatable: each member state would have to increase the share of renewables in its energy consumption by 5.75 percentage points. The remaining 5.75% increase (from 2007) needed to achieve the 20% goal was divided between member states according to per-capita GDP (e.g. Reuters News, 22 November 2007). After a number of (potentially quite supportive) member states, notably Sweden, Denmark, Finland, and Austria – complained that these targets would be too high, the Commission also introduced an "early starter bonus" for member states that already had a high share of renewable energy (European Report, 23 January 2008). Richer states with low shares of renewables received much tougher targets (UK, Netherlands, Luxembourg). When discussing the targets, it is also important to note that the Commission decided to set them as a share of final energy consumption rather than primary energy consumption (Howes 2010, p. 127). While this may look like a technicality, it did lead to an effective lowering of the absolute target member states have to achieve. As there are significant transformation losses in electricity generation

(between primary, i.e. coal, oil, gas, uranium, and final energy consumption, i.e. electricity), a 20% target for primary energy consumption would have required even greater efforts of member states. Thus, things became a little more bearable for all member states.[251] In addition, the Commission sought to allow the member states greater flexibility in achieving these targets establishing a system for the trade of guarantees of origin very much like the one it had wanted to introduce ten years earlier. At the same time, the Commission would have allowed member states to maintain their national support schemes by specifically excluding renewable energy supported by feed-in tariffs from the trading system (European Commission 2008g, Art. 6-11). Other important aspects of the proposed directive included specific measures to simplify administrative procedures for new renewable energy installations, requirements on information and training, priority grid access for renewables, and sustainability criteria for biofuels.

Overall, the Commission thus behaved largely as predicted: it sought to introduce an ambitious directive, but was concerned about designing it in a way that would be acceptable to member states. It carefully designed targets to reflect economic capabilities (and thus singling out a few states that would have to meet very tough targets) and tried to find a way to combine the flexibility of a renewable certificate trading scheme with the opportunity for member states to maintain feed-in tariffs.

European Parliament Preferences

The European Parliament also behaved largely as predicted by the rational choice baseline, both during the run-up to the Commission proposal and during the actual negotiation of the Directive. In response to the Commission's 2006 Green Paper on energy policy, the EP voted by an overwhelming majority for a mandatory 25% renewable energy target broken down by sector (electricity, heating/cooling, transport) in December 2006 (European Parliament 2006a; European Report, 19 December 2006). Shortly before the March 2007 European Council, the Parliament adopted a resolution drafted by the Conservative Karl-Heinz Florenz (EPP, Germany), reiterating its demand for 25% renewables by 2020 along with a 12.5% target for biofuels (European Parliament 2007b; European Report, 16 February 2007). In its resolution on the Commission's Renewable Energy Roadmap, the EP confirmed its support for mandatory targets, though it

251 The Commission, of course, did not justify the choice of energy calculation method with a desire to lower the effective amount of renewable energy used. Instead, it argued that a primary energy accounting method "discriminated" against renewable energies relative to nuclear or fossil fuels, which count for more energy used per kWh electricity generated (because of transformation losses) than renewables (e.g. in the Impact Assessment, see European Commission 2008l, p. 83).

now accepted the 20% renewables, 10% transport formula adopted by the European Council (European Parliament 2007c; European Report, 26 September 2007).

Once the Commission issued its Directive proposal, the EP designated the legislation to its Industry Committee (ITRE-Committee) and made Claude Turmes, a Green MEP from Luxembourg the Rapporteur for the dossier. After long and contentious debates, the committee adopted amendments on virtually all aspects of the directive in September 2008[252] (European Parliament 2008f). In terms of climate policy ambition, the most important EP amendment concerned the introduction of mandatory interim targets to be achieved by member states until 2020, combined with penalties for non-compliance (European Parliament 2008f). Under these rules, the Commission would be able to levy fines on member states based on the MWh-shortfall of renewable energy production. The non-compliant member states would then pay their fines into a fund to support renewable energy projects in those countries that exceeded their interim targets.

The EP also asked the Commission to spell out precise guidelines for the National Renewable Energy Action Plans[253] to be submitted by member states and gave the Commission the right to reject these plans if deemed insufficient (European Parliament 2008f, Amendment 104). In addition, the ITRE-Committee voted to change the flexibility system suggested by the Commission: instead of trading guarantees of origins, member states would be able to make so-called "statistical transfers" independently of the GOs. In addition, the ITRE-committee demanded priority grid access not only for renewable electricity, but also for biogas, simplified administrative procedures, and the greater inclusion of renewables in building codes.

The 10%-biofuels target was most contentious within the EP. Turmes and his colleagues from the Green Party actually preferred to call them "agro-fuels" and advocated an abolition of the mandatory 10% target (European Parliament 2008e). While Turmes drew much criticism for this stance within the ITRE-Committee, he did manage to convince other MEPs that the sustainability provisions for biofuels had to be strengthened (European Report, 2 June 2008; Financial Times, 9 July 2008; Europe Agri, 11 July 2008; Europolitics Environment,

252 The fact that seven Committees besides the ITRE-Committee issued an opinion on the directive proposal goes to show the degree of interest among MEPs on the issue. The other committees included Legal Affairs, Environment, International Trade, Economic and Mandatory Affairs, Transport, Regional Development, Agriculture and Rural Development (European Parliament 2008f).

253 This was important, notably to Turmes (European Parliament 2008f), because the National Energy Efficiency Action plans demanded by the Energy Services Directive had proven to be largely ineffective: they were not comparable between member states and did not "force" member states to confront issues they might not like to deal with.

18 September 2008). In the end the Committee voted for a 5% target for transport in 2015 and a 10% target in 2020, yet with significant restrictions. Thus, transport was to improve its energy efficiency, and a substantial sahre of the renewable energy used in transport would have to come from renewable electricity, second-generation biofuels or hydrogen produced with renewable energy. The EP also significantly expanded and specified the sustainability criteria for biomass more generally, not only for biofuels. Thus, it required that biomass must entail a reduction of GHG emissions relative to fossil fuels of 45%, rather than 35% as suggested by the Commission. This would rise to 60% by 2015. In addition, the ITRE-Committee demanded a review by 2014 of the sustainability of biomass use, and introduced references to the effects of indirect land-use change in the calculation of GHG emission of biofuels.

Overall, the EP again made itself the champion of more ambitious climate legislation, driving EU renewables legislation throughout the episode. As I discuss below, it had to drop several of its amendments in negotiations with Council, in particular those that would have made the directive more ambitious. Nevertheless, it shaped some aspects of the final directive.

Member state preferences

The rational choice baseline captures important aspects of member state positions. It is correct about two issues: the leaders during the negotiations and the fact that a chief concern for many member states was the preservation of national support schemes. Yet it cannot fully account for the level of policy ambition that was ultimately achieved. In the following paragraphs, I first discuss member state constellations in more general terms and then focus specifically on Germany and the UK.

As noted above, the decision-making process took place in two steps. Concerning overall policy-ambition, the first of these was more important, namely the agreement on mandatory targets at the March 2007 European Council. Prior to the European Council meeting, the mandatory renewable energy target of 20% suggested by the Commission was highly contentious. At the Energy Council meeting in February 2007, just three weeks before it was agreed, most member states were unwilling to agree to such a target – they merely endorsed a non-binding goal. Before the Energy Council meeting, only Germany, the Council President at the time, Denmark, and Sweden had supported the mandatory target (European Report, 2 February 2007); by the time of the Energy Council meeting, "more than ten" member states were in favor, according to Energy Commissioner Piebalgs, though most were still opposed (AP German World Stream, 15 February 2007). Multiple of my interviewees also named Spain and Slovenia as supporters

of the mandatory renewables target. Other member states, notably the UK, France, Finland, the Czech Republic, and a number of other East European countries advocated a "low-carbon-energy" target instead, which would have also included nuclear energy. While Commission President Barroso apparently managed to convince UK Prime Minister Blair of the renewables target sometime between mid-February and early March 2007 (Reuters – Nachritchten auf Deutsch, 6 March 2007), the others held out until halfway through the European Council meeting on 8 and 9 March (Financial Times Deutschland, 6 March 2007; Stuttgarter Zeitung, 7 March 2007). France was particularly adamant in demanding that nuclear power should be treated as a technological solution to climate change.

Given the constellation of interest groups in most of the member states outlined above, member states' reluctance towards the mandatory targets confirms the rational choice baseline. Moreover, countries identified by the rational choice baseline as supportive of renewables – Germany, Denmark, Spain – were among the countries willing to lead on the issue. Ultimately, however, the small number of leading countries managed to bring around the others. At the European Council meeting itself, after long discussions, the heads of state and government gathered in Brussels agreed to the 20% target. In my interviews and in subsequent reports, this agreement was largely attributed to the persistence and tenacity of German Chancellor Merkel and Commission President Barroso in pursuing a mandatory target (e.g. Die Tageszeitung, 10 March 2007; European Policy Center 2007; Süddeutsche Zeitung, 10 March 2007). What precisely Merkel did to bring around her colleagues is not entirely clear. According to various media sources, the promise to distribute the targets between member states and take into account both the wealth of different member states and their share of nuclear power when setting the targets played an important role (e.g. Reuters – Nachrichten auf Deutsch, 9 March 2007; Stuttgarter Zeitung, 9 March 2007). Whether that sufficed to bring around France, which had previously been adamant about the introduction of a low-carbon-energy target is unclear. Various speculations exist: Merkel might have accommodated France on other issues negotiated at the time, notably the further liberalization of the electricity and gas markets, or on telecommunications. Chirac may also have been more mild-mannered than usual because the summit was expected to be his last, as he was to step down as President shortly thereafter.[254] In any case, the result of this summit clearly goes beyond what the rational choice baseline can explain.

254 At the subsequent press conference, Chirac lauded Merkel's "intelligence et élégance", which had made possible the deal (e.g. Die Tageszeitung, 10 March 2007).

After the Commission proposal came out, many member states thought that their targets were too ambitious. Yet it also quickly became clear that if any member state were to lower its target, it would have to find another member state willing to take on a higher target. Thus, in the Energy Working Group, where the member states negotiated the directive, the question of targets was simply set aside after the first meeting and not further discussed[255] (Interviews Dolinsek 2011, European Council Official 2011). Instead, the main points of contention became the flexibility mechanisms suggested by the Commission, as well as the sustainability criteria for biofuels. Again, those countries with domestic feed-in tariffs, led by Germany and Spain, sought to preserve this arrangement. They exerted pressure on the Commission even prior to its proposal (e.g. European Report, 21 January 2011) and then actively opposed GO-trading arrangements suggested by the Commission. The Commission had anticipated the member states' reaction and had tried to design the system in a way that could accommodate feed-in tariffs. Nevertheless, countries with feed-in tariffs feared that the establishment of the GO-system might indirectly undermine the legality of their existing arrangements. Countries like the Netherlands and the UK, however, both of whom had very demanding targets relative to previous developments in their renewables sectors, insisted on trading provisions (European Report, 24 January 2008). After much back and forth, the UK, Germany, Poland and Spain jointly proposed a compromise solution that would combine the preservation of feed-in tariffs with flexibility mechanisms: namely the possibility to do statistical transfers between member states exceeding their renewables targets and those that did not meet theirs, the possibility for joint projects and for projects in third countries to count towards member states' goal achievement.[256]

Having outlined the overall picture of member state preferences, let me now turn to two member states in greater detail, namely to Germany and the UK. *Germany's* behavior concerning the Renewables Directive largely conformed to the rational choice baseline expectations. As seen above, its renewable energy sector had roughly caught up with traditional utilities by 2008, and it was a major exporter of renewable energy equipment. Thus, it was strongly in favor of a mandatory renewables target. Germany supported the 20% mandatory target before most other member states (BMU-Pressedienst 2007; Dow Jones Unternehmen Deutschland, 29 January 2007; European Report, 2 February 2007) and Chancellor Merkel pushed her colleagues to accept the target when Germany

255 At various political levels, individual member states did raise the issue again, but without avail.

256 Multiple interviewees, both those participating in the negotiations and observers from lobby groups and NGOs, told me this version of the emergence of the final agreement on support schemes.

held the rotating Council Presidency in the spring of 2007 (e.g. European Policy Center 2007). When the Commission came out with its proposal, Germany accepted its 18% target, which corresponded to Germany's own previously adopted national target for the share of renewables in energy consumption (e.g. Deutscher Bundesrat 2008b).

Germany's main substantial interest was the preservation of its national feed-in tariffs. As in 2000/2001, Germany strongly opposed the Commission's plans for certificate trading (Financial Times Deutschland 9 January 2008; European Report, 16 January 2008). Even after the Commission's proposal had explicitly tried to address German concerns by exempting renewable energy sources receiving feed-in tariffs from GO trading, Germany continued to oppose the Commission's trading plans (Dow Jones, 29 January 2008). It feared that any reference to GO trading could undermine its technology-specific feed-in tariffs because Germany might not fulfill the criteria for exemptions from state-aid rules or because it would be forced to open its tariffs to operators outside its borders (Poschmann 2008).

Germany wasquite responsive to its renewable energy lobbies. The *Bundesverband Erneuerbare Energie* (BEE), the "peak association" representing the German renewable energy industry and various other (technology specific) renewable energy associations had asked the German government to push renewables during its Council presidency (BEE 2006, BEE et al. 2007). Though they asked for a 25% overall mandatory target, broken down into mandatory sectoral targets, they were quite happy with the targets Merkel obtained in March 2007. The German renewable energy lobby also voiced strong opposition to the GO-trading model proposed by the Commission (BEE 2007, BEE 2008), a cause the government readily took up during 2008. Germany appears to have been less responsive to traditional utilities: they had repeatedly called for an EU-wide "harmonization" of renewable energy support schemes, hoping to get rid of the feed-in tariffs they had long opposed (e.g. BDEW 2007a, 2007b, 2007c, 2008a, 2008e).

While the German government thus supported the interests of its own renewable energy industries and farmers, an explanation that focuses on administrative adaptation costs can also largely explain the German negotiating position. Germany's target under the Commission proposal corresponded to a target adopted in Germany's Integrated Climate and Energy Program and its main negotiating goals was to preserve feed-in tariffs. Thus, both national interest group constellations, which were relatively favorable towards renewables operators in the electricity sector and previous policies provide a good explanation for the German position. This is hardly surprising: as the existing laws, in particular feed-in tariffs, were quite favorable to the renewable energy industry, the latter lobbied in favor of preserving this legislation. Overall, we can thus consider the observation

of the German negotiating position additional evidence in favor of the rational choice baseline.

Britain's initial concern regarding the Renewable Energy Directive was the nature and level of its target. As outlined above, its renewable energy sector was fairly small as compared to traditional utilities. Similarly, farmers accounted for a very small share of employment. Thus, it is unsurprising that there would be no demand for an ambitious mandatory renewables target. Prior to the March 2007 European Council, the UK had accordingly advocated a "low carbon energy" target, hoping to count nuclear and CCS towards any such target. As noted above, the decision to go along with the 20% target was Tony Blair's, shortly before he left office as Britain's prime minister. Yet even after March 2007, the UK continuously tried to effectively lower the target it had to achieve itself. An internal government memorandum drafted in the summer of 2007 and leaked to the Guardian Newspaper showed that the government was weighing options to water down the renewables target (The Guardian, 13 August 2007, 14 August 2007, UK Government 2007). The paper argued that a target of 9% renewable energy in primary energy use was challenging for the UK and that officials had tried to convey this message to the Commission. It also considered "options ... for statistical interpretation of the target that would make it easier to achieve" (UK Government 2007, p. 9), namely the expression of the target in terms of final energy consumption or the inclusion of "low-carbon energy sources" such as nuclear. The paper also recommended that the UK ask the Commission "to consider a range of burden-sharing mechanisms" and to signal that "the more flexible the approach in the directive, the easier it is to take on a burden-sharing target" (UK Government 2007, p.6). The main flexibility options considered included the possibility to trade within the EU and to count investments in developing countries towards the targets.

These themes continued to shape the UK position throughout the negotiations. Thus, the government was initially reluctant to accept the target of 15% suggested by the Commission (European Report, 16 January 2008). When informing the parliament about the Commission proposal, the Minister in charge noted that "whatever the agreed target, the scale of the ambition involved will require a major economic effort" (UK House of Commons 2008c, p. 5), implying that the target was still up for debate. Later on during the negotiations, the UK promoted the exclusion of aviation energy use from the denominator used to calculate the share of renewable energy in final energy consumption (The Guardian, 26 September 2008). This provision, also favored by island nations like Cyprus and Malta as well as Italy, effectively lowered the amount of renewable energy the UK had to produce by 2020. Britain was also skeptical of giving priority access to renewables, and tried to weaken the provision by changing the relevant clause

from a "shall" to a "may" provision (The Guardian, 24 July 2008). Given the strong position of traditional utilities relative to the renewable energy industry this is again not surprising.

The UK was quite happy with the flexibility mechanisms based on GO trade suggested by the Commission (European Report, 24 January 2008, 21 April 2008; UK House of Commons 2008c, p. 6). In fact, a number of my interviewees – though not the ones from the UK government – told me that the UK had worked closely with the Commission on the design of the GO trading scheme. Given the UK's previous policies to support renewables, this is not surprising. In the 1990s, it had imposed a "non-fossil fuel obligation" on utilities to promote both nuclear energy and renewables. Utilities had to acquire certain amounts of electricity from renewable sources through a tendering process (Dinica 2005; Kelly 2007; Mitchell/Connor 2004). Due to the scheme's limited success, however, the UK switched to "Renewable Obligation" with tradable certificates in 2000 (Ibid.). As the price of these certificates was essentially capped, the system was relatively favorable to utilities. An EU-wide GO-trading system would thus have been easily compatible with the British system. As in the case of Germany, both interest group constellations and previous policies appear to provide an adequate explanation of the British position. As both point in the same direction, however, they are analytically hard to distinguish.

Summing up the discussion of member state preferences, we find significant support of the rational choice baseline in terms of member states' overall attitude towards renewables and on the specific policy design they supported. Yet, as I discuss in the next sub-section it cannot account for the ambition level ultimately reached based on these preferences.

Bargaining Outcome

According to the rational choice baseline's hypothesis on bargaining outcomes, we would again expect the "pivotal member state", i.e. the last member state whose support is required for a qualified majority to set the ambition level. It is quite clear that whoever it was would not have supported a mandatory renewables target as late as early March 2007. Too many member states were demanding a "low carbon energy" target or a merely indicative target. Thus, the rational choice baseline cannot account for the mandatory 20% target and the overall ambition level of the directive that ultimately resulted.

Given the decision about overall ambition by the European Council, however, the negotiations proceeded much as the rational choice baseline would lead us to believe. Compared to most of the member states, the European Parliament was clearly much more ambitious, particularly in terms of intermediate mandatory

targets and penalties. Yet given that it preferred the compromise accepted by member states to the status quo, it gave in on most of the elements that would have made the directive more ambitious. It was able to strengthen some of the sustainability criteria for biofuels, though it did have the support of a number of member states, notably the UK and the Netherlands on that issue. There was also clearly no qualified majority in favor of GO trading; nor would there have been a qualified majority in favor of an EU-wide feed-in tariff. It was also clear that some form of flexibility mechanism was required for member states to accept the overall target. Hence, the member states had to find a solution that could accommodate all their concerns, which they did.

Summing up, the rational choice baseline provides us with an adequate explanation for several aspects of EU renewable energy policy. It correctly predicts the "pushy" role of the European Commission and the European Parliament and the more skeptical attitude of most member states towards renewable energy. It also identifies the concern over pre-existing domestic arrangements as a key driver of member states' negotiating positions. Nevertheless, the rational choice baseline seems insufficient as an explanation of EU renewable energy policy: given the interest constellations in most member states, it is hard to account for why the member states didn't simply block Commission and EP efforts to promote EU renewable energy policy – no EU policy would have been even less onerous than a weak one. Moreover, interest constellations had become more favorable towards renewables by 2007/2008, but at most there was a stalemate in most member states. Thus, we should still not expect most member states to be in favor of an ambitious policy. By looking at the discursive environment in which these two directives emerged, we can fill these gaps, as I show in the following section of this chapter.

7.4 Explaining EU renewable energy policy – the analysis of rhetorical possibilities

In the following paragraphs, I describe the discursive environment during the negotiation of the RES-E directive and of the Renewable Energy Directive. I show that in 2000/2001, the discursive environment was still relatively permissive: public attention was not very high, the Kyoto protocol was agreed though not yet ratified, and no significant previous EU policies on renewables existed. Nevertheless, the latent concern about climate change and the popularity of the Kyoto Protocol would have made inaction hard to justify. In 2007/2008, the discursive environment was much more restrictive at all three levels. Previous legislation

had shown that indicative targets were insufficient, which made the case for mandatory targets (and thus more ambitious policy) much stronger.

7.4.1 The discursive environment in 2000/2001

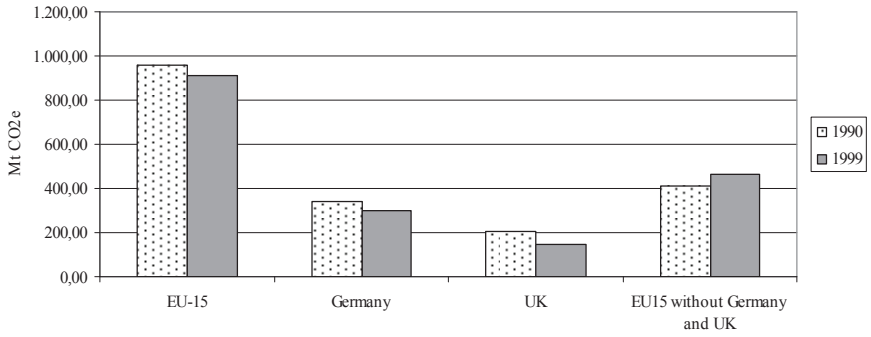
The RES-E directive was negotiated about a year before the EU ETS Directive and the EPBD. Thus, the *general policy environment* and the climate policy environment were quite similar to what I described for the time period of 2001-2003 in chapters 5 and 6. At a general level, opinion polls from the time suggested that climate change was not a big concern for most EU citizens, but that there was some latent worry about the issue. Newspaper frequency counts showed that global warming played a relatively minor role on the public agenda.

The *climate policy environment* was only somewhat restrictive. During 2000, critical negotiations on the details of the Kyoto Protocol took place and ultimately broke down at The Hague in November of that year. Throughout the period there was uncertainty about the future of the Kyoto Protocol, though the EU had always maintained its willingness to bring the negotiations to a successful conclusion. President Bush's decision to withdraw from the Protocol, however, which galvanized European support for international climate policy, did not take place until late into the negotiation of the directive. It thus probably did not play much of a role. The situation at the domestic level was also still quite permissive. EU climate policy did not yet amount to much: the SAVE-Directive, the agreement with ACEA, a Directive on car fuel efficiency labeling and the Landfill Directive (though the latter was primarily passed for other reasons) were the only other sectoral climate policies at the time. The European Commission launched the European Climate Change Program around the same time it published its proposal for the RES-E Directive. Thus, more sectoral policies were being discussed at the time, but it was still quite easy for any sector (i.e. in this case traditional players in the electricity market) to argue that they were unfairly being singled out. Yet, the argument was becoming more difficult to make.

The *sectoral policy environment* was also relatively permissive in 2000/2001. For the EU as a whole, emissions from "Public Electricity and Heat Generation" had fallen between 1990 and 1999 (the latest year for which data was available at the time the Commission's published its proposal). Yet, as shown in Figure 7.2, the reduction was entirely due to the reductions in Germany (because of reunification) and in the UK (due to the "dash to gas"). For the EU as a whole, emissions from electricity and heat provision had risen prior to the negotiation of the RES-E Directive: thus it was hard to argue that the sector was already "doing its part." Yet no previous policies aimed at increasing the uptake of renewable energy technologies were in place at the time. Hence the opponents of ambitious legislation were quite

free to argue that a "soft" measure with much subsidiarity would be sufficient to the task. While the proponents of ambitious legislation could call this into doubt, they could not point to a specific experience in support of their argument.

Fig. 7.2: Development of GHG emissions from "Public Electricity and Heat Production" 1990-1999



Source: UNFCCC Website

The proponents of the directive on electricity from renewable sources tried to exploit those elements of the discursive environment, which were available for them to draw on. Thus, the Commission justified its proposal for the directive as "an important part of measures aimed at meeting the obligation to reduce the emission of greenhouse gases accepted by the EU at Kyoto" (European Commission 2000d, p. 2). Similarly, the EP's Rapporteur Mechthild Rothe explained in the explanatory statement to her report on the Commission's directive proposal that "[r]enewable energies are an integral feature of an effective strategy to protect the climate; they help achieve the Kyoto objectives" (European Parliament 2000b, p. 38). Unless renewables use was greatly expanded it would be "increasingly difficult to meet existing international environmental and climate protection obligations" (Ibid.). The proponents of ambitious legislation also tried to argue that "[o]nly if the targets are legally binding is it possible to guarantee that all necessary efforts are made by the Member States to develop renewable energies" (European Parliament 2000b, p. 22). Yet it was quite easy to find arguments against such a stance, as the Commission showed in its explanatory memorandum to the proposal. While there were "important arguments in favor of" mandatory targets, "there are good arguments for maintaining a large degree of flexibility for member states" (European Commission 2000d, p. 3-4).

While the proponents of ambitious renewable energy policy thus tried to exploit the aspects of the discursive environment that favored their side, a look at the opponents showed that the discursive environment was quite permissive. Eurlelctric, the EU-level lobby of traditional electric utilities, issued a four-page

statement on the Commission's directive proposal, in which it referred to climate change only once. More concretely, it argued that "the RES-E targets create an additional and unnecessary constraint, which limits the flexibility of Member States, to be able to select the most economic strategy for meeting Kyoto targets. Moreover, the relationship between the concept of climate targets and RES-E targets remains unclear" (Eurelectric 2000b, p. 5). The association neither acknowledged that climate change was a problem nor that renewable energy was a solution to it. It merely supported a "regulatory framework for the temporary promotion of renewables in the internal energy market" (Eurelectic 2000b, p. 3), and emphasized the need for a harmonization of support schemes in the context of a competitive market. Eurelectric also criticized targets as overly ambitious, and noted that the "burden of meeting any targets should not exclusively fall on the electricity sector" (Eurelectric 2000b, p. 5). Overall, the statement displays that there was apparently very little social pressure to acknowledge the need to address climate change, and it was acceptable to openly argue against an ambitious policy. Seven years later, this situation had significantly changed, which is also reflected in Eurelectric's statement on the Renewables Directive. Before I discuss the content of the latter statement, let me outline the main elements of the discursive environment in 2007/2008.

7.4.2 The discursive environment in 2007/2008

As I described in chapter 4, both the general and the climate policy environment were very restrictive in 2007/2008. Public opinion surveys showed much greater concern about global warming than previously; mentions of climate change in newspaper articles soared. The EU's stated desire to lead on the design of a post-Kyoto international climate regime and its 2020 targets made domestic action imperative. Internationally, many countries were announcing their intention to introduce more stringent climate legislation. Within the EU, most sectors now faced at least some climate policy measures.

At the sectoral level, the discursive environment in 2007/2008 was also more restrictive than before. EU-15 missions from "public electricity and heat production" had stabilized from 2004 to 2006, but were still 7% above 1990 levels by then (EEA 2008a, p. 47f.). Excluding Germany and the UK, where emissions had fallen, there was a significant increase in electricity and heat related emissions. Emissions from households, i.e. from heat provision in buildings, had been stable since 1990, but had hardly fallen. GHG emissions from transport, as we have seen, had significantly increased in virtually all member states (see Chapter 4). Thus, it was hard to argue that GHG emission trajectories for energy provision in electricity, heating/cooling or in transport was satisfactory.

In addition to the emission trajectories, the limited success of previous low ambition policies in favor of renewables in electricity and transport further restricted the discursive environment. By 2007 it was clear that neither the 12%-target set in the 1997 White Paper, nor the targets of the RES-E Directive and of the Biofuels directive would be met by 2010. In early 2007, the Commission estimated the contribution of renewable energy to reach a mere 10% by 2010 overall (European Commission 2007g, 4). While the electricity target would be almost met (19% expected by 2010 instead of 21%), renewables penetration in the transport and heating/cooling sector was far from the indicative target trajectory. Thus, it was quite difficult to argue that a "soft" approach was apt to lead to an increase in renewables penetration.

The Commission clearly exploited the more restrictive discursive environment. In its Renewable Energy Roadmap, it affirmed that the "importance of climate change has never been greater" (European Commission 2007g, p. 14). In the Communication accompanying its Climate and Energy Package, it stated that "[p]ublic 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" (European Commission 2008g, p. 2). The failure to reach previous renewables targets, it argued in the 2007 "Renewable Energy Roadmap" was at least partly due to the fact that "national policies have been inadequate for achieving the EU target (European Commission 2007g, p. 5). "The majority of member states [were] still significantly lagging behind in their efforts to achieve the agreed targets" (European Commission 2007g, p. 7). Based on previous experiences, the Commission concluded that "[t]o be effective, targets have to be clearly defined, focused, and mandatory" (European Commission 2007g, p. 10).

The more restrictive discursive environment is also evident in the opponent's statements on the Directive proposal. Eurelectric's April 2008 position paper on the draft Renewable Energy Directive opened with the assertion that "EURELECTRIC supports the promotion of renewable energy as part of a portfolio of measures needed to meet the energy and climate challenges facing Europe" (Eurelectric 2008, p. 4).[257] Its previous critique of feed-in tariffs was substantially muted (though by no means gone): "Incentive schemes should avoid distortions to competition. Harmonization of incentive schemes based on RES certificates should be maintained as the long term aim as Europe moves towards a pan-European electricity market" (Ibid.). Eurelectric called the mandatory targets "very challenging" but at no point asked for a reduction – instead it asked policy-makers to ensure that the renewable energy targets do not undermine the EU's main climate political in-

257 Note that the word "temporary" is no longer contained in the sentence.

strument, the EU ETS. It also uttered its concern that the price rises implied by support for renewables might "not be accepted by the public, causing a reduction in political commitment to renewable energy, and a "boom-bust" cycle which would damage the long-term development of renewables" (Eurelectric 2008, p. 6). Compared to the RES-E Directive, Eurelectric thus adopted a very positive tone towards the Renewables Directive, which we would expect, given the more restrictive discursive environment.

Eurelectric also pointed out that its members are "major investors in renewable energy" and that they hence had an interest in a stable support framework. Thus, the softer tone might partly be the result of a change in underlying interests. Yet this is hardly the entire story: most of the substantial points in the statement still pointed in the same direction as in 2000/2001. Eurelectric still preferred a renewable quota with green certificate trading to offer maximum flexibility, considered the Commission's proposed trading mechanisms insufficient, and called for a long-term harmonization. It also opposed priority grid access for renewables and asked for an adequate share of the overall 20% to be contributed by transport, heating and cooling. Moreover, the mere fact that less than 20% of electricity at the time was generated from renewable sources suggests that for the great majority of Eurelectric members' underlying interests had not fundamentally changed.

*Table 7.15: Answers to the interview question: "Why was a more ambitious EU renewable energy policy possible in 2007/2008 than in 2000/2001?"**

Affiliation of Interviewee	Generally more public/political attention to climate change	Stronger position of the renewable energy industry in Europe	Previous Targets had proved insufficient	Experience gained through the original RES-E Directive	Security of Energy Supply concerns	Other*
European Commission	x		x			
European Commission						x
European Commission	x					
MEP	x			x		
MEP		x				x
Government/Council			x			
Government/Council	x				x	x
Government/Council	x	x		x		
Government/Council	x					x
Government/Council						x
Industry/Agriculture				x		
Industry/Agriculture	x		x	x	x	
Industry/Agriculture				x		
Industry/Agriculture		x		x		x
Industry/Agriculture	x					x
Environmental NGO	x		x	x	x	x

* Includes technological progress, policy-makers beliefs, more developed EU energy policy overall, German Council Presidency, inclusion in Climate & Energy Package, Franco-German cooperation, positive economic situationnot sure

Overall, I have thus shown that the discursive environment was significantly more restrictive in 2007/2008 than in 2000/2001 and that this discursive environment appears to have made a difference to how the main actors argued about EU renewable energy policy. The analysis of rhetorical possibilities thus complemented the insights of the rational choice baseline. While the latter correctly

predicts a more favorable environment for renewables, it cannot fully account for the move towards a mandatory 20% target. The changing discursive environment fills in (at least part of) the gap of the rational choice explanation.

My interviews with stakeholders who were closely involved in the development in one or both of the directives confirmed this explanation at least in part. As shown in Table 7.15, a slight majority of my interviewees mentioned the much greater concern about climate change in 2008 compared to 2001 as a cause of the greater ambition of the Renewable Energy Directive. Several interviewees also identified the failure of previous targets, i.e. an aspect of the sectoral policy environment. Yet a relatively large number of interviewees said that there was simply more experience with renewables in 2007/2008. Several countries had shown that their domestic support schemes could bring renewables to a level where they accounted for a substantial share of energy consumption. The relevant decision-makers had thus learned that renewables could expanded "without the sky falling in", as one of my interviewees noted. In addition, a few respondents also mentioned the growing strength of the renewable energy industry, concerns about energy security, and a whole range of other factors. As noted previously, the value of the evidence from the interviews should not be overstated. Most of my interviewees did not know the questions in advance and hence had to come up with answers "off the top of their heads." Nevertheless, Table 7.15 provides additional support for my theoretical framework: changes in interest group constellations in favor of renewables mattered, but more important still was the change in the discursive environment. Yet, before I draw any strong conclusions about my theoretical framework's ability to account for EU renewable energy policy, let me discuss more systematically a number of additional explanatory factors.

7.5 Alternative explanatory factors

As in previous chapters. I start by showing that transnational non-governmental actors' impact on the directives was limited – neither traditional utilities nor renewables producers and NGOs seem to have been decisively influential. Similarly, party politics and general leader-laggard dynamics had at most a marginal impact on the development of the policy. The importance of package deals, however, cannot be excluded. Moreover, there is evidence that policy-learning made member states more willing to accept high mandatory targets.

7.5.1 Transnational interest group constellations

If we look at the process through which the precise directives on electricity from renewables and the later Renewable Energy Directive emerged, it is clear that transnational interest groups and environmental NGOs were heavily involved – especially in shaping opinions in the Commission and the Parliament. Yet their impact on the overall level of climate policy ambition appears to have been limited. The positions they supported were largely similar in 2000/2001 and 2007/2008. Renewable energy lobbies were obviously stronger at the EU level in the latter period, yet this largely reflected their strength in a number of key member states, notably Germany.

As at the national level, utilities were unenthusiastic about the promotion of renewable energy sources. Thus, Eurelectric, the electric utilities' representation in Brussels, called the 12% target for renewables set out in the Commission's White Paper "more than ambitious", requiring "very large economic sacrifices" (ENDS Report, December 1997). In terms of substantive policy, Eurelectric tried primarily to promote an EU-wide certificate trading model and to effect a phase-out of feed-in tariffs (Eurelectric 1999, 2000b, 2008). As we have seen, the tone in which this demand was made, changed between 2000/2001 and 2007/2008 – in terms of substance it remained largely stable. Eurelectric's position on the issue appears to have influenced – or at least been congruent with – the thinking of many Commission officials. Yet both in 2000/2001 and in 2007/2008, Eurelectric and the Commission failed to push member states with different support schemes into trading green certificates. This was despite the fact that industry overwhelmingly supported Eurelectric's position on tradable certificates because of a belief that this would allow target achievement most cost effectively (Business Europe 2008).

The position of both the renewable energy industry and NGOs appears to have been similarly stable over time. Prior to the Commission's proposal for the RES-E Directive, the WWF and the European Renewable Energy Federation (EREF), jointly published their own proposal for a directive (European Report, 25 March 2000). According to their ideas, member states would have to set themselves mandatory targets and be explicitly allowed to subsidize renewables through feed-in tariffs so long as the external costs of non-renewable energy sources were not fully accounted for. Greenpeace and other renewable energy federations also called for mandatory targets rather than the indicative ones suggested by the Commission (Europe Energy, 12 May 2000, 10 November 2000).

After the passage of the RES-E and the Biofuels Directive, NGOs and the renewable energy industry focused their attention on introducing a third renewables directive to cover heating and cooling (e.g. EREC 2005). Moreover, they continued

their quest for mandatory rather than indicative targets (Greenpeace et al. 2006). As early as January 2004, the renewable energy industry's peak association EREC (European Renewable Energy Council) also called for a 20% renewables target for 2020 (EREC 2004). NGOs even demanded 25% at the time (WWF/ Greenpeace/Friends of the Earth 2004). Concerning more specific legislation, the renewables industry and NGOs strongly advocated binding sectoral targets, i.e. for electricity, heating/cooling, as well as for transport (EREC 2007a, 2007b; Greenpeace 2007c). In a very detailed October 2007 position paper on the upcoming Renewables Directive, EREC (2007b) also demanded interim mandatory targets, a mechanism to fine member states that did not meet their interim targets, a renewable energy fund financed through these fines, the introduction of "one-stop-shop" administrative procedures for renewables, and further improvements in terms of grid access. EREC also suggested that each member state increase its share of renewable energy consumption by 13 percentage points and strongly came out against a harmonization of support schemes.

The EU did meet the demand for a mandatory 20% target in the end, but the process of adoption was a decidedly intergovernmental one. While the renewable industry and NGOs may have contributed to setting the agenda in this regard, it was primarily a national government (the German one) with a strong domestic renewable industry that browbeat its partners into accepting the mandatory target. The EP Rapporteur Claude Turmes took up many of EREC's suggestions, but member state governments again rescinded the (in terms of climate policy ambition) important ones. The balance between different transnational interest groups also shifted in favor of the renewables industry between 2001 and 2008, though the electricity industry and its allies still constituted a formidable force. In terms of overall policy ambition, a look at transnational actors thus provides us with few additional insights.

7.5.2 Party politics in the European Parliament and in the member states

Both in the European Parliament and among the member states there is very limited evidence that party politics had an impact on negotiating positions. As outlined in chapter 4, the left held a larger proportion of seats during the 2000/2001 negotiation than in 2008. Yet in both cases, the EP adopted positions that were more ambitious than the Commission proposal and most of the member states' positions. The Rapporteurs for both directives came from the left of the political spectrum – Mechthild Rothe in 2000/2001 from the Socialists and Claude Turmes in 2008 from the Greens. When the RES-E Directive was negotiated there was some opposition from conservative and liberal MEPs (Hirschl 2008, p. 371); yet for the most part, there was cross-party cooperation on renewables

(Hirschl 2008, p. 354). In 2007/2008 there was clearly support from Conservative politicians as well: in February 2007, a resolution drafted by the EPP deputy Karl-Heinz Florenz and adopted by an overwhelming majority called for a 25% mandatory target for renewables (European Report, 16 February 2007). The ITRE-Committee adopted its position in September 2008 with a vote of 50 to two (Europolitics Monthly, 29 September 2008). Thus, while left-leaning politicians were the driving forces behind the EP's position, they found a lot of support from liberals and conservatives as well.

*Table 7.16: Ideological position of member state governments 2000/2001**

Member State**	Left-Right 2000	Left-Right 2001
Spain	7,6	7,6
Austria	4,9	7,4
Ireland	6,2	6,2
Netherlands	5,1	5,1
Finland	4,7	4,7
Belgium	4,6	4,6
UK	4,4	4,4
Greece	4,3	4,3
Porugal	4,1	4,1
Denmark	4,0	4,0
Germany	3,5	3,5
Sweden	3,4	3,4
France	2,7	2,7
Italy	2,6	2,6

* , Scores for beginning of each year, lower score means closer to the left
** Ordereed by 2001-score, as this was when most of the negotiation took place, no data for Luxembourg available
Source: ParlGov Database (Döring/Manow 2010)

Tables 7.16 and 7.17 list the member states by ideological position in 2000/2001 and 2008. They suggest that party politics did not matter a lot in determining the positions of different member states. To be sure, in 2000/2001, the only member states willing to accept mandatory targets were Germany and Denmark, whose governments were relatively far to the left of the ideological spectrum. Moreover, as described above, the German Red-Green coalition government held a significantly different position on feed-in tariffs than its predecessor. Yet there is no indication that France or Italy, whose governments were even farther to the left, held similarly ambitious positions – nor is there evidence that Spain's right-wing government was a major laggard. In 2008, the German, Swedish, Danish, and Spanish governments were quite far apart ideologically, yet on renewable energy promotion they held quite similar views. The German chancellor Angela Merkel, the Conservative leader of a grand coalition, fought for EU renewable energy legislation just as adamantly as her Red-Green predecessors. Overall, we

are thus quite safe to discount the impact of party politics on the positions of the EP and the member states as marginal.

Table 7.17: Ideological position of member state governments, 2008

Member State**	Left-Right Score***
Denmark	7,3
Italy	7,1
Sweden	7,1
France	6,8
Czech Republic	6,8
Slovenia	6,7
Greece	6,4
Latvia	6,3
Finland	6,1
Estonia	6,0
Belgium	5,8
Ireland	5,8
Poland	5,8
Romania	5,8
Germany	5,1
Austria	5,0
Netherlands	4,9
Slovakia	4,4
UK	4,4
Bulgaria	4,2
Portugal	4,1
Spain	3,7
Hungary	2,8
* Data is for second half of 2008	
** Cyprus, Malta, Lithuania, Luxembourg unavailable	
*** Smaller number indicates further to the left	
Source: ParlGov Database (Döring/Manow 2010)	

Table 7.18: Per-capita GDP in EU-15 member states 2000

Member state	Per-capita GDP at PPS*
Luxembourg	245
Netherlands	134
Denmark	131
Ireland	131
Austria	131
Sweden	127
Belgium	126
United Kingdom	119
Germany	118
Italy	117
Finland	117
France	115
Spain	97
Greece	84
Portugal	81
* Purchasing Power Standards (EU-27 av.=100)	
Source: Eurostat	

7.5.3 General leader-laggard Dynamics

The evidence that the wealthier member states were more inclined to support renewable energy at the EU level than other member states also appears to be relatively limited. As shown in Table 7.18, Germany was in the middle of the per-capita-GDP ranking of member states in 2000, while Denmark was relatively close to the top. Yet other member states towards the top did not stand out as particularly active on EU-level renewable energy promotion. Neither did those at the bottom, which suggests that general leader-laggard dynamics played only a minor role.

Table 7.19: Per-capita GDP in EU-27 member states 2008

Member state	Per-capita GDP at PPS*
Luxembourg	280
Netherlands	134
Ireland	133
Austria	124
Denmark	123
Sweden	122
Finland	118
Germany	116
Belgium	115
United Kingdom	115
France	107
Italy	104
Spain	103
Cyprus	97
Greece	93
Slovenia	91
Czech Republic	81
Malta	78
Portugal	78
Slovakia	72
Estonia	68
Hungary	64
Lithuania	61
Latvia	56
Poland	56
Romania	47
Bulgaria	44
* Purchasing Power Standards (EU-27 av.=100)	
Source: Eurostat	

In 2008 (see Table 7.19), the main supporters of mandatory targets for renewables, Germany, Denmark Sweden and Spain were all at least above the average per-capita-GDP in 2008, though Spain was close to average. Among the Central and East European governments, Slovenia was probably the most supportive, i.e. a relatively wealthy new member state. Those member states promoting a "low

carbon energy" standard, on the other hand, included the UK and France among the wealthier countries, but also the Czech Republic, Romania and Bulgaria (e.g. Der Standard, 8 March 2007). Poland, one of the poorest member states also emphasized at the March 2007 European Council that it would be unable to meet a 20% renewable energy target and only agreed to it under the condition that its own target would be lower (Reuters – Nachrichten auf Deutsch, 9 March 2007). While it thus appears that wealth did matter somewhat for attitudes towards EU renewable energy policy, it is important to note that many of the East European countries had no problem with the biofuels target, which helped their farmers. This suggests that national interest group constellations were at least as important. Summing up, we can again not entirely reject the importance of "leader-laggard dynamics", but their importance was probably limited.

7.5.4 Package deals and other factors

There is no indication that the RES-E directive was the result of a package deal: neither the previous literature nor the media coverage at the time suggested any such thing. Given that most of its provisions were quite "soft", it is not likely that major "exchanges" would have had to take place to make them acceptable. In 2007/2008, the issue is less clear. As noted above, no public information is available on the kind of deals German Chancellor Merkel made in order to get agreement on the 20% renewables target. Yet it is clear that the 20% target agreed in 2007 and the directive agreed in 2008 were part of the larger "Climate & Energy Package", i.e. in parallel with the revised EU ETS directive, the CCS directive, the effort-sharing decision, and the car CO2 regulation. Thus, there was at least room for package deals, though two pieces of evidence suggest that package deals played only a limited role. First, at the March 2007 summit that agreed on the 20% target, the reluctant member states were promised differentiated targets taking account of each member state's national situation. And once the Commission had officially proposed the distribution of targets, the negotiators did not alter these targets, suggesting that they were roughly in the realm of the politically acceptable. Had there been a link to another policy, we would have probably seen more movement in the targets during the negotiation. Secondly, the French Presidency and the EP Rapporteur concluded the negotiation of the Directive prior to the December 2008 European Council, where the rest of the Climate and Energy Package was decided. Thus, it no longer constituted "negotiating material" at the summit that hashed out the rest of the climate compromise. Thus, we cannot exclude the possibility that package deals of some

sort[258] helped to bring about the Renewable Energy Directive, yet their importance appears to have been moderate.

As noted above, a significant number of interviewees also identified the experience gained in the implementation of the RES-E directive as an important factor in making possible the more ambitious Renewables Directive. A number of member states, most notably Germany, Denmark and Spain, had shown that a quick and significant expansion of renewable energy production could be politically brought about without major disruptions to the electricity system or the economy. This, they argued, gave policy makers much greater confidence that high targets could indeed be achieved. Moreover, it made arguments about the infeasibility of renewables expansion less credible. Thus, a certain "learning effect" was probably also important in facilitating the advancement of climate policy ambition in the renewables sector. Another area where "learning" was important is biofuels. For several years, they were seen as a panacea – making farmers wealthier, increasing energy independence, lowering CO2 emissions. Yet a series of academic studies, amplified by environmental NGOs showed significant problems in terms of the land-use changes and actual GHG reductions. Once policymakers became aware of these issues, they at least reversed course somewhat, by tightening sustainability criteria and effectively lowering the biofuels target. While agricultural lobbies for the most part rejected the findings from such reports, it is important to note that the lowering of biofuels targets did not really hurt farmers very much: given the need for other forms of biomass to achieve the 20% target in 2020, they are still assured significant demand for their products.

7.6 Conclusion

Having considered alternative explanatory factors, we can now conclude that my two-part theoretical framework can explain the main dynamics of EU-level renewable energy policy. As we have seen, this policy was largely driven by the European Commission, which enjoyed enthusiastic support from the European Parliament. Neither transnational interest group constellations nor party politics appear to have been decisive in shaping these two actors' positions, though they certainly did matter at the margin. Among the member states, those with the strongest domestic renewable energy lobby relative to other interest groups turned out to be the "leader" states. Moreover, between 2001 and 2008, renewable energy industries grew substantially, making them a much stronger force during the Renewable

258 Or that the Commission essentially worked out an implicit package deal, by dividing the burdens differently between member states in different climate directives negotiated at the time.

Energy Directive's negotiation. Nevertheless, in the majority of member states there was still at most a stalemate between proponents and opponents of renewable energy policy in 2008, and the balance was in favor of the latter in 2001. Hence it is unsurprising that most member states accepted no more than a low-ambition policy in 2001 and only accepted a medium ambition policy very reluctantly and in a situation where it was rhetorically very difficult to oppose such a policy.

As we have seen in this chapter, agriculture has a significant interest in renewable energy policy and thus contributes significantly to the reduction in GHG emissions from energy use. Agriculture is also a major emitter of GHG, an issue to which I turn in the last of my case studies, and which is the subject of chapter 8.

Chapter 8: Limiting agricultural ghg emissions in the EU – a successful non-policy

8.1 Introduction

The previous four chapters have dealt with sectors in which EU climate policy ambition has advanced over the past two decades. Agriculture, however, has not yet faced any such policies, even though it accounts for roughly a tenth of EU-27 GHG emissions. It thus constitutes a "negative" case, which provides us with additional variation on the dependent variable. In this chapter, I demonstrate that my theoretical framework can account for this negative case. The chapter starts with a descriptive section that discusses agriculture's role in climate policy, provides a brief historical overview of how successive reforms of the Common Agricultural Policy (CAP) have influenced GHG emissions, and outlines how EU policy-makers have debated climate policy for the agricultural sector. In this first section, I show that it is more difficult to regulate GHG emissions from agriculture than from other sectors: agricultural emissions often occur as a result of natural processes and they are difficult to monitor. Nevertheless, I argue that if policy-makers had wanted to actively limit agricultural GHG emissions, policy instruments would have been available. I then apply the two parts of my theoretical framework to the case. I show that there is basically no strong constituency in member states that favors reductions in agricultural GHG emissions. Moreover, the European Parliament has had a much less powerful role in agricultural policy-making than in other areas. While unfavorable interest group constellations do not necessarily mean that no policies will be adopted – as seen in previous chapters – agriculture also faced a very permissive sectoral discursive environment. Its emissions had continuously declined since 1990, which made it relatively easy to argue that no additional measures were necessary. Nevertheless, we are starting to see that a more restrictive general and climate policy environment has put pressure on agricultural policy-makers to start addressing the issue of GHG emissions.

As I discuss in the conclusion, the lack of agricultural climate policy is to some degree over-determined: many potential explanatory factors can account for it. Thus, it constitutes no more than a "weak" test for my theoretical framework. Yet it does provide for additional observations on the importance of the

discursive environment in shaping EU climate policy, especially when we compare it to other cases in chapter 9. This chapter is based on original research of EU and member state documents, think tank reports, media articles and a limited number of interviews. While there is a large literature on the CAP, virtually no previous political science research has dealt with the question of climate policy in this context. Hence, I hope that this chapter can also make a purely empirical contribution to the literature on EU climate policy.

8.2 Agriculture and climate policy in the EU

Before I turn to concrete policy, let me first discuss the complex relationship between global warming and agriculture. The relationship is two-directional in that future global warming is likely to have serious impacts on agricultural production, while agriculture is also a large contributor to anthropogenic GHG emissions (and hence to climate change). "Rising atmospheric CO2 concentration, higher temperatures, [and] changes in annual and seasonal precipitation patterns and in the frequency of extreme events" would all affect agricultural production, as would changes in water availability, pests, and soils (European Commission 2009c, p.2). Climate change is expected to cause higher grain yields in Northern Europe and a northward shift of grain production, while the effects on agricultural production in Southern and central Europe are likely to be negative (Olesen/Bindi 2002, p.248). Both in Northern and Southern Europe, it would require significant adaptations to agricultural practices.

Yet agriculture not only needs to adapt to climate change, it also has a threefold role to play in mitigating GHG emissions (e.g. Giupponi/ Bosello/Povellato 2007; Smith et al. 2007, p. 505f.): (1) as a provider of renewable energy sources, (2) as a carbon sink, and (3) by reducing its own emissions of N2O and CH4. Agriculture can provide renewable energy sources, which can replace fossil fuels, e.g. through the combustion of crops, residues or manures. As the burning of biomass releases only as much CO2 into the atmosphere as the burned plants "took out" of the atmosphere, it does not lead to higher overall GHG concentrations.[259] I have already discussed this role of agriculture in climate policy in the previous chapter and do not consider it here. Agricultural ecosystems can also serve as carbon sinks: they can take CO2 out of the atmosphere through photosynthesis and sequester carbon in soils, trees, and other plants. This process can be enhanced through a variety of agricultural methods, for example through low-

259 Though as discussed in the context of biofuels in chapter 8, the GHG balance is not always this positive when emissions from fertilizers, transport, processing etc. are included in the calculation.

or no-till farming, the preservation of pasture lands, and certain crop rotations (e.g. Smith et al. 2008)). I do not consider agriculture's role in sequestering carbon, however, as this mitigation option is always only temporary: depending on future land-use changes, all the carbon that is stored in plants and soils can (quite quickly) be released back into the atmosphere.

Instead, I focus on the third aspect, namely the GHG emissions that result from agricultural practices. The agricultural sector is the main emitter of N2O and of CH4, both of which are significantly more powerful greenhouse gases than CO2. N2O is emitted from soils when plants do not fully consume the nitrogen fertilizer (whether it is organic, i.e. manure, or inorganic) applied to a particular plot of land. Moreover, it is emitted from animal urine and manure, if the nitrogen content of fodder is incompletely digested. Methane emissions from agriculture are the result of enteric fermentation in ruminants (cattle, sheep), of the decomposition of manure, and of certain rice cultivation practices.[260]

Emission levels of these greenhouse gases are partly driven by the level of production. Thus, policies that encourage over-production (in particular of beef and dairy products) lead to greater GHG emissions in agriculture; policies that discourage production (in particular of beef, but also of other agricultural products), lead to lower GHG emissions. In addition, however, agricultural GHG emissions also depend on farming practices, for example on animal feed, manure management, or the precision of fertilizer application. For a given level of agricultural production, there are hence a number of potential abatement measures[261]: fertilizer application can be adjusted to more precisely match plant needs (in terms of location, timing, and quantity), animal feed can be adjusted to reduce enteric fermentation and the nitrogen content of urine and manure, anaerobic digesters[262] can be used to derive biogas from manure (e.g. Weiske 2006).

There is in fact some debate in the policy-oriented literature about where to draw the system boundaries concerning agricultural GHG emissions. Thus, agriculture

260 Rice fields are usually flooded with water after the seedlings are set in the ground. This deprives soil microorganisms of oxygen, which leads to the fermentation of soil organic matter and to the release of methane. These emissions can be reduced by draining the field several times during the growing season (e.g. Smith et al. 2008, p. 792). While globally, CH4 emissions from rice fields are important, their role in Europe is more limited.

261 The list given here is not exhaustive, but includes the main options. For a detailed discussion, see Giupponi/ Bosello/ Povellato 2007, Smith et al. 2007, Smith et al. 2008.

262 Anaerobic digestion is a technique by which manure (or other biomass) decompose without oxygen. Anaerobic digestion installations on farms are fed with manure and biomass, which is then separated into methane and solid fertilizer. The methane is captured as "Biogas" and can be used for electricity or heat generation. As a result of the combustion of methane, CO2 is released into the atmosphere instead of CH4, which is beneficial for the climate as the global warming potential of CO2 is 21 times lower than that of CH4 (e.g. Weiske 2006).

also causes emissions of CO2 from energy use, e.g. for the transportation of animals, feedstock, buildings, tractors, and other machinery. Similarly, fertilizer production is a cause of significant emissions. By including these emissions as well as those resulting from land-use change induced by an expansion of livestock farming, the Food and Agriculture Organization (FAO) in 2006 arrived at the statement that livestock activities contributed 18% of total anthropogenic GHG emissions (FAO 2006, p. 112), causing somewhat of a ruckus in the agricultural policy community. The IPCC's (1996) Common Reporting Framework (CRF), however, assigns the emissions from energy use to the energy sector and those from fertilizer production to the chemical industry. Emission reductions from biomass energy, on the other hand, count towards the energy sector as well, not the agriculture sector. Thus, when I speak of agricultural emissions in this chapter, I am concerned only with what the CRF classifies as such, namely methane and N2O emissions from livestock and soils.

In 2006, these accounted for a bit more than 9% of total EU-15 GHG emissions (EEA 2008a, p. 57), amounting to about 378 Mt CO2e. This was 11% less than in 1990. For the EU-27, agricultural emissions fell by 20% during the same time period. In the EU-15, the reduction of emissions was the result of various EU policies, namely reforms of the CAP and the Nitrates Directive. In Eastern Europe, it was mainly the result of declining livestock numbers after the fall of communism. Yet none of these policies were designed with the goal of lowering GHG emissions and their effects are likely to be exhausted soon. Thus, the European Environment Agency stated in its 2009 report on GHG emission trends that "very little emission reductions are expected from both existing and additional measures [in the agriculture sector] for 2010 to 2020. Agriculture is the sector where the least absolute and relative reductions are expected" (EEA 2009, p. 13). In the following two sub-sections, I describe how this state of affairs came about. After that I use my theoretical framework to develop an explanation.

8.2.1 CAP Reforms and agricultural GHG emissions

The CAP has long been a central element of European integration. It originally emerged in the 1960s with the aims of securing the livelihoods of farmers, ensuring an adequate standard of living in rural areas and supplying sufficient amounts of food for the European population. In pursuit of these goals, the CAP set minimum prices, protected European farmers from imports, provided export subsidies and bought excess supplies for storage (Rieger 2005). Over the years, this policy led to more and more excess production, necessitating continued increases in the CAP budget. It also enraged the EU's trading partners as the EU flooded world

markets with heavily subsidized agricultural goods while keeping its own markets closed to imports. Moreover, incentives to produce more and more grain, meat, and dairy products encouraged ever higher agricultural GHG emissions.

Since the early 1990s, however, a series of reforms of the CAP has reduced incentives for over-production. These reforms were mainly driven by budgetary concerns and pressure from trading partners, but also by (local) environmental concerns about water quality, animal, and food safety (e.g. Coleman/Tangermann 1999, Daugbjerg 2009, Daugbjerg/Swinbank 2007, Needergaard 2006, Patterson 1997). Concern about agricultural GHG emissions, however, played virtually no role in these efforts: neither the academic literature nor the policy documents (legislative texts, Commission Communications etc.) on the various reforms mention climate change as an issue to be addressed by the reforms.[263] Nevertheless, they had the "side-effect" of lowering agricultural GHG emissions.

The first round of CAP reform in 1992, named after then-Agriculture-Commissioner Ray MacSharry, was a direct result of a bargain reached between the US and the EU in the context of the Uruguay Round of GATT trade negotiations (e.g. Coleman/Tangerman 1999). The reform reduced grain prices by about a third and required farms above a certain size to "set-aside" a portion of their land. The goal of this measure was to reduce overproduction. In return, farmers received "direct payment"-subsidies based on their arable land, including the areas that were set aside from production. Seven years later, the "Agenda 2000" reform of 1999 continued the efforts started with the McSharry Reform, further reducing intervention prices and increasing direct payments. It also introduced the possibility for member states to make direct payments conditional on cross-compliance, meaning that farmers that failed to comply with certain environmental legislation would receive lower levels of direct payments (e.g. Daugbjerg/Swinbank 2007). While both

263 Thus, in its 1998 CAP Review, the Commission included a chapter on "Setting he CAP on a green foundation", which made clear that its "priorities for environmental improvements focus on the areas of water quality, land use and soil quality, biodiversity and landscapes" (European Commission 1999d, p. 16); climate change is not mentioned as a concern. Similarly, the Commission's 2002 Communication on the CAP mid-term review, which led to the 2003 reforms, makes no mention of climate change or GHG emissions (European Commission 2002c). The same holds for the Council Conclusions of June 2003, when the latest set of reforms was agreed: it discusses concerns for environmental issues, animal health, food safety, and WTO negotiations, but does not mention agricultural GHG emissions (European Council 2003). Council Regulation 1782/2003, which established the "decoupled" direct payments to farmers and which the EEA (e.g. 2004, 2009) consistently mentioned as the key policy to address agricultural GHG emissions, does not mention the objective of reducing GHG emissions. Only one recital mentions emissions of carbon dioxide, noting that "[s]pecific aid for energy crops with the objective of increasing carbon dioxide substitution should be established" (Regulation 1782/2003, Recital 41).

reforms intended to introduce greater market orientation into European agriculture, significant market distortions remained, notably milk quotas and subsidies based on livestock numbers (e.g. IEEP 2007a; Gay et al. 2005).

The "Fischler reforms" of 2003 continued the previous reforms by "decoupling" direct payments from the particular crops grown on agricultural land and by introducing a "Single Payment System" for farmers[264] (e.g. Gay et al. 2005). Member states were allowed, however, to make some exceptions from decoupling and to continue some payments to support specific products. Single payments were made conditional on cross-compliance with a range of environmental standards. In addition, the reform shifted a portion of the previous support payments from direct aid to farmers (now called the "First Pillar" of the CAP) towards the broader "Rural Development Policy" (the CAP's "Second Pillar"). This is also referred to as "compulsory modulation." The legislation on the Rural Development Policy passed in the wake of the Fischler reforms (e.g. Council Regulation (EC) 1698/2005, Council Decision 2006/144/EC) also mentioned the goal of reducing agricultural GHG emissions. Yet they did no more than *recommend* that member states make use of rural development funds to promote this aim; doing so was optional. Nevertheless, these successive reforms did have an impact on agricultural GHG emissions (European Commission 2006d; IEEP 2007a). The "set-aside" provision meant that less land was cultivated and thus led to a reduction in fertilizer use. A reduction (and partial abolition) of support prices meant that livestock numbers declined. Consequently, N2O emissions from excess fertilizer and animal excrements and methane emissions from enteric fermentation and manure also decreased. The introduction of cross-compliance also supported the implementation of the 1991 Nitrates Directive, which also encouraged a limitation of fertilizer use.

Even though the Fischler reforms were intended to set a framework until 2013, the Commission decided to perform a "Health Check" of the CAP it in 2007 and 2008. This was meant to extend some of the reforms begun in 2003, e.g. by eliminating exceptions from decoupled support payments, and to start a more wide-ranging process of discussion about the future of the CAP in light of the EU Budget Review that was coming up in 2009 (European Commission 2007h; IEEP 2007b). After a stakeholder consultation in early 2008, the member states reached agreement on a package of reforms in November of the same year (European Commission 2008h, Europolitics Agriculture, 5 December 2008). Most importantly (in terms of GHG mitigation), the reforms abolished the set-aside requirement for arable land, phased-out milk quotas by 2015, and increased the

264 From 2005, farmers received subsidies as one payment, rather than various direct payments depending on the type of produce they made.

share of the budget that would be spent on rural development rather than direct payments. Rural development funds were to be spent on the promotion of greenhouse gas abatement in agriculture, renewable energy, water management and biodiversity. The Commission had hoped for much larger cuts in direct payments to large farmers, but resistance from Germany and the UK, where most large farm aid recipients are located, led to very limited reductions in direct payments in the final compromise. In addition, the reforms further simplified the single payment system and cross-compliance requirements, decoupled subsidies for more product categories, and reduced the extent of market intervention by the European Commission.

Overall, climate change was again not one of the main issues in the Health Check negotiations. The Commission justified its proposed reductions in direct payments with the need to fund climate change mitigation efforts (and some other challenges facing agriculture). At the same time, with the abolition of set-aside requirements, the Health Check reforms ended a policy that had previously led to a substantial reduction in N2O emissions. Moreover, the end of quotas on milk production may again lead to increases in dairy production with a parallel increase in methane emissions from enteric fermentation and manure. To be fair, the set-aside provision had been introduced in an era of over-production: since about 2007, however, food prices and demand for bioenergy crops had soared, which made a mandatory set-aside appear rather wasteful (Europolitics Agriculture, 26 July 2007, 12 October 2007). Nevertheless, it is quite clear that limiting agricultural GHG emissions was not particularly high on the list of priorities of EU decision makers when the reform was negotiated.

8.2.2 EU efforts to address agricultural GHG emissions

While various CAP provisions have led to a reduction of agricultural GHG emissions over the last two decades, climate concerns played virtually no role in CAP decision making. The "Health Check" even reversed policies that had caused emissions to decline, while at the same time promoting Rural Development Policies with a climate focus. And just as climate change hasn't played much of a role in agricultural policy, the Commission and other EU actors have given little attention to agriculture in the context of climate policy.

This is particularly apparent in the European Commission's successive documents on the issue. In its early documents on climate change, it does not even mention agriculture as a source of greenhouse gases (European Commission 1991, 1992a). When the Commission outlined options for GHG reductions in a 1995 Working Paper, it first mentioned that the CAP could be used to support

biomass energy; it still made no mention of agricultural emissions (European Commission 1995c). These first appear in the Commission's Communication *Climate Change – The EU Approach to Kyoto*, published in October 1997 two months before the Kyoto Conference, yet with the caveat that "only such measures are pursued that are technically feasible, politically acceptable, and consistent with other policy objectives" (European Commission 1997a, p. 17). It also noted that less fertilizer would be used after the Agenda 2000 reforms, leading to a reduction in N2O emissions. Following the Kyoto conference, the Commission Communication *Climate Change – Towards an EU Post-Kyoto Strategy* specified what member states might do to address agricultural emissions under the CAP's rural development policy (European Commission 1998a). In addition to research, afforestation, and the promotion of energy crops, the funds for rural development policy could promote better manure management and fertilizer use practices. Commission documents in the following years largely echoed these findings and recommendations (e.g. European Commission 1999a, 2000a, 2003b).

When the Commission made its proposals for the post-Kyoto era in 2007 and 2008, measures to address agricultural emissions were again largely absent. The January 2007 Communication *Limiting Global Climate Change to 2 degrees Celsius – The Way ahead for 2020 and beyond*, which suggested the 20/30% targets for 2020, does not mention agriculture (European Commission 2007i). In the January 2008 "Climate and Energy Package", agriculture merely appears as one of the "non-ETS sectors" that would have to collectively lower emissions by 10% by 2020 relative to 2005 (European Commission 2008b). In its proposal for the EU ETS revision, the Commission stated that the ETS "should only be extended to emissions which are capable of being monitored, reported and verified with the same level of accuracy as applies under the monitoring, reporting and verification requirements currently applicable under the Directive" (2008c, p. 4). It held that this was not the case in agriculture and forestry. Thus, as mentioned above, the EEA identified agriculture in 2009 as the sector with the lowest expected emission reductions over the next decade (EEA 2009, p. 13).

While it is quite clear that agricultural GHG emissions have played no more than a marginal role in EU climate and agricultural policy to date, EU attention to the issue has not been completely lacking. Both during the first and the second ECCP in 2001 and 2006, the Commission established working groups on agricultural emissions. Moreover, the Swedish Presidency in 2009 convened an informal two-day Agriculture Council meeting to discuss options to address agricultural GHG emissions.[265] Yet all of these activities were quite limited affairs.

265 The UK Presidency organized a discussion on the impacts of climate change on agriculture at an informal meeting of environment and agriculture ministers in September 2005 (Financial Times, 10 September 2005).

Working Group 7 in the first ECCP in 2001 extensively discussed agricultural emissions and mitigation options (European Commission 2001h). The participants[266] in the Working Group discussed 60 potential measures to reduce agricultural emissions and in their final report identified a total GHG reduction potential for EU-15 agricultural emissions of 31 Mt CO2e. This meant a 7.4% reduction compared to a 1990 baseline by the Kyoto commitment period from 2008 to 2012. Almost two thirds of this reduction, 19 Mt CO2e, were expected to result from the Agenda 2000 CAP reforms already enacted at the time. Most of the additional cost-effective reduction potential was identified for N2O emissions (10 Mt CO2e). These reductions would result from a continuation of set-aside of agricultural lands, enhanced spreader maintenance, and various techniques to improve the precision of fertilizer application. The remaining 2 Mt CO2e would come from CH4 emission reductions from better "lifetime efficiency"[267] (0.3 Mt) for dairy and cattle and increased anaerobic digestion of manure (1.7Mt).

In terms of policy, the report argued that the potential for N2O reductions "could be fulfilled with a proper implementation of the nitrates directive, water legislation and a constructive implementation of measures within the rural development policy" (European Commission 2001i, p. 7). The nitrates directive of 1991 required member states to develop action plans to reduce nitrate concentrations in water, which also requires a reduction in N-fertilizers (e.g. European Commission 2010b). At the time of the ECCP, the directive was implemented to varying degrees in most of the member states, though significant improvement potential was still expected (European Commission 2000e). The ECCP report added that member states should set up the appropriate measures, but made no suggestions for additional EU policies. While nitrogen taxes or quotas were discussed, the group did not recommend their introduction. It also made no specific recommendations regarding anaerobic digestion. Finally, the report noted that changes in consumer behavior – i.e. lower levels of meat and dairy product consumption – could lower emissions, though this would be hard to influence in practice. Rather than concrete additional policies, the report recommended that climate change considerations be included in the CAP and the rural development policy.

During the second ECCP, the Working Group on Agriculture reviewed progress in 2006, finding that the CAP reforms of 2003 had led to a further decline in agricultural emissions. Instead of a 7% decline as estimated in the first

266 The participants included officials from Commission DGs Agriculture and Environment, academics from several member states, representatives of the European agricultural peak association COPA, and on some occasions NGO representatives.

267 "Lifetime efficiency" refers to the amount of foodstuff that is necessary to produce a certain amount of milk or meat – the lower the amount of food digested by ruminants per unit of output, the lower the CH4 emissions per unit of output.

ECCP, a reduction by 14% for the Kyoto period now seemed feasible. As a result of decoupled support payments, livestock numbers had continued to decline. Cross-compliance requirements, the continuation of set-asides, and improvements in the implementation of the nitrates directive had caused fertilizer use to decline. In terms of policy, the 2007-2013 Rural Development Policy with its "European Agricultural Fund for Rural Development" was expected to improve the CAP's contribution to emission reductions. The final report identified the use of anaerobic digestion facilities to produce biogas as particularly promising.

Finally, under the Swedish Presidency in the second half of 2009, the Council of Agriculture Ministers held an informal meeting on Agriculture and Climate Change, discussing both mitigation and adaptation challenges. In preparation for the meeting, the Commission published a "Staff Working Paper" (European Commission 2009d), outlining the evolution of agricultural emissions, the main mitigation options, and the current contributions of the CAP to mitigation. It argued that there were still unused cost-effective mitigation options, and advocated the passage of a Soil Directive, better use of existing provisions for Rural Development Policy, research and development funding, and consumer information as the main policy actions to realize them. At the same time, the paper warned that mitigation potential was limited and that there was significant risk of carbon leakage: less meat production in Europe might simply lead to more imports from Argentina or Brazil. While ministers acknowledged the problem of agricultural GHG emissions, none was willing to call for binding measures or targets (Agence Europe, 17 September 2009).

Summing up, the EU has to date not passed any legislation explicitly aimed at reducing GHG emissions from agriculture, though it has started to discuss the issue. To some degree, this is probably due to the sheer difficulty of addressing agricultural GHG emissions: they are hard to measure; they result from natural processes and are thus closely linked to production volumes. Moreover, there are many trade-offs: while livestock farming is very GHG intensive, for example, the transformation of pastures previously used for grazing cattle into crop land causes significant emissions of previously stored CO2 from soils. Despite such difficulties, however, it would have been possible to at least adopt some policy. Such a policy might have asked member states to submit "Action Plans" on agricultural GHG emissions or set out indicative target for absolute or relative levels of GHG emissions. It might also have consisted of consumer information about the GHG-intensity of different foods. No such policy would have been "easy" – but it would have been possible. How, then can we explain this lack of EU ambition in tackling the emissions from a sector that contributes almost 10% of total GHG emissions? Are the same factors that explain various ambition levels in other sectors applicable to agriculture? In the remainder of this chapter, I seek to

answer these questions. In the following section, I look at the preferences of the European Commission, the EP, and the member states and show that none of these actors have shown much of an interest in addressing agricultural GHG emissions. Subsequently, I show that a fairly permissive discursive environment for the agricultural sector reinforced this situation.

8.3 Explaining the absence of climate policy for the agricultural sector – the rational choice baseline

In applying my rational choice baseline to the case of agriculture, I proceed slightly differently from the previous chapters. Rather than developing predictions on all five rational choice baseline hypotheses and then presenting the empirical evidence for an entire legislative process, I discuss the evidence on each prediction immediately after the prediction. I do so because there is very little evidence to discuss and what evidence there is does not come from a single legislative process. Thus, presenting the preferences of multiple actors together adds little value in terms of comprehensibility or readability. I do refer to the CAP Health Check repeatedly, however, as it was the first reform in which climate change was explicitly discussed, though its role – as we have seen above – was very limited.

8.3.1 Rational choice baseline predictions and evidence on European Commission preferences

According to the rational choice baseline, we expect the European Commission to have an institutional interest in greater European integration and hence in more ambitious sectoral EU climate policies. Thus, we would also expect the Commission to drive efforts to introduce ambitious sectoral climate policies in the agricultural sector. At the same time, we can expect the Commission to be cautious about becoming a "paper tiger" by proposing legislation that has no chance of being adopted.

As described above, however, agriculture played a very minor role in the Commission's work relating to climate change. The Commission did set up ECCP Working Groups on agriculture in 2001 and 2006 and thus facilitated data gathering and debate about potential measures to reduce agricultural GHG emissions. Yet during both rounds of the ECCP, the Commission made it clear that it planned no specific legislation aimed at limiting these emissions. Only in 2007/2008, in preparation for the "Health Check" the Commission brought climate change concerns more explicitly into the CAP. In its 2010 Communication

on the CAP after 2013, it also spoke of "greening the CAP" by making sure subsidies are used to promote low-GHG agriculture (European Commission 2010c).

In light of the cautious attitude adopted by most member states, the Commission may have gone as far as it could. The specificity of agricultural policy in European integration may also have played a role. Given that agriculture is the most politically integrated of all EU sectors, the incentive to expand into addressing agricultural GHG emissions may have been more limited for the Commission. Moreover, agricultural policy is relatively well-insulated from other policy areas (e.g. Hix 2005, p. 281ff.; Rieger 2005). It takes place within an "iron triangle", consisting of the largest DG within the Commission, DG Agriculture, the best resourced European level lobby organization, COPA, and the Council of Agriculture Ministers, which meets every month. Moreover, Agriculture Council meetings are not prepared by COREPER, like those of all other policy areas, but by a special committee made up of member state agriculture ministries. Thus, DG Agriculture may simply not have had much of an interest in ambitious climate policies.

Overall, the hypothesis that the Commission drives ambitious climate policies receives only moderate support in the case of agriculture.

8.3.2 Rational Choice Baseline Predictions and Evidence on European Parliament Preferences

The rational choice baseline's prediction on the European Parliament's preferences is that it will favor ambitious climate policies across sectors. This should also apply to the field of agriculture, even though the European Parliament had fewer legislative competences during the time considered in this book.[268] More precisely, EU legislation on agriculture was made under the consultation procedure, not the codecision procedure (e.g. Hix 2005, p. 281ff.). As a result, the European Parliament merely gives on opinion on new legislation, but is not a coequal legislator with the Council. Nevertheless, proposed legislation on agriculture is submitted to the European Parliament for an opinion. Moreover, the European Parliament can pass non-legislative resolutions or own-initiative reports on issues of interest to its members (and supposedly of European citizens). Based on these documents, we have a basis to investigate whether and how the

268 The Lisbon Treaty, which entered into force in December 2009, gives the EP additional powers by instituting the co-decision procedure for the CAP.

European Parliament dealt with the issue of agricultural GHG emissions[269]. The evidence lends moderate support to the rational choice baseline expectation: the EP did at various points call for more ambitious legislation to address agricultural methane and N2O emissions. In the context of the Health Check, however, other concerns seem to have outweighed those about greenhouse gas emissions.

The evidence supporting the rational choice baseline consists primarily of three documents. (1) In 2002, the EP's resolution on the Commission's report on the Implementation of the ECCP criticized the fact that agriculture had not been included in the envisioned measures. Drafted by Swedish Socialist MEP Anneli Hulthén, the report "stresse[d] that the greenhouse issue should be included in the current assessment of the EU's common agricultural policy, with particular reference to methane and dinitric oxide" (European Parliament 2002c). (2) In its non-legislative resolution "2050: The future begins today – Recommendations for the EU's future integrated policy on climate change", the European Parliament explicitly called on the Commission to include agricultural emissions in any future integrated climate strategy. Such a strategy should set reduction targets for methane and nitrous oxide emissions "from the agricultural sector, exploiting all existing potential" (European Parliament 2009e). The report mentioned in particular improvements in fertilizer application, the use of biogas systems for manure processing, the need for R&D funding, and training for farmers. (3) Finally, in response to the Commission's Staff Working Document *Adapting to climate change: the challenge for European agriculture and rural areas* (European Commission 2009c), the EP reiterated its demand for a contribution of agriculture to mitigation efforts. While the Commission's document barely mentions GHG reduction efforts from agriculture, the EP's report starts with these and only later turns to adaptation challenges (European Parliament 2010). The resolution demanded that the CAP should provide "information, training, and incentives" to promote a variety of organic farming practices that help sequester carbon in soils, and mentioned a variety of other measures to reduce emissions from agriculture.

The EP's legislative resolution on the Commission's "Health Check"-Communication, however, was less "climate conscious" (European Parliament 2008g). It acknowledged the need for greenhouse gas reductions in the agricultural sector, but also pointed out "that agriculture's contribution to the greenhouse effect is limited, and is diminishing in the EU, due to the implementation of measures already in place within the CAP framework such as [cross-compliance], agri-environmental schemes and other rural development measures" (European Par-

269 The relevant documents were obtained by searching for European Parliament Documents containing the words "agriculture" and "climate" or "greenhouse" on the European Parliament's Legislative Observatory website.

liament 2008g, 106). Thus, it opposed the Commission's plans for greater modulation (i.e. shifting money from direct payments to rural development policy, which could support climate-related measures). It also noted that livestock farming could contribute to biogas production and that discriminatory measures against livestock (the largest source of agricultural GHG) were hence undesirable.

Overall, there is some evidence that the EP was more ambitious than other actors in demanding absolute reductions in agricultural GHG emissions. When it came to specific policy measures in the context of the CAP Health Check, however, other concerns clearly outweighed those regarding climate policy.

8.3.3 Rational choice baseline predictions and evidence on member state preferences

In order to derive the rational choice baseline's predictions on member state preferences we need to consider how potential GHG mitigation policies in the agricultural sector affect different domestic interest groups. The most important affected group is – of course – farmers. Farmers benefit from subsidy policies that encourage excess production and thus lose if these policies are reversed (e.g. through a reduction of subsidies, set-aside requirements, etc.). They lose flexibility and in some cases have to make investments they would not otherwise make if prescriptive legislation requires them to apply fertilizer or to manage manure in a certain way. They particularly lose from policies that discourage consumers from buying food whose production is more GHG intensive (e.g. beef and dairy products). Yet farmers can be expected to accept (or even like) subsidized measures to reduce GHG emissions, e.g. investment subsidies for more precise fertilizer application or anaerobic digesters.

Other domestic groups within member states are unlikely to have opposing interests: the food processing industry is unlikely to support policies that raise the price of the foodstuffs provided by agriculture. Fertilizer producers also have no interest in policies to limit agricultural GHG emissions; such policies would lower demand for their products. Makers of agricultural equipment that helps reduce emissions (e.g. of fertilizer spreaders or anaerobic digesters) might benefit from legislation that requires emission reductions. Yet these producers are likely to be congruent with those who provide other agricultural equipment: thus, their interest is likely to be in maintaining good relations with their customers rather than in demanding new regulatory burdens on those customers.

One may of course raise the objection that interests within the agricultural community might diverge. Thus, pig or poultry farmers might favor some sort of measure that hurts beef farmers in the hope that their less GHG-intensive meats

might gain market advantages. This would, however, be a big gamble on their part: for any meat diet is still more GHG intensive than a vegetarian diet. One might also expect organic farmers to have an interest in GHG mitigation policies. Yet while there may be some environmental benefits from organic farming, it is unclear whether GHG emissions from organic farms are significantly lower than those of conventional farms (e.g. Hülsbergen/Küstermann 2007; Trewavas 2001, 2004; Weiske 2006). Moreover, despite significant growth in recent years, organic farms still only accounted for 1.6% of all EU agricultural holdings in 2005 (Llorens-Abando/Rohner-Thielen 2007). Thus, we should not expect organic farmers to have a decisive role in shaping governments' preferences, even if we take its more labor-intensive nature into account.

Table 8.1: Agricultural employment in EU member states

	Share of total employment		Total Agricultural Employment	
Member State	**2001**	**2008**	**2001**	**2008**
Romania		23,0%		2.152.000
Poland		14,9%		2.349.300
Bulgaria		13,1%		441.100
Greece	14,1%	12,6%	578.200	572.700
Hungary		10,9%		421.800
Lithuania		9,9%		150.900
Latvia		8,6%		96.800
Slovenia		8,4%		83.200
Ireland	8,8%	7,0%	153.300	147.900
Portugal	9,9%	6,9%	506.200	359.000
Cyprus		6,8%		25.900
Italy	6,5%	5,1%	1.396.000	1.188.000
Estonia		4,8%		31.200
Spain	6,8%	4,7%	1.098.700	945.700
Austria	4,6%	3,7%	171.600	152.400
Slovakia		3,7%		90.300
Finland	4,6%	3,5%	108.900	88.700
France	4,2%	3,4%	1.009.600	887.700
Czech Republic		2,7%		135.300
Malta		2,6%		4.200
Netherlands	2,6%	2,1%	211.400	183.900
Denmark	2,8%	2,0%	75.800	56.900
Luxembourg	2,3%	1,8%	4.200	3.600
Belgium	1,9%	1,5%	75.100	64.900
Sweden	1,8%	1,4%	79.400	65.800
Germany	1,8%	1,4%	658.900	544.000
United Kingdom	1,2%	1,0%	329.200	282.000

Source: Eurostat Agricultural Labor Input Statistics

As we can see from table 8.1, agricultural employment as a share of total employment varied significantly among the EU-15 in 2001; from 1.2% of total employment in the UK to 14.1% in Greece. While overall agricultural employ-

ment has declined in most countries, the Eastward expansion of the EU has further increased the variation between member states, ranging in 2008 from 1% in the UK to more than 20% in Romania. Despite the variation, we find that there is a significant group in each member state that can be expected to resist ambitious climate policies. Overall, we would thus expect that most member states would oppose measures to reduce agricultural GHG emissions.[270] They would accept measures with the effect of lower GHG emissions (i.e. when GHG reduction is an ancillary benefit), but they would also adopt policies that oppose climate political goals if these policies are good for their farmers. If we do nonetheless observe member states that support climate policy measures for the agricultural sector, we would expect them to be at the bottom of the list: the UK, Germany, Sweden, etc. In these countries, governments would be least constrained in addressing agricultural GHG emissions.

Overall, the evidence seems to confirm these expectations. I have not found any evidence in media articles, the policy-oriented literature, or in interviews that any member state called for specific EU policies to address agricultural GHG emissions. Member states did officially support the goal of taking climate change mitigation into account in the CAP – yet none argued in favor of compulsory measures, mandatory or even indicative targets for agricultural GHG emissions. This was particularly apparent at the Informal Agriculture Council convened by the Swedish Council Presidency in 2009: while all ministers affirmed that climate change constituted a challenge to agriculture, none called for active policies other than additional subsidies to promote lower GHG emissions from the sector (Agence Europe, 17 September 2009). Similarly, while member states listed a variety of measures to address agricultural GHG emissions in their National Communications to the UNFCCC, the great majority of these measures concerned either more general environmental policies, the promotion of biomass as an energy source, or forestry (Bosello et al. 2005). Moreover, many of the measures listed in National Communications were voluntary or based on subsidies (Ibid.). Germany and the UK are the two countries the rational choice baseline would identify as "most likely" to support specific climate policies for the agricultural sector. Yet even though these countries have made some efforts domestically to develop such policies, this has not translated into demands for specific

270 These predictions may seem to be at odds with member states' behavior in the last two decades of CAP reform: after all, these reforms have introduced a number of measures that were not to the benefit of EU farmers. Yet, in these cases, member state governments faced other constraints: in return for reforms to the agricultural sector, governments had new room for maneuver in the budget and achieved trade political goals that helped other domestic interest groups. Yet in the case of agricultural GHG emissions there is relatively little to gain for other groups (or for the government).

EU-level policies, as I discuss in the following paragraphs. In both countries, governments appear to have been quite supportive of their agricultural lobbies.

In *Germany*, agricultural GHG emissions were not on the political agenda for many years. Only since 2007/2008, the issue has received some public attention. Thus, in 2007, parliamentarians from the opposition Green Party formally requested the German government[271] to report on potential measures to reduce agricultural GHG emissions (Deutschter Bundestag 2008b). The German Green Party's parliamentary group also strongly supported the Commission's "Health Check" plans to make a larger share of CAP payments to farmers dependent on efforts to reduce agricultural GHG emissions (Bündnis 90/Die Grünen, no date). Similarly, a number of German environmental NGOs supported the Commission's stance on channeling CAP funds towards climate protection (Süddeutsche Zeitung, 14 October 2008). Greenpeace Germany published a report on agriculture and climate change in early 2008, and has repeatedly since demanded the introduction of a tax on N-fertilizer (e.g. Greenpeace 2008e, 2009).

The German government's response to such demands has been rather limited. It did not include agricultural GHG emissions in its 2007 Integrated Climate and Energy Program (Deutsche Bundesregierung 2007b). In 2008, the federal ministry for agriculture published a report on climate protection in agriculture and forestry (BMELV 2008). It discussed the entire food production cycle, including energy use, fertilizer inputs, etc. and all aspects of agriculture's contribution to climate change mitigation, i.e. not only N20 and CH4 emissions, but also biomass energy and the carbon sink function of agricultural land. The report emphasized that agriculture's primary purpose was the production of foodstuffs and that reductions in GHG emissions would in many cases mean a reduction in agricultural output. Given the rising world population and growing demand for meat consumption, a reduction in output was not seen as desirable. In terms of mitigation measures, the report focused on the avoidance of land-use changes of pastures and the renaturalization of dried bogs (wetlands) so as to reduce CO2 emissions, but also mentioned various potential reduction options to reduce N-fertilizer use. It mentioned improvements in feed-efficiency for ruminants to reduce CH4 emissions as offering rather limited potential, whereas it considered the use of manure to generate biogas through enteric fermentation as more promising. Yet the report did not launch any activities specifically aimed at GHG emission reductions. It did not mention European-level agricultural policy at all.

Contrary to the NGO demands mentioned above, the German government did not support the Commission's plans for shifting agricultural subsidies towards climate protection during the CAP "Health Check" (Deutscher Bundesrat 2008c; Reuters Nachrichten auf Deutsch, 18 November 2008; Süddeutsche Zeitung, 14

271 The request had the form of a "*Kleine Anfrage*".

October 2008). It opposed the reduction in direct payments based on the size of agricultural holdings as well as the increase in compulsory modulation suggested by the Commission. This would have primarily affected large East German farms, which the German government sought to defend during the negotiations, even though Environment Minister Gabriel had previously supported the Commission's stance (Süddeutsche Zeitung, 21 May 2008, Europolitics Agriculture, 29 May 2008). Germany's other concern during the "Health Check" was the establishment of a "Milk fund" to support milk producers after the end of milk quotas in 2015.

The German government's stance on agriculture and climate change thus largely reflected the demands of its farmers. The German farmers' peak association, the *Deutsche Bauernverband* (DBV) had called for the Milk Fund and to maintain direct payments at the levels that had previously been promised until 2013 (DBV 2007a, 2008; Süddeutsche Zeitung, 1 July 2008). On agricultural GHG emissions, the DBV also argued along similar lines to the German government. It published a "climate report" in 2007 and a "climate strategy" in 2010 (DBV 2007b, 2010). Both of them focused on the positive role agriculture could play in climate mitigation, notably as an energy source and a carbon sink. It also emphasized that a reduction in production volumes or a more vegetarian diet was not the solution to climate change. In addition, it emphasized that agricultural emissions of methane and N2O had fallen significantly since 1990 and that it was hard to further reduce these emissions because they resulted from naturally occurring processes. In terms of policy, it opposed mandatory legislation with emission limits and precise prescriptions but asked for greater support to manure-based biogas. In its 2010 strategy paper, the DBV also made a voluntary commitment to reduce N2O and CH4 emissions by 25% by 2020 and by 30% by 2030.

Summing up, agricultural GHG emissions have entered the political agenda in Germany but not given rise to concrete ambitious policies. German farmers have acknowledged the problem but opposed mandatory legislation to reduce GHG emissions and Commission efforts to shift subsidies towards greater climate protection. The German government has largely concurred with these demands. To be sure, this is not to say that arguments about the feasibility of different policies, concerns about unintended consequences, and scientific uncertainty about the impact of specific measures did not play a role in agricultural climate policy making. Yet it does show that the German government did not take a position that strayed far from what the largest affected interest group was demanding.

On substance, the situation is very similar in the Britain, though the UK has been more forceful in its rhetoric that agricultural GHG emissions need to be addressed. Thus, its 2009 "Low Carbon Transition Plan", which laid out the UK's strategy for achieving an emission reduction of 18% by 2020 relative to 2008, also included an indicative target for reducing emissions from agriculture.

British farmers would be encouraged to reduce their emissions by 6% until 2020, "through more efficient use of fertilizer, and better management of livestock and manure" (UK Government 2009, p. 153). In absolute terms this meant a reduction of 3 Mt CO2e. The government asked the sector to come up with a voluntary action plan to achieve the goal by 2010, but reserved the right to legislate on the issue at a later point in time (UK Government 2009, p. 156).

In addition, the UK had been somewhat of a leader in using "voluntary modulation", i.e. a shift of funds from Pillar One (direct aid) to Pillar Two (the rural development policy) in order to promote agri-environmental measures (Europolitics Agriculture, 23 March 2007). In the context of the Health Check, the UK was also a bit more positive about the Commission's proposals than Germany (UK Department of Environment, Food, and Rural Affairs 2008). It supported the full decoupling of support payments, a simplification of the cross-compliance system, the phase-out of milk quotas and market controls, and a shift of subsidies from Pillar One to Pillar Two of the CAP. It also supported (without giving details) measures to make up for the environmental benefits that would be lost because of the abolition of set-aside-requirements, and it advocated greater liberty for member states to increase the amount of modulation and to use a greater share of rural development funds for environmental measures. Yet it was as strongly opposed to capping support payments for large farms as Germany – as many large (and hence affected) farms were located in Britain (e.g. Europolitics Agriculture, 7 December 2007). Thus, when it came to concrete distributive questions, other concerns were more important to the UK. Moreover, it did not push for any binding policies to promote GHG emission reductions from agriculture, it merely wanted the freedom to do so itself.

Summing up the discussion on member state preferences, it is clear that EU governments have made no demands for ambitious EU climate policies to address agricultural GHG emissions. This is consistent with the rational choice baseline's prediction that member state government would not support policies that hurt large domestic interest groups, in this case farmers. Of course, we have seen in previous chapters, this does not necessarily mean that the Council rejects ambitious policies: by exploiting a restrictive discursive environment, policy-makers have indeed been able to overcome the resistance of powerful domestic interest groups in key member states. In the case of agriculture, however, the discursive environment was quite permissive throughout, as I discuss in the next section of this chapter.[272]

272 I do not discuss bargaining dynamics in this chapter, as no actual bargaining about agricultural climate policy took place

8.4 Explaining the absence of climate policy for the agricultural sector – the analysis of rhetorical possibilities

For this purpose, I do not need to repeat in detail the information on the general policy environment and on the climate policy environment. I discussed them extensively in previous chapters. In terms of the general policy environment, there was a spike in public attention to climate change in 2007 and 2008; since then, the subject has receded somewhat from the agenda, though throughout 2009 and 2010 it remained more present than before 2007. The climate policy environment has become successively more restrictive since the mid-1990s: important steps included the signature of the Kyoto Protocol, the EU's decision to defend it, as well as the advance of policy ambition in most sectors other than agriculture.

Table 8.2: Development of agricultural GHG emissions in EU member states

Member state	**1990-2000**	**1990-2008**
Belgium	-7%	-17%
Bulgaria		-63%
Czech Republic		-48%
Denmark	-18%	-24%
Germany	-12%	-15%
Estonia		-53%
Ireland	2%	-9%
Greece	-12%	-21%
Spain	17%	3%
France	-4%	-9%
Italy	-2%	-12%
Cyprus		30%
Latvia		-65%
Lithuania		-53%
Luxembourg	-3%	-10%
Hungary		-39%
Malta		-5%
Netherlands	-9%	-18%
Austria	-8%	-11%
Poland		-27%
Portugal	8%	-3%
Romania		-45%
Slovenia		-8%
Slovakia		-56%
Finland	-12%	-12%
Sweden	-6%	-11%
United Kingdom	-10%	-21%
EU-15	-5%	-12%
EU-27		-20%
Source: Eurostat		

Thus, my discussion in the following paragraphs focuses mainly on the sectoral policy environment of agriculture. As shown in Table 8.2, agricultural GHG emissions fell in virtually all EU member states from 1990 onwards. By 2000, the agricultural sector in the EU-15 had reduced its emissions by 5% relative to 1990; the sector thus clearly over-achieved the EU-15's stabilization target for that date. By 2008, the beginning of the Kyoto period, the agricultural sector had already outperformed the EU-15's 8%-target; for the EU-27 it had achieved a 20% reduction. Moreover, these reductions took place in virtually all member states. Of course, as described above, these reductions were the result of previous policies that were completely unrelated to climate change. Nevertheless, this emission trajectory provided the opponents of ambitious climate policies with a very favorable rhetorical situation. To any demand for such policies, they could reply that they were already doing more than the economy as a whole and that given their "business-as-usual" emission trajectory, no additional efforts were needed. And this is what indeed they argued. In the position papers it published prior to the COPs at Poznan and Copenhagen in 2008 and 2009, COPA-COGECA[273], the EU-level farm lobby, pointed out right at the beginning that European agriculture had already made substantial emission reductions (COPA-COGECA 2008, 2009). Additional efforts would require adequate financial support, whereas" … sector-specific targets for agriculture are neither appropriate nor acceptable" (COPA-COGECA 2009, p. 4). National level farm organizations made similar arguments (e.g. DBV 2007b, 2010; NFU 2010).

In addition, however, defenders of a hands-off (or light touch) approach to agricultural GHG emissions could also make a number of other sector-specific arguments. Thus, farmers pointed out that the emissions from agriculture come from naturally occurring processes like enteric fermentation and animal excreta, and thus cannot be avoided to the same degree as emissions from other sectors (COPA-COGECA 2008, 2009; DBV 2007b, 2010; NFU 2010). In addition, farmers and their supporters could point to the demand for bio-energy and the contribution energy crops could make to emission reductions in other sectors. If society asks for an increase in biofuels, it is hardly fair to blame farmers for the increase in emissions resulting from their production. Of course, similar arguments were made by some other sectors: some industry sectors, as outlined in chapter 5, also had achieved substantial emission reductions prior to the EU ETS. Steel and cement producers also argued that there are physical limits to CO2 emission reduction in steel and cement production. Moreover, manufacturers of aluminum, glass, or a variety of chemicals can legitimately argue that their products are crucial to reduce emissions in other sectors (e.g. in buildings or cars).

273 COPA-COGECA stands for Committee of Professional Agricultural Organisations in the European Union and General Confederation of Agricultural Cooperatives in the European Union.

Farm lobbyists could, however, make three sector-specific claims that others can't make (Ibid.). First, agricultural soils can sequester carbon – agriculture thus takes GHG out of the atmosphere. Secondly, many farm products are indispensable. Human life without food is impossible – unlike cars, skyscrapers, or flights to the Maldives, agricultural products are thus truly indispensable. Of course, this does not mean that all agricultural produce, in particular meat, is indispensable. Yet the distinction is quite fundamental and intuitively appeals to very basic needs. Finally, agriculture is probably the main "victim" of climate change and thus may appear to be particularly credible in claiming that it is doing "everything possible" to avoid emissions even without external inducements.

Nevertheless, there are some indications that the more restrictive discursive environment at the general and climate policy level has also had an impact on agricultural policy-makers. Climate change concerns are no longer entirely absent from agricultural policy discussions. Both in the Health Check, and in the post-2013 plans for the CAP, the need to further reduce agricultural GHG emissions has been acknowledged. The German farm peak association has even made a voluntary commitment to reduce emissions so as to pre-empt legislative action in this direction. Yet overall, the very favorable sectoral discursive environment has largely spared agriculture from more constraining (and hence more ambitious) climate policies.

8.5 Conclusion

In this chapter, I have considered a "negative" case of EU climate policy, namely the absence of an explicit sectoral climate policy for the agricultural sector. It constituted a relatively "weak" test of the theoretical framework, as the absence of sectoral policy is to some degree "over-determined": it is quite difficult to regulate and subject to a lot of measurement uncertainties. Moreover, at least a substantial share of the commodities produced by agriculture are necessary for human life. Interest group constellations were unfavorable and the discursive environment quite permissive. Nonetheless, in light of the cases discussed in the previous chapters, it provides a useful point of comparison: unfavorable interest constellations did not preclude the introduction of ambitious climate policies in other sectors. In addition, an increasingly restrictive general and climate policy environment have led to some movement in the agricultural sector.

This suggests that the dynamics captured by my explanatory framework also occurred in the field of agriculture. The coming years will provide a useful test in this regard. As a result of the abolition of set-aside, biomass promotion policies, and the phase-out of milk quotas, agricultural emissions are quite likely to stagnate or

even start rising again. If this happens, if climate change stays high on the agenda and if the UNFCCC establishes some kind of successor regime for the Kyoto protocol, the discursive environment for agriculture would become very restrictive. We would thus strongly expect more ambitious climate policy to emerge in the agricultural sector as well.

Of course, only time can tell… Until it does, chapter 9 provides a comparison of the five cases presented in this and the previous chapters, and discusses the implications for the academic literature and for policy-makers.

Part IV
Comparisons and implications

Chapter 9: Comparisons and conclusions – what we have learned, what it means

9.1 Introduction

In the previous five chapters, I have analyzed the development of five sectoral EU climate policies. For each case, I conducted congruence procedure tests for the variables of my theoretical framework, presented causal process evidence, and considered the explanatory power of alternative factors. This chapter adds a comparative perspective to analyze how differences (and similarities) in the independent variables across cases led to different (or similar) outcomes in different sectors. These comparisons show the central importance of changes in the discursive environment as a cause of greater climate policy ambition. Interest constellations did matter in a permissive discursive environment and helped to limit ambition in a restrictive discursive environment. In the case of renewables, the growth of the industry benefiting from renewables promotion probably helped spur more ambitious policies. Yet across cases, it was a tightening discursive environment that helped the Commission and the European Parliament to advance the EU's sectoral climate policy ambition.

Like my explanatory framework, this chapter consists of two main parts, one devoted to the rational choice baseline, one to the analysis of rhetorical possibilities. I discuss the evidence across cases for each of my hypotheses and discuss how the findings on each hypothesis relate to the previous literature. At the end of the section on the analysis of rhetorical possibilities, I also briefly discuss how my approach of combining rational choice theory and the analysis of political rhetoric may be relevant to wider debates in political science. The conclusion of this chapter is devoted to the practical implications the research underlying this book. I identify four "recommendations" to policy-makers interested in bringing about ambitious sectoral climate policies. I urge them to focus on four "Is": interests, institutions, international commitments, and incrementalism.

9.2 Interests matter – evidence on the rational choice baseline

The rational choice baseline was quite strong in predicting the dynamics of the negotiations: it correctly identified the Commission and the EP as the driving forces behind sectoral climate policy-making, and it did a decent job in predicting which member states would take what kind of stance in Council negotiations. It also correctly predicted that neither the European Parliament nor the least ambitious member states would be able to set the ambition level of sectoral climate polices. Yet it systematically under-predicted the degree of policy ambition member states would accept. Moreover, interest constellations and concerns about administrative adaptation costs were more closely intertwined than expected in the theoretical framework.

9.2.1 European Commission Preferences

The first hypothesis of my explanatory framework, developed in chapter 2, was that the Commission would continually develop sectoral climate policies across sectors and even without explicit demands from member states. At the same time, it would behave strategically by proposing legislation that at least some member states would have no problem accepting and that was only slightly more ambitious than what a qualified majority of member states could accept. I also identified two observable implications of this hypothesis, namely that in no case would member states raise the ambition level beyond what the Commission had proposed, and that we would find little or no evidence of member states specifically demanding the legislation put forward by the Commission. To a large degree these expectations are born out by the cases. Other factors, like the Commission DGs responsible for a piece of legislation or transnational actor constellations relative to a particular policy played only a secondary role in most cases.

From its earliest Communications on climate change (European Commission 1991, 1992a), the Commission emphasized the need for emission reduction efforts across sectors, identifying in particular the power, transport, industry, and residential/commercial sector. Initially, it put much effort into the creation of a carbon/energy tax, but also sought to use the SAVE and ALTENER programs to drive emission reductions across different sectors. In its pre- and post-Kyoto Communications (European Commission 1997a, 1998a, 1999a) it introduced the idea of EU-wide indicative sectoral targets and presented a variety of ideas on common policies. It followed up on these ideas with the European Climate Change Program in 2000/2001, which endorsed and contributed to the development of many of the sectoral policies that would eventually be adopted. The

Commission's policy initiatives in 2007 and 2008 also covered a broad range of sectors, from cars and industry to power generation and buildings. Only emissions from the agricultural sector largely escaped the Commission's attention: as discussed in chapter 8, this probably had a variety of reasons, including the expected reluctance of member states, the uncertainty surrounding the measurement of agricultural GHG, the impact of the CAP and other environmental legislation on agricultural emissions, and the special role of DG Agriculture within the Commission.

As expected, the Commission proposals' ambition levels were always above or at the level of what the member states would ultimately accept. There was no case, in which member states sought to raise climate policy ambition from what the Commission had suggested. After a series of Commission proposals for car taxation had died a quiet death in low-level Council Working Groups, the member states accepted the idea for the Voluntary Agreement with ACEA, JAMA, and KAMA. In 2007, member states substantially weakened the proposed Regulation on CO2 from passenger cars. During the EU ETS negotiations, the member states largely left the ambition level suggested by the Commission in place, though they added clauses on *force majeure*, opt-outs, and limitations on auctioning in the second trading period that nudged the legislation in a slightly less ambitious direction. In the case of buildings, things are slightly more complicated. In the negotiation of the 2002 EPBD, the Council did extend deadlines and add flexibility to the proposal. In 2009, however, the Council accepted a number of EP amendments – on nearly zero energy buildings, financing, etc. – that went significantly beyond what the Commission had suggested. At the same time, however, the Council did not accept the Commission's proposal for cost-optimal energy efficiency requirements. Overall, the ambition level of the proposal did not substantially change in this case either. The same is true for renewable energy promotion. The RES-E directive proposal was slightly weakened by member states; on the Renewable Energy Directive, member states altered the substance of the proposal, though not the ambition level. On agriculture, finally, the Commission tried to make more money available for addressing agricultural GHG emissions through compulsory modulation. Yet these plans were thwarted by member states protecting farm interests.

There is also substantial evidence that the Commission was not merely following the orders of the member states. Instead, it was the engine of advancing climate policy ambition. During the first half of the 1990s, Environment Ministers repeatedly asked the Commission for proposals on car CO2 emissions – yet this was largely a cop-out because they could not agree among themselves about what such rules would look like. The idea for the voluntary agreement then developed within the Commission. Similarly, officials within DG Environment decided sometime in 2004 that they would pursue mandatory regulation for car CO2 emissions and

only later tried to get the member states on board. The EU ETS was also very much a "Commission baby": though a number of member states were experimenting with the policy instrument at the time, none explicitly asked the Commission for proposals. Instead, most member states were induced by the Commission Green Paper to develop expertise and a position on the issue, not the other way around. I found no indication that any member state ever asked the Commission for the EPBD – instead a number of member states tried to dissuade the Commission from introducing the EPBD recast proposal. There was demand from member states for the RES-E Directive: the creation of the internal electricity market and concerns about the legality of certain renewable energy promotion schemes under EU state aid rules led several member states to want to clarify the legal situation. At the same time, the level of the indicative targets and the (ultimately abandoned) ideas on tradable certificates were very much the brainchild of the Commission. In 2007/2008, the Commission had set the agenda with its Renewable Energy Roadmap, which suggested the 20% mandatory target for 2020. In response to the endorsement of this target by the European Council, the Commission then worked out its proposal. Concerning agriculture, there is also little indication that the member states asked the Commission to identify climate change as a new challenge in the CAP Health Check.

Other factors that might have driven this behavior were less important, notably the DG responsible or the constellations of transnational interest groups. While the cars and EU ETS dossiers were handled by DG Environment, DG Energy developed the EPBD and the renewable energy directives. Yet in all four cases, Commission behavior went in a similar direction. DG Agriculture appears to have been less concerned about introducing climate policy measures in the agricultural sector: yet given the degree of integration of agricultural policy within the EU, climate change probably did not seem like such an important issue in order to expand competences. Transnational non-governmental actors do appear to have had some influence on the European Commission, though not necessarily on the ambition level the Commission pursued at particular points in time. In the car case, we observed the emergence of the "Integrated Approach" from a "high-level-group" of CEOs working with the Commission's DG Enterprise. Multinationals like BP and Shell helped the Commission in developing the EU ETS. Lobbies like Eurima and EuroACE financed a number of studies that influenced the Commission's thinking on energy efficiency in buildings. Lobbying from farm organizations probably had an impact on biofuels policy and the utilities' association Eurelectric found a receptive Commission concerning green certificates trading as a support scheme for renewables. The relative dearth of demands for limitations on agricultural GHG emissions and the strong position of agricultural lobbies are consistent with the Commission's longtime neglect of agricultural

GHG emissions. Yet in many cases, the lobbies that offered some inspiration or technical help to the Commission would have liked much greater (or much less) ambition from the Commission. Moreover, their constellations often didn't change over time, while the Commission's position did shift.

Overall, the observations thus suggest that the Commission behaved much as predicted by the rational choice baseline. As in other policy fields, the Commission pushed for greater European integration in the field of climate policy and as a result also pushed for more ambitious climate policy. The findings from my five cases thus also support the findings of a variety of previous scholarship. Several authors have pointed out that the Commission saw climate change as an opportunity to legitimize and expand its own role and European integration more broadly (e.g. Haigh 1996; Oberthür/Roche Kelly 2008; Barnes 2011). Its behavior concerning sectoral climate policy-making is certainly compatible with this view. Similarly, the findings support scholarship that has described the Commission as an "engine of integration" (Pollack 2005) and those rational choice theorists whose models attributed an interest in greater European integration to the Commission (e.g. Tsebelis/Garrett 2000, 2001). It casts doubt on arguments that the member states as principals hold the Commission by a fairly tight leash (e.g. Hug 2003; Wonka 2007, 2008). While the Commission has a strategic interest in not straying too far from the member states' interests, it has continually nudged them towards more integration and greater climate policy ambition. In doing so, it has found the European Parliament to be a useful ally, as I discuss in the following sub-section.

9.2.2 European Parliament Preferences

Like the Commission, I expected the European Parliament to be a driving force behind the EU's climate policy across sectors and to adopt more ambitious positions than the Commission and the overwhelming majority of member states. The evidence in support of this hypothesis (H2) is very strong. The EP first passed a resolution on climate change in 1986, long before any other EU actors had dealt with the subject (Wagner 1997, p. 311). It passed a plethora of resolutions before and after UNFCCC COPs during the 1990s and repeatedly urged the Commission to come forward with ambitious legislative proposals (Burns/Carter 2011, p. 60ff). In 2007, it set up a Temporary Committee on Climate Change, which produced a resolution entitled "The future begins today – recommendations for the EU's future integrated policy on climate change" (European Parliament 2009e), calling for further EU leadership both at the international level and in terms of internal policies.

In all cases considered in this book, the European Parliament was at least as ambitious as the European Commission; in a majority of cases it asked for more

ambitious rules. It was also consistently more ambitious than the consensus in the Council. In the 1990s, when the Commission and the Environment Council pursued the reduction of car CO2 emissions through a voluntary agreement, the Parliament called for a binding regulation. In the EU ETS negotiations, the EP demanded the use of auctioning as an allocation mechanism for at least part of the allowances. It also sought to underscore the credibility of the system by establishing centrally set limits on GHG emissions. In the 2002 EPBD negotiation, the EP called for more specific minimum requirements for the energy performance of buildings; in the second, it passed far-reaching amendments on net-zero energy buildings and the provision of financing for building energy efficiency improvements. It asked for mandatory renewable energy targets in 2000/2001, when only two member states were willing to go in this direction; it tried to strengthen the Renewable Energy Directive in 2008 by introducing intermediate mandatory targets and penalties for non-compliance.

Only in two cases, the evidence was a bit weaker. In the 2007/2008 negotiations on car CO2 emissions, the EP was less of a force for greater climate policy ambition than usually: the Environment Committee, the Rapporteur from which led the negotiations with the Council, only added one decisive element to the Commission proposal, namely a long-term target of 95 g/km by 2020. The Industry Committee, on the other hand, voted to basically accept a deal reached within the Council, which was less ambitious than the Commission proposal. As a result, the Parliament's official negotiating position (passed by the Environment Committee) was consistent with the rational choice baseline, yet had only very weak backing by the Parliament as a whole. In the field of agriculture, the EP had a less powerful role than in other sectors during the period mainly investigated in this book. Nevertheless, in a number of non-legislative resolutions, the EP called for more ambitious climate policies for the sector than other actors have done. On concrete policy, however, namely in its comments on the Health Check, it revealed itself to weight other issues more strongly than climate concerns. Still, it was no less ambitious than any of the member states.

Thus, the overall evidence is consistent with the expectation of H2: the EP does indeed appear to have an institutional interest in stronger EU-level climate policy. At the same time, there is some evidence that party politics did matter in the European Parliament: parties on the left of the political spectrum as well as the liberals have often been the driving forces behind the EP's ambitious amendments. Opposition to ambitious policies usually came from Conservatives. Yet Conservative Rapporteurs like Alejo Vidal-Quadras in the case of the first EPBD and Jorge Moreiro da Silva in the case of the EU ETS also developed positions that increased the ambition level of the policies under negotiation. Most EP amendments were adopted with the votes of large numbers of conservative

MEPs. And there was little evidence of a less climate-sensitive EP over time despite a decline in the left's share of seats. To some degree, the current (2009-2014) European Parliament offers a new test of H2, as the share of the left and the liberals combined fell further in the 2009 elections. In combination, the Socialists, Greens, European United Left, and the Liberals no longer hold a majority of seats. If H2 is correct, we should nonetheless continue to see the EP adopt more ambitious climate political amendments than the Commission and the Council – if party politics are decisive, this won't be the case.

The findings to date, however, largely confirm H2. The European Parliament clearly performed its role as a "green actor". The findings are also consistent with the previous literature that has identified the EP as a force for greater European integration (e.g. Hix 2005, pp. 89ff.; Tsebelis/Garrett 2000, 2001) and as a "green actor" (Burns 2005; Knill/Liefferink 2007, p. 66-68; Weale et al. 2000). Its institutional set-up with the resulting need for coalition building in favor of greater European integration as well as the accessibility of its Environment Committee to "green" interests appear to have been sufficient to make the EP act as a champion of greater climate policy ambition.

9.2.3 Member State Preferences

The rational choice baseline correctly predicted the main differences in member state positions and identified the main sources of their concerns during the negotiations. Yet in multiple cases, concerns about protecting domestic interest groups and avoiding administrative adaptation costs were more closely intertwined than theorized. Moreover, in most cases member states accepted a higher level of policy ambition than predicted. Alternative explanations based on the ideological positions of governments or more general leader-laggard dynamics received less empirical support.

Across cases, the predictions about member state preferences developed based on industry interests and employment found much support. Concerning limits on specific CO2 emissions from passenger cars, member states largely defended the interests of their national car manufacturers. Those countries without a car industry put on a green mantle and pushed for an ambitious policy. In the EU ETS negotiations, countries with low-carbon electricity sources, high domestic abatement costs, and relatively small manufacturing industries were most favorable towards the Commission's ideas. Germany, which has a large manufacturing sector, relatively low abatement costs and a high share of coal and lignite in electricity generation, was the fiercest opponent to emissions trading. Concerning the EPBD, all member states appear to have been worried about administrative adaptation

costs: the Council thus tried to facilitate implementation by extending deadlines and essentially making inspections of boilers and air conditioning units optional. The country with the lowest adaptation costs, Denmark, was among the most positive towards the directive. On renewable energy, those countries with the largest benefiting industry turned out to be the leaders; all member states sought to preserve domestic support schemes. None of the member states took on its agricultural lobbies to lower methane and N2O emissions.

Member states were, however, not nearly as blatantly opposed to sectoral climate policies as the rational choice baseline would have led us to believe. They were willing to impose some costs on their domestic industries and to incur some administrative adaptation costs. The option of not regulating car CO2 emissions, for example, was not even discussed in 2007/2008. Debates about the EU ETS were not about whether industry and electricity generators should reduce their emissions, but about the correct policy instrument to achieve these reductions. Even in the field of buildings, traditionally the domain of national or sub-national regulation, member states agreed to introduce fairly costly certification systems for building energy efficiency. And despite unfavorable interest group constellations, they accepted fairly ambitious – albeit indicative – targets for electricity from renewable energy sources. Later on, they accepted even higher (and mandatory) targets for the share of renewables in overall energy consumption.

The empirical evidence does suggest that the distinction between national interest group constellations and administrative adaptation costs as drivers of member state preferences is not usually as clear-cut in practice as in theory. Thus, in opposition to the EU ETS, countries like Germany, the UK and Finland defended their pre-existing national arrangements: voluntary agreements between industry and the government in the case of Germany and Finland, and the domestic ETS in the UK. Yet all of these arrangements were quite favorable towards industry and the argument in defense of previous domestic policies came as much from those affected as from the governments. The same holds in the case of renewable energy promotion. While Germany and other countries with feed-in tariffs would have incurred administrative adaptation costs if they had had to switch to a different support system, renewable energy lobbies were also very much in favor of the feed-in system. Even in the case of building energy efficiency rules, property owners and parts of the construction industry argued in favor of policy stability.

Nevertheless, the interests and strength of domestic industry as well as concerns about administrative adaptation costs provide a much better explanation of member state preferences than the two alternatives considered throughout: the ideological position of governments and general leader-laggard dynamics. There is some evidence that the Red-Green coalition in Germany adopted a more

proactive position on renewable energy promotion than its predecessor. Moreover, the strong performance of the Greens in the 2002 elections softened German opposition to the EU ETS. In Italy, governments led by Silvio Berlusconi were more opposed to ambitious climate policies than other governments. Yet, overall the evidence is weak. The conservative German Chancellor Angela Merkel was just as adamant about introducing a mandatory renewable energy target as her predecessor would have been, while at around the same time defending the interests of the German automotive industry concerning car CO2 emissions.

There is some more evidence concerning general leader-laggard dynamics, though it is also limited. Thus, the wealthy Nordic countries, particularly Sweden and Denmark, often took a leadership position, e.g. on the EU ETS, building energy performance, or renewable energy. The poorer Central and Eastern European member states, on the other hand, tended to be less favorably inclined towards ambitious policies. Yet to a large degree, the same positions can be explained with the factors outlined in the rational choice baseline, i.e. the constellation of national interest groups and the level of administrative adaptation costs. Moreover, Eastern European countries did support more ambitious polices when it was in their interests: those Eastern European states with "French and Italian" car manufacturing plants favored more stringent emission limits than those with "German" ones. They were also quite favorably inclined towards biofuels, as their large farm sectors would lead us to expect.

Summing up, the evidence on member state preferences suggests that the rational choice baseline correctly identifies important constraints and pressures governments face when making choices about EU-level sectoral climate policies. It thus provides a good explanation of why it has been so difficult to arrive at ambitious sectoral climate policies and why it is likely to remain difficult to uphold and further tighten climate policy ambition levels. At the same time, the evidence suggests that governments also face other incentives and motivations when they negotiate about EU climate policies.

The evidence on preference formation in the member states is in line with much of the previous literature. According to LI (Moravscik 1998), powerful domestic interest groups decisively constrain member state positions in European negotiations: all cases where interest constellations were relatively clear, largely confirmed this expectation. Moreover, the cases contained much evidence that member states' positions were strongly shaped by previous domestic politics (e.g. Héritier/Knill/Mingers 1996; Knill 2001; Börzel 2005). Yet the concerns seem to have been less about administrative adaptation costs than about the domestic equilibrium of interest groups. Usually those domestic group benefiting from domestic arrangements also lobbied strongly in favor of upholding them.

According to the rational choice baseline, I expected two factors identified as important in the previous literature to be of limited relevance to the specific issue of climate change, namely general "leader-laggard" dynamics (Liefferink/Andersen 2005) and environmental vulnerabilities (Sprinz/Waahtoranta 1994). Because of limited local benefits resulting from ambitious sectoral climate politics and the long time-horizons involved, incentives to be a leader would be more limited. As noted above, the evidence on leader-laggard dynamics was quite limited. For most member states investigated, negotiating positions varied between sectors, depending on interest group constellations and administrative adaptation costs. For some issues, notably the EPBD, several member states acted as what one might term "Leave-me-alone"-leaders. Thus, Germany and the Netherlands both were doing quite a lot to reduce building CO2 emissions domestically, but did not want EU-legislation to interfere with their domestic activities. Germany behaved in a similar way towards the EU ETS – German industry had substantially reduced emissions and was expected to make further reductions, yet it did not want to do so in the framework of an ambitious EU policy. Conversely, as there were few if any consistent leaders on EU climate policy among the member states, there were also few consistent laggards. While East European member states did receive some side-payments on the Climate and Energy Package, the EU's Eastward expansion did not substantially slow the advancement of more ambitious sectoral climate policies. This corresponds to what a number of analysts had expected (e.g. Jehliaka/Tickle 2004; Schreurs 2004). Previous expansion of the EU to poorer member states had also not undermined environmental policy-making.

The evidence on the impact of vulnerabilities (Sprinz/Vaahtoranta 1994) was also limited. The most vulnerable member states are probably those with long coast-lines and those in the South. Yet there is little evidence of a systematic variation along these distinctions: Southern member states like Italy and Spain for the most part did not act as leaders on climate policy, nor was the UK's position consistently in favor of greater ambition. Similarly, the landlocked East European nations were not consistently against all climate policies.

9.2.4 Bargaining Outcomes

The last hypothesis of the rational choice baseline concerned bargaining outcomes. According to H5, I expected the "pivotal member state", i.e. the last member state required for a qualified majority, to set the overall level of climate policy ambition. While this is not directly observable, the hypothesis has three observable implications: the European Parliament won't have a major impact on the ambition level of legislation, the least ambitious member states won't be able to obstruct progress, and individual parameters will be set towards the lower end (in terms of climate

policy ambition) of member state demands. The evidence on these observable implications strongly supports the hypothesis. Let me discuss each in turn.

While the European Parliament has continuously been a champion of greater policy ambition, its impact on actual policy has for the most part been rather limited. It received some concessions in all negotiations, yet often these concerned minor points: those amendments that would have introduced significantly greater climate policy ambition did not make it into the final legislative texts. Concerning car CO2 emissions, the Commission and Council entirely sidelined the EP in the 1990s by pursuing a voluntary agreement with ACEA. In the negotiations on the car CO2 regulation, the EP managed to insert the long-term target of 95 g/km into the legislative text, but was unable to maintain other aspects of the Commission proposal it was defending. Similarly, most of the parliament's key demands on the EU ETS did not make it into the final directive. Instead of the mandatory auctioning of a certain percentage of allowances, member states are merely allowed to use auctioning as an allocation mechanisms. Even on its "almost non-negotiable" demand of caps on member states' total number of allowances, the EP had to give in. The EP failed to win mandatory renewables targets in the RES-E directive and unsuccessfully demanded mandatory interim targets and penalties in the more recent Renewables Directive. It did win a significant victory on the EPBD recast, when it ensured that all new buildings from 2020 have to be "nearly zero energy." Yet this "victory" came at the expense of policy ambition in other areas of the directive, notably the cost-optimality requirement for regulations of existing buildings undergoing renovation.

There is also evidence that the least ambitious member states were not able to obstruct the advancement of policy ambition. This evidence is not clear in all cases, however, as it is often difficult to identify one or two least ambitious member states. The EU ETS negotiation probably provides the most convincing example: Germany was fiercely opposed to the mandatory introduction of emissions trading from 2005. While it was able to gain some limited concessions during the negotiations, it did not manage to avoid the mandatory introduction of the system. There is also strong evidence that multiple member states opposed the introduction of a mandatory renewable energy target in 2007 – in the end, however, the European Council adopted the target. On the EPBD, in particular the recast, a number of member states would have preferred no change to the previous EPBD but were unable to obstruct progress. On the regulation for CO2 emissions from cars, the least ambitious coalition of countries – led by Germany – did get much of what it asked for. As they had a blocking minority, however, this is in line with H5: the pivotal member state was part of the "German coalition."

There is also significant evidence on the third observable implication of H5, namely that specific parameters would be selected towards the lower end (in

terms of climate policy ambition) of the range discussed during negotiations and pre-negotiations. Again, the example of car CO2 policy is a case in point. The target of 120 g/km was originally spelt out for 2005. In 1996, it was extended to 2010 "at the latest", the negotiations with ACEA pushed its achievement further back to 2012. In 2006/2007, DG Environment pursued a mandatory 120 g/km target for 2012, which in the 2007 White Paper was reduced to 130 g/km by 2012. The actual negotiations on the regulation during 2008 then pushed the target date back to 2015 and effectively lowered the target by introducing additional credits for very low-emitting cars and for "eco-innovations." We find similar dynamics in the other cases as well. In the case of the EU ETS, member states lowered penalties in the initial trading period from 50 EUR/ton to 40 EUR/t. In the negotiation of the original EBD, deadlines and the validity of building energy certificates were extended. In the negotiations of the RES-E directive, targets for some member states were reduced; for the Renewable Energy Directive, the Commission quietly switched the calculation method from primary to final energy consumption.

There is little evidence that package deals or side payments played an important role in most of the cases. Only in 2008, when multiple pieces of climate legislation were negotiated alongside each other, there is some evidence that package deals mattered. East European (and a number of other) member states received extra funds from the auctioning revenue of the EU ETS, which probably made them more compliant on other issues.

How do these findings relate to the previous literature? They help clarify a number of issues in the existing literature on EU climate policy. The findings largely confirm Burns and Cater's (2011) description of the European Parliament's "leadership capacity": while the EP has often adopted ambitious resolutions, its impact on actual policy, they noted, has been very limited. They did not provide an explanation for this state of affairs, however. H5 of my explanatory framework provides such an explanation: as the European Parliament's preferences regarding climate policy ambition were in virtually all cases farther from the status quo than those of most other actors, it had to yield more than others in order to achieve at least part of its goals. Skjaerseth/Wettestad (2008, p.185) also emphasized the fact that Germany and the UK were essentially (though not formally) outvoted as a result of the QMV decision-making rule – my theoretical framework tries to generalize this finding and integrates what they referred to as the "intergovernmentalist" and the "multi-level governance" perspectives.

Going beyond the literature on climate change policy, the cases largely confirm Tsebelis and Garrett's (2000) expectation that actors with preferences closer to the status quo would be able to essentially make "take-it-or-leave-it" offers to actors whose preferences are farther from the status quo. It may seem to confound evidence by König et al. (2007), which suggests that the European Parliament

"wins" in most negotiations that reach the conciliation phase of the legislative process. At the same time, however, König et al. (2007) find that actors' relative positioning to the status quo mattered for bargaining success. In the case of climate policy, the EP has had fairly "extreme" preferences relative to the other participating actors, which makes my findings compatible with previous ones.

9.3 Arguments matter more, sometimes – evidence on the discursive environment's impact on policy ambition

The rational choice baseline, as we have seen, carried us quite far in explaining sectoral climate policy ambition in the European Union. At the same time, however, the rational choice baseline was just what its name suggests, i.e. a *baseline*, against which we can investigate the importance of other explanatory factors. The central factor my theoretical framework identified to explain sectoral climate policy ambition was the range of available arguments through which opponents of ambitious policies could justify their positions. In short: the discursive environment. There is strong evidence across sectors that its relative restrictiveness mattered: ambitious policies came about in situations where the opponents had few rhetorical options to defend inaction or low ambition policies.

In all five cases we saw that the discursive environment mattered in shaping the level of policy ambition achieved. Thus, car industry interests in different member states remained largely stable over the past two decades. Yet in the 1990s the EU adopted no more than a low-ambition voluntary agreement, while it moved to a regulation on car CO2 emissions that came very close to what I would code as "high policy ambition." What changed between the mid-1990s and 2007/2008 was the discursive environment. A comparison between the case of passenger car CO2 emissions and the agriculture case highlights the importance of the discursive environment. In both cases, powerful domestic interest groups in a large number of member states opposed the introduction of ambitious policies. Yet farmers and their supporters faced a much more favorable discursive environment because of the decline in agricultural emissions due to other policies and the fundamental human need for food. The car industry had to contend with rising emissions and a failing previous policy.[274]

274 To be sure, national interest group constellations in the two cases were not perfectly congruent. Thus, manufacturers of small cars might benefit under certain circumstances from CO2 limit values, while farmers' interests appear to be more homogenously opposed. Yet even among farmers, interests might vary if more ambitious policies were to be discussed: thus the producers

In the cases of buildings and of renewables, we also encountered the emergence of more ambitious climate policies in the presence of a more restrictive discursive environment. In these cases, however, other factors also facilitated the increase in policy ambition: the slight convergence in building energy efficiency policy brought about by the implementation of the original EPBD and the "Concerted Action" program; and the enormous growth of the renewable energy industry, which made it a much stronger lobbying force. Nevertheless, in neither case is it conceivable that ambition levels would have increased in a more permissive environment.

The EU ETS constituted somewhat of a special case. Here, some groups had a strong interest in the establishment of an emissions trading system, namely electricity suppliers, especially those with a low-carbon generation portfolio. In addition, it was rational for industries with high domestic abatement costs who faced the realistic prospect of the introduction of some form of GHG limitations to lobby in favor of emissions trading with the free allocation of allowances. I argued that the discursive environment created by the EU's decision to salvage the Kyoto Protocol in the face of U.S. opposition in 2001 created such a discursive environment. In addition, the close link between the Kyoto protocol and the EU ETS made it very difficult to rhetorically oppose emissions trading. The explanation thus relies on a combination of interests and arguments: in fact, rhetorical constraints (the impossibility to oppose Kyoto) created an interest in a least-cost emission reduction policy, which was found in the EU ETS.

As outlined in chapter 2, the discursive environment consisted of three levels: the general policy environment, the climate policy environment, and the sectoral policy environment. The first two varied over time but not across cases. For many years, the general policy environment was characterized by low public attention to climate change but a latent concern about it. Only in 2007/2008 there was a spike in public attention, followed by somewhat greater attention to the issue than prior to 2007. The climate policy environment became more restrictive with every IPCC report, with the establishment of the international climate regime, and the gradual expansion of domestic climate policies across sectors. Thus, the discursive environment across sectors was quite permissive in the 1990s. The climate policy environment became much more restrictive around 2001: hence it is unsurprising that around this time the various directives coming out of the ECCP were adopted. Similarly, the further upgrade in policy ambition that occurred in multiple sectors in 2007-2009 is in line with the more restrictive climate policy environment at the time.

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of beef and dairy products would probably be hurt more than those farmers specializing in fruit and vegetables.

This is not an entirely new story. Multiple authors have pointed to the importance of the Kyoto Protocol in bringing about internal climate policies (Costa 2008; Oberthür/Pallmaerts 2010b). Skjaerseth and Wettesatd (2008) emphasized the importance of the Kyoto Protocol in bringing about the EU ETS. The "added value" of my theoretical framework (and the empirical tests of it) is that it more clearly specifies a causal mechanism about why it was so important and why it was so important to the EU. After all, not all Annex-I parties to the Kyoto Protocol introduced similar policies. The specific institutional set-up of the EU, however, where the Commission and the EP have an institutional interest in ambitious climate policies ensured that there were actors with an interest in exploiting the rhetorical possibilities created by the protocol.

Similarly, Compston and Bailey (2008) and their collaborators have identified "taking advantage of weather-related and natural disasters" as one potential political strategy to introduce ambitious climate policies. My conceptualization of the discursive environment suggests that such disasters may have an impact on the general policy environment, i.e. by raising political attention and making it less easy for governments to "get away" with poor justifications. Whether or not such disasters and the heightened public attention to the issue bring about more ambitious policies will also depend on the other aspects of the discursive environment: as long as potential targets of sectoral climate policies can still claim to be unfairly singled out or that alternative, "soft" approaches might achieve the same goals, we cannot expect natural disasters alone to facilitate climate policy-making a great deal.

Overall, my approach is not entirely different from Schreurs and Tiberghien's (2007) model of "multi-level reinforcement" to explain the EU's leadership on climate policy. They argue that various combinations of "leaders" within the EU, buoyed by helpful public opinion, have again and again pushed the EU towards taking on ambitious policy-positions. Yet they do not differentiate clearly between external and internal policies. Moreover, they do not explicitly recognize or explain sectoral and temporal variation in climate policy ambition. Thus, they identify Germany rather uncritically as a "leader", even though – as we have seen – its stance has varied significantly between sectors. The same holds for the UK. My approach differentiates more clearly between different actors and sectors, and provides a more explicit theorization about how public opinion comes to matter for specific, rather technical policies.

Some readers may still find the concept of the discursive environment a bit frustrating as it is not terribly exact. On all three levels, we can identify indicators that suggest greater restrictiveness or permissiveness. Yet it is impossible to capture in a simple index. This is due to the inherently unstable and dialectic nature of argumentation and of what may be a socially acceptable argument.

Nevertheless it is an analytically useful concept that helps us to understand how the EU has come to adopt increasingly ambitious climate policies for particular economic sectors.

It is also an innovation on previous scholarship on rhetorical entrapment. Schimmelfennig's (2001, 2003) theory on rhetorical entrapment relies on the presence of a commonly shared "liberal community"-identity: the need for opponents of a specific political decision, the Eastward expansion of the EU, ultimately had to yield because they needed to affirm their identities as members of a community. Of course, most political decisions are not as fundamental and hence not as easily tied to fundamental values and identities. Nevertheless, they might be subject to similar rhetorical dynamics. My conceptualization of the discursive environment is one way of empirically testing their importance. Similarly, Krebs/Jackson (2007) insist that rhetorical coercion happens when proponents of a particular policy run out of rhetorical commonplaces from which they can make socially sustainable arguments. Yet they do not specify how we can measure the absence or presence of such commonplaces: again my conceptualization of the discursive environment seeks to close this gap.

My findings about the importance of changes in the discursive environment for policy choices also have implications for historical institutionalism, notably for the study of how time and timing affects politics and policy-making (Bulmer 2009; Goetz/Meyer-Sahling 2009; Pierson 1996, 2004). Historical institutionalists have theorized about how path dependent processes can shape subsequent political institutions and processes through sunk costs, the creation of vested interests, or positive feedback loops. Yet the key mechanisms through which path dependence "matters" in historical institutionalism have to do with costs and benefits: it may be costly to reverse a previous decision, which makes it "sticky." Conversely, the more actors have converged on particular institutional arrangements or standards, the more beneficial it may become for others to do the same. Thus, the underlying causal mechanisms of historical institutionalism are strongly influenced by a materialist rational choice logic. What my findings suggest is that there may be such a thing as "rhetorical path dependence" – policies adopted and arguments made at one point may have a constraining effect at a later point because they preclude certain arguments in favor or against particular policy options.

9.4 Conclusions – implications for future research and for the "real world"

Having reviewed the findings from my case studies, compared the results between cases and related the insights gained to the previous literature on EU politics and climate policy, I would like to conclude this book by briefly spelling out its implications for practitioners of climate policy-making. I believe that four implications in particular follow from my theoretical framework and from the empirical evidence presented. They can be summarized as "four Is": Interests, Institutional Design, International Commitments, and Incrementalism. While the first two of these implications derive from the rational choice part of the framework, the latter two primarily relate to the importance of arguments and the discursive environment within which they are made.

Exploiting and Creating Interests

The European Commission (2008b) titled its Communication on the 2008 Climate and Energy Package *20 20 by 2020 – Europe's Climate Change Opportunity*. This title was to suggest that climate change mitigation not only involves costs, but also offers tremendous opportunities. As 20 years of climate policy-making have shown, however, these opportunities by themselves are not sufficient to solve the problem of rising GHG emissions. Absent strong incentives, private enterprises and citizens don't appear to be willing to make the necessary investments to reduce emissions by the amounts climate scientists deem necessary. Thus, it is for policy-makers to create the opportunities of climate protection.

One way of doing this in a sustained fashion is to focus on policies that create at least as many obvious winners as losers. Most policies create winners and losers, though the costs are often more concentrated than the benefits. Climate policy-makers can try to reverse this logic and seek to create climate policies where the benefits are concentrated and the costs more widely spread. The promotion of renewable energy is one such strategy, as we have seen. By promoting electricity from renewable energy sources, policy-makers have created a vested interest in further ambitious climate policies: the strength of the German renewable industry was probably a key reason why Chancellor Merkel invested so much political capital into getting mandatory EU renewables targets. The strength of the German renewable industry in turn was the result of the renewable energy promotion policy of previous governments, especially of the Red-Green coalition that ruled from 1998-2005. Similarly, the introduction of emissions trading created winners in the electric utility sector: accordingly, the European Commission had a strong ally in Eurelectric, the electric utilities' lobby. This is not to say

that in either case there was no opposition – on the contrary. Yet by having strong allies with an interest in the specific climate-policy proposed, the proponents of an ambitious policy had a much easier time than they would have had otherwise.

Going beyond these cases, there may be a variety of ways in which policy-makers can exploit the material interests of powerful actors to bring about and maintain ambitious climate policies. A climate political interest in strict energy-efficiency rules for all kinds of equipment may coincide with a desire to keep foreign competitors out of the market, setting in motion a process of "trading up" (Vogel 1997). Policy-makers might also use the enormous purchasing power of the state to set incentives. Car manufacturers might, for example, have been less reluctant to accepting strict CO2 emission rules if these rules had been accompanied by pledges that a certain number of very low emission vehicles would automatically be purchased by the state.

Across cases, we have seen a mobilization of the losers of ambitious climate policies. If climate change mitigation is to be an opportunity, policy design should try to focus on mobilizing the winners.

The Importance of Institutional Design

If my explanatory framework correctly explains the central dynamics of EU climate policy-making, the driving forces across sectors were the European Commission and the European Parliament. Because greater climate policy ambition in most cases means greater European integration and hence more power to them, I argued, the Commission and the EP have an institutional interest in adopting more ambitious climate policies. The Commission and the EP are certainly unique supranational actors, equivalents of which (in terms of competences) we don't find in other cases of regional integration. What their central role in European climate policy-making suggests, however, is that it is helpful to have political actors with both a strong institutional interest in ambitious climate policies and a strong position in the legislative process. Of course, it does not seem practical (or politically feasible in the near term) to redesign entire political systems because of global warming. It does seem feasible, however, to create institutional mechanisms, which ensure that climate change policy is continuously on the political agenda and that political actors don't renege on their commitments to reduce emissions.

How might this be done? One possibility would be to establish a Climate Change Ministry or an independent regulatory agency analogous to a central bank (e.g. Helm/Hepburn/Mash 2003). The responsibilities of such a ministry or independent agency could range from regularly publishing reports on a government's emission reduction performance and making legislative proposals if certain

targets are not met to managing the price of carbon, either through a tax or through the quantity of allowances in an emissions trading scheme. The responsibility to review progress and to make legislative proposals if deemed appropriate would roughly correspond to what the Commission has been doing in EU sectoral climate policy. Yet one reason the Commission can continuously nudge member states towards greater climate policy ambition is that it is virtually impossible for member states to abolish the Commission. It performs a variety of functions beyond climate policy and many potential veto-players (i.e. all the member states) would have to give their consent to such a step. Thus, designing a ministry or agency with similar staying power as the Commission would be quite difficult. Similarly, while an agency might be charged in theory with setting a carbon price, in practice this process would probably be highly politicized. Most legislatures would be unwilling to cede such far-reaching powers as setting a carbon price to an independent agency. Yet even if they did, a change in government might lead to an abolition of the agency.

Governments that truly want to commit themselves and their successors to ambitious climate policies across sectors might pursue a different strategy. Ismer and Neuhoff (2009) have suggested that governments can make credible commitments on carbon prices in an emissions trading system by issuing put-options on carbon allowances to private investors. These options would commit the government to buying carbon allowances at a specific price, which would then effectively become the floor price in the market. The options would give governments an incentive to tighten the supply of allowances in the emissions trading system to ensure that investors won't cash in on their options. On the other hand, the options would be attractive to investors who want to hedge investments in clean energy technologies. While Ismer and Neuhoff's (2009) proposal focuses on emissions trading and thus is likely to apply to only a limited range of economic sectors, the idea can easily (at least intellectually) be extended to all sectors. Governments that want to commit to reducing emissions from particular sectors could issue put-option contracts on emission allowances tied to emission reduction trajectories for particular sectors. Thus, the government would specify an emission "budget" for a particular sector for each of the next 30 or 40 years. The option to sell carbon allowances (either from an established emissions trading system or from the CDM) at a pre-determined price would be tied to the achievement or failure to stay within the carbon budget. If, say, for a period of two or three years, the budget was exceeded in a particular sector, the holder of the option would have the right to sell allowances equivalent to the excess emissions at the pre-determined price to the government. The law establishing such contracts could also assign responsibilities for individual sectors to particular ministries: the housing minister, for example would then be responsible for

building-related emissions and would have to cover the cost of allowances from his or her budget in case the target emission level is not met. This would certainly keep the issue on the agenda of each minister responsible for a particular sector. At the same time, it would still be an attractive hedge for investors. Investors holding shares of companies that make insulation materials or energy efficiency equipment for buildings might hedge their bets with options tied to the buildings sector. Investors in electric vehicles might limit their risks by buying transport-related put options. For governments, the system would have the benefit of creating a revenue stream up-front, while the costs would have to be born by future governments. The issuing of such options might even become part of an international agreement on climate change.

To be sure, issuing a put option on carbon allowances tied to particular sectors' emissions constitutes a more ambitious step than any the EU has taken so far. Yet it would have the effect that sectoral climate policy making would be routinely on the agenda of policy-makers across sectors. Within the EU, the Commission and the EP have continually made sure ambition levels are advanced – financial contracts might help other polities achieve a similar outcome.

The Importance of international commitments

The third practical implication of my theoretical framework is that the EU – and other countries – should continue to pursue an international post-Kyoto agreement. Many authors have pointed out the flaws of the Kyoto Protocol (e.g. Barrett 2003, 2008; Falkner/Stephan/ Vogler 2010; Victor 2001) and suggested alternatives. The Kyoto Protocol does relatively little to address climate change, as it only prescribes emission levels for one five-year period, it sets no incentives for participation, and it has no credible enforcement mechanism. "Self-enforcing" agreements that break down the problem into smaller parts and address emissions by sector are often identified as alternatives. Within such accords, trade restrictions could be used as an incentive to ensure both participation and compliance (e.g. by effectively prohibiting the consumption of steel or aluminum not produced according to a certain standard of energy efficiency) As it has become quite clear that neither China nor the U.S. will accept "Kyoto-style" absolute targets (Grubb 2010), such sectoral accords seem quite attractive.

Nevertheless, it is important that some international agreement emerges in which countries, including the EU, commit themselves to specific GHG emission reductions. The reason an international agreement is so important is a discursive one. It provides the proponents of ambitious sectoral climate policies with a rhetorical "weapon." Once a country has made an international commitment, it is quite difficult in most countries to argue that the commitment should not be

honored. International commitments thus put pressure on the opponents of ambitious sectoral policies to craft arguments either about why their sector should be exempted or what an alternative policy-instrument might look like. They also provide the proponents – the Commission and the EP in the case of the EU – with a benchmark against which performance can be measured and based on which they can justify new legislative proposals.

An international agreement also makes it harder for opponents to argue that their efforts are futile: proponents of ambitious policies can always argue that others are committed to make similar efforts. If an international agreement actually (unlike Kyoto for the most part) leads others to make equivalent (or stronger) efforts, this makes it more difficult for domestic actors to argue that they are facing competitive disadvantages. And even it others don't (or only partly) honor their commitments, most people have at some point (probably in Kindergarten) learned that if someone else does something that is wrong (i.e. not honor commitments) this does not make it right for others to do the same. Of course, international relations scholars since Thucydides have known that these Kindergarten rules don't always apply in international politics. Yet in domestic politics, if there is public attention to an issue, it is still at least awkward to argue that one should not honor international commitments because others don't honor theirs. This is not to say that whether others honor their commitments or not doesn't matter (it does). Yet it suggests that any international agreement with a GHG limitation commitment will make life easier for those promoting ambitious sectoral climate policies.

The importance of incrementalism

The fourth implication of my theoretical framework is the importance of incrementalism. As we have seen in several of the case studies, ambitious policies emerged in situations where there was both a restrictive general and climate policy environment, and a restrictive sectoral environment. The restrictiveness of the sectoral environment in turn depended on emission trajectories and the performance of previous policies to achieve identified targets. As we have seen, in the absence of a previous policy it was hard to argue for the proponents of ambitious policies that voluntary or other "soft" approaches would be insufficient. They simply did not have enough "evidence" to back up their claims of insufficiency. Once relatively soft policies focused on indicative targets, information provision or voluntary agreements failed to achieve their goals, however, it became much more difficult for the opponents of ambitious policies to make their case. This allowed the Commission and other supporters of ambitious policies to exploit a restrictive discursive environment to push through their preferred policies.

Thus, while low-ambition policies may not be very helpful in actually protecting the climate, they do create the discursive conditions that make possible the adoption of more ambitious rules.

This does not mean that my advice to non-EU policy makers is to not pursue ambitious policies. What it does suggest is that policy-makers should be flexible. It is better to get a soft policy in place, combined with a review clause based on specific targets, than to push for a strong policy and end up with nothing. Recent efforts to introduce domestic emissions trading schemes in the United States, Australia and New Zealand provide an interesting case in point. In all these cases, policy-makers "learned" from the EU ETS, that electricity generators should buy their allowances, not receive them for free so as to not create windfall profits. Moreover, governments were happy to plan spending all the money they would receive from auctioning emission allowances. Yet by going for a very ambitious "good" policy immediately, they created political resistance that contributed to the breakdown of legislative negotiations on the policies (and the fall of a prime minister in Australia). It might have been more politically opportune to start with free allowances, which would have given a huge boost to the profits of some companies (and hence have made these companies supporters or at least bystanders). By pointing to concrete evidence on windfall-profits in their own system, policy-makers could then have made their arguments in favor of auctioning much more forcefully and would have already established a policy rather than none.

Of course, small incremental emission reductions won't do much to address the threat of global warming. Even the medium and high ambition policies the EU has adopted in most sectors can only be a beginning. Adopting more ambitious emission reduction policies across sectors and countries will be one of the greatest political challenges of the 21st century. If this book has made even a small contribution to understanding how such policies (and more ambitious ones) can emerge in the EU and elsewhere, it was worth the effort.

Appendices

Appendix I: Climate policy ambition level of EU policies

Council Directive 92/42/EC of 21 May 1992 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels

Dimension	Description	Score
Nature of targets	Specify mandatory minimum efficiency targets for hot-water boilers between 4 and 400 kW rated thermal output	3
Behavioral prescriptions	Member states have to report to Commission all relevant information, may establish a labeling scheme for boilers performing better than minimum standards	1
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	Approval process for boilers specified in Annexes to directive, no specific penalties spelt out	2
Degree of flexibility	Exemption of solid fuel boilers, which account for a relatively small share, however, few cost-containment measures	3
Overall score:		**9 (Medium)**

Council Directive 92/75/EEC of 22 September 1992 on the indication by labeling and standard product information on the consumption of energy and other resources by household appliances[275]

Dimension	Description	Score
Nature of targets	No targets	0
Behavioral prescriptions	Commission can set labeling requirements for certain energy-consuming goods, which have to be applied by producers/sellers of the goods	2
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	Member states are asked to enforce the use of labels	2
Degree of flexibility	Low score on targets and financial incentives	0
Overall score:		**4 (Low)**

275 Directive underwent various subsequent revisions, latest in Directive 2010/30/EC. Yet none of these revisions substantially raised the ambition level, hence I do not code them seperately

Council Directive 93/76/EEC of 13 September 1993 to limit carbon dioxide emissions by improving energy efficiency (SAVE)

Dimension	Description	Score
Nature of targets	No targets specified	0
Behavioral prescriptions	Member states have to submit a report to the Commission about how they implemented programs concerning energy certification for buildings (Art. 2), individual energy billing (Art. 3), third party financing for energy efficiency investments (Art. 4), thermal insulation of buildings (Art. 5), inspections of heating installations (Art. 6), regular energy audits for companies (Art. 7), All programs can be in the form of voluntary agreements, information, education or laws/regulations – hence no clear behavioral prescription, only information provision to Commission	1
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	No enforcement mechanism	0
Degree of flexibility	Low score on targets and financial incentives	0
Overall score:		**1 (Low)**

Voluntary Agreement between the Commission and ACEA 1998 (as well as analogous agreements with JAMA and KAMA 1999)

Dimension	Description	Score
Nature of targets	Voluntary commitment by car makers to achieve average specific emissions of 140 g/km for new cars by 2008/2009	1
Behavioral prescriptions	Member states had to provide Commission with car registration data on specific emissions of newly registered cars for monitoring mechanism	1
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	No enforcement mechanism	0
Degree of flexibility	Low scores on targets, behavioral prescriptions, and financial incentives	0
Overall score:		**2 (Low)**

Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste

Dimension	Description	Score
Nature of targets	Targets for reduction of biodegradeable waste* going to landfills (Art. 5), reduction to 75% of 1995 level within 5 years and 35% within 15 years	3
Behavioral prescriptions	Member states have to develop strategy on reducing biodegradeable waste (Art. 5), various provisions on waste treatment before landfilling (Art. 6), permitting (Art. 7-9), waste acceptance (Art. 11), monitoring (Art. 12) etc.; All Landfill Gas must be collected and used or be flared (Annex 1)	3
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	No specific penalties spelt out, but strong enforcement system implicit in multiple articles – member states even have the opportunity to close down landfill sites that do not confirm to the standards of the directive within a specified time period (Art. 14(b))	2
Degree of flexibility	Very few exceptions (e.g. islands and isolated settlements) in Art. 3; cost containment through long transition periods (5 years for first target, with possibility of extension by 4 years in Art. 5; operators of landfills have 8 years after transposition (Art. 14)	2
Overall score:		**10 (Medium)**

** Biodegradeable waste is relevant because it is the precursor of methane from landfills.*

Directive 1999/94/EC of 13 December 1999 relating to the availability of consumer information on fuel economy and CO2 emissions in respect of the marketing of new passenger cars

Dimension	Description	Score
Nature of targets	No targets	0
Behavioral prescriptions	MS have to ensure that official fuel economy and specific CO2 emissions of passenger cars are included in all promotional literature and at the point of sale, MS have to establish a labeling scheme that allows consumers to compare cars by their fuel efficiency, MS have to ensure that there a guide to fuel economy of different cars is published each year	2
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	MS have to set up a system of penalties so as to dissuade non-compliance	2
Degree of flexibility	Low scores on targets, behavioral prescriptions, and financial incentives	0
Overall score:		**4 (Low)**

Directive 2001/77/EC of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market

Dimension	**Description**	**Score**
Nature of targets	Member states "shall take appropriate steps" (Art. 3.1) to increase share of electricity from renewable sources in total energy consumption to the level of indicative targets specified in the directive	1
Behavioral prescriptions	Member states have to provide "guarantees of origin" for electricity produced from renewable sources, review their administrative procedures for approval of renewable energy projects, and ensure equal and transparent grid access for electricity from renewable sources	3
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	No enforcement mechanism	0
Degree of flexibility	Low scores on targets and financial incentives	0
Overall score:		**4 (Low)**

Directive 2002/91/EC on the Energy Performance of Buildings

Dimension	**Description**	**Score**
Nature of targets	Member states required to set energy efficiency standards for buildings yet without any oversight or approval from the Commission	1
Behavioral prescriptions	Member states have to introduce systems for building energy certification and inspection regimes for air conditioning systems and boilers, development of minimum energy efficiency standards for new and existing buildings undergoing renovation	3
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	No enforcement mechanism	0
Degree of flexibility	Multiple references to necessity of "cost-efficiency", long transition periods, significant exemptions (all buildings under 1000 m^2)	1
Overall score:		**5 (Low)**

Directive 2003/30/EC of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport

Dimension	Description	Score
Nature of targets	Member states "should" ensure a minimum percentage of biofuels on their markets and set Indicative targets of 2% of energy content of transport fuel by 2005, 5,75% by 2010	1
Behavioral prescriptions	Member states must pass law to ensure that the public is informed about biofuels contents through the labeling of biofuel content, monitor vehicle reaction to biofuels/blends, member states need to monitor the effects of biofuels on vehicle performance; member states have to report to the Commission on progress about biofuel use annually, Commission has to report regularly from 2006	3
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	No enforcement mechanism	0
Degree of flexibility	Low scores on targets and financial incentives	0
Overall score:		**4 (Low)**

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

Dimension	Description	Score
Nature of targets	Member states set absolute targets for installations on their territory in National Allocation Plans subject to Commission approval	2
Behavioral prescriptions	Member states have to set up national registries, require companies to report their carbon emissions	2
Financial incentives	Member states allocate at least 95% of allowances for free during the first trading period (2005-2007) and at least 90% during the second period (2008-2012). Hence a price of carbon is established only at the margin, i.e. when installations exceed their allocated allowances	2
Enforcement and compliance	Penalties of 40EUR per ton of CO2 not covered by allowances during the first trading period (2005-2007), penalties of 100EUR per ton of CO2 for the second trading period (2008-2012)	3
Degree of flexibility	Use of Kyoto mechanisms (regulated by "Linking Directive") constitutes significant cost containment mechanism, exceptions (e.g. through opt-outs) very limited	2
Overall score:		**11 (High)**

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

Dimension	Description	Score
Nature of targets	No reduction targets specified	0
Behavioral prescriptions	Reporting duties for member states on use of reduced rates (Art. 16), MS have to put in place the administrative apparatus to introduce taxes where they do not already exist	2
Financial incentives	Taxation covers energy use and hence the burning of fossil fuels, equivalent to a tax on all CO2 emissions	3
Enforcement and compliance	No specific enforcement mechanism in the directive – yet tax collection is normally enforced through severe penalties, including criminal ones	3
Degree of flexibility	Very significant exemptions and cost-containment measures: Art. 2.4, 5, 6, 14, 15, special provisions for 11 member states	1
Overall score:		**9 (Medium)**

Directive 2004/8/EC 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/EC (Cogeneration Directive)

Dimension	Description	Score
Nature of targets	No targets specified	0
Behavioral prescriptions	Member states have to issue guarantees of origin to electricity generated in high efficiency cogeneration (Art. 5), study the potential and barriers to implementation of cogeneration (Art. 6), analyze administrative procedures (Art. 9), report on results of analyses (Art. 10), Commission has to report on results from member states	3
Financial incentives	Art. 7 can be read as asking for support schemes, though not clearly formulated as legal obligation	1
Enforcement and compliance	No enforcement mechanism	0
Degree of flexibility	Too little ambition on targets, behavioral prescriptions, and financial incentives	0
Overall score:		**4 (Low)**

Directive 2005/32/EC of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC (Ecodesign Directive)

Dimension	Description	Score
Nature of targets	Sets a framework within which binding energy efficiency targets for individual products can be set, specific targets are set by a Regulatory Committee under Comitology	2[276]
Behavioral prescriptions	All products in categories covered by the rules adopted under the framework need to be marked with the "CE" label in order to go on the market; member states have to engage in information exchange on the relevant products and standards; consumer information on sustainable use of products is to be provided	3
Financial incentives	No financial Incentives Specified	0
Enforcement and compliance	Member states are to set up surveillance and compliance mechanisms with penalties	2
Degree of flexibility	Directive repeatedly mentions cost and affordability of products should not be affected by the directive	2
Overall score:		**9 (Medium)**

Directive 2006/32/EC of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC

Dimension	Description	Score
Nature of targets	Member states shall set themselves indicative targets of 9% energy efficiency improvements over 9 years	1
Behavioral prescriptions	Member states have to draw up programs and measures to improve energy efficiency and draw up a report called Energy Efficiency Action Plan; public sector has to play an exemplary role by adopting at least two of six measures listed in Annex VI; MS have to ensure that energy services, audits, and information are available to consumers through energy providers or others; MS have to ensure as far as possible that consumers receive individual energy bills	3
Financial incentives	MS required to remove disincentives to energy efficiency (e.g. in tariff structures for electricity), also "may" set up energy efficiency funds, but no financial incentives required	1
Enforcement and compliance	No enforcement or compliance mechanism	0
Degree of flexibility	Low scores on targets and financial incentives	0
Overall score:		**5 (Low)**

276 A score of 2 normally applies to targets set by the member states with Commission approval. In this case, target setting is delegated to a committee, of which the Commission is a central part. As the targets being set can be quite moderate or not take a numerical form at all, a score of 2 seems more appropriate than a score of 3.

Directive 2009/28/EC of 23 April 2009 on the promotion of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC

Dimension	Description	Score
Nature of targets	Member states have targets for the share of energy from renewable sources in total final energy consumption by 2020, adding up to a share of 20% in total final energy consumption in the EU by 2020	3
Behavioral prescriptions	Member states have to provide national renewable energy action plans, ensure appropriate administrative procedures, give priority grid access to electricity from renewable energy sources, adapt building codes so as to promote use of renewable energy in buildings, maintain guarantees of origin for renewable energy	3
Financial incentives	No negative or positive financial incentives	0
Enforcement and compliance	Commission reports on member state progress	1
Degree of flexibility	Significant cost containment measures: statistical transfers between member states (Art. 6), joint projects (Art. 7, 8) and joint support schemes (Art. 11) with other member states and with third states (Art. 9, 10)	2
Overall score:		**9 (Medium)**

Regulation (EC)No. 443/2009 of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO2 emissions from light-duty vehicles

Dimension	Description	Score
Nature of targets	Target for average fleet emissions of car manufacturers selling cars in Europe of 130 g/km by 2015, 95 g/km by 2020, applies to all passenger cars (M1)	3
Behavioral prescriptions	Member states have to provide data on specific emissions for newly registered cars to the Commission	1
Financial incentives	Financial penalties for exceeding targets	1
Enforcement and compliance	Specific penalties per gram of excess emissions per car (95 EUR per g, lower penalties for small deviations, phased in over time)	3
Degree of flexibility	Manufacturers can pool, there are super-credits for particularly fuel efficient cars, there are derogations for small car manufacturers, additional credit (7g) for eco-innovations	2
Overall score:		**10 (Medium)**

Directive 2009/29/EC of 23 April 2009, amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emissions allowance trading scheme of the Community

Dimension	Description	Score
Nature of targets	Fixed overall target for total emissions of covered sectors, to be reduced by 1.74% annually	3
Behavioral prescriptions	Member states have to set up national registries, require companies to report their carbon emissions	2
Financial incentives	Allowances for the power sector are auctioned (exception for Poland), in other sectors partly auctioned, partly grandfathered, depending on risk of carbon leakage	2/3
Enforcement and compliance	Penalties of 100 EUR per ton of CO2e emissions not covered by allowances	3
Degree of flexibility	Use of Kyoto mechanisms (regulated by "Linking Directive") constitutes significant cost containment mechanism, exceptions (e.g. through opt-outs) very limited	2
Overall score:		**12/13 (High)**

Directive 2010/31/EU of 19 May 2010 on the Energy Performance of Buildings (Recast)

Dimension	Description	Score
Nature of targets	Requires member states to set building standards for new buildings at a level of "nearly zero energy buildings" by 2020, MS have to establish targets for the diffusion of "nearly zero energy buildings"	2
Behavioral prescriptions	Maintains and further specifies certification and inspections systems set up by original EPBD, introduces requirement for member states to promote smart electricity meters (Art. 8.2a), public authorities need to ensure that their new buildings are "nearly zero energy buildings" from 2018	3
Financial incentives	Member states have to draw up plans on financial incentives (Art. 9a)	1
Enforcement and compliance	Member states required to ensure proper certification and inspection procedures (independent control systems, Art. 17)and to set up fines for non-compliance (Art. 22); also member states have to report on promotion of nearly zero energy buildings and these reports are evaluated by the Commission	2
Degree of flexibility	Exemptions limited to rather small category of buildings, member states not required to set standards that would not be cost-effective over the lifecycle, also long transition time period until 2020 (hence cost containment)	2
Overall score:		**10 (Medium)**

Appendix II: List of interviewees

CO2 emissions from passenger cars

Joergen Henningsen, European Commission DG Environment (until end of 1997), 22 April 2010
Henning Arp, European Commission DG Environment (Desk Officer for Voluntary Agreement), 27 April 2010
Aphrodite Mourelatou, Greenpeace Climate Campaigner (during the 1990s), 17 May 2010
Chris Kendall, European Commission, DG Enterprise (during the 1990s), 26 May 2010
Gijs Kuneman, European Federation for Transport and Environment (1992-1997), 16 June 2010
European Commission Official, DG Environment (2006-2008), 31 August 2010
European Commission Official, DG Enterprise (2006-2008), 13 September 2010
Official, French Ministry of Environment, 15 September 2010
Petr Dolejsi, ACEA, 21 September 2010
Karl-Heinz Zierock, German Ministry of Environment, 30 September 2010
Ulrike Bastian, Assistant to Werner Langen, MEP/EPP/Germany (Draftsman on CO2 Regulation in ITRE- Committee), 30 September 2010
Louis-Sylvain Ayral, Technical Director, CLEPA (European Association of Automotive Suppliers), 30 September 2010
Silke Malorny, Assistant to Rebecca Harms, MEP/Greens/Germany (Shadow Rapporteur on CO2 Regulation in Environment Committee), 8 October 2010
Matthias Grothe, MEP/SPD/Germany, 12 October 2010
Jorgo Chatzimarkakis, MEP/ALDE/Germany, 18 October 2010
Rainer Steffens, Permanent Representation of Germany to the EU, 20 October 2010
Yannic Souchet, Ministère du Développement Durable, France, 10 November 2010
Ralf Diemer, VDA Brussels, 10 March 2011
Francesca Lazzaroni, Assistant to Guido Sacconi, MEP (Socialist, Italy, Rapporteur on CO2-regulation), 11 March 2011

Emissions Trading

Tomas Wyns, Climate Action Network Europe (CAN Europe), 19 June 2009
Bernhard Kohl, EUROFER, Brussels, 25 June 2009
Folker Franz, Business Europe, Brussels, 26 March 2009
Michaela Beltracchi, International Emissions Trading Association (IETA), 2 July 2009
Sanjeev Kumar, WWF European Office, 7 July 2009

Energy Performance of Buildings

Andrew Warren, EuroACE, 26 October 2009
Hubert David, Eurima, 27 October 2009
Barbara Schlesinger, Bundesarchitektenkammer (Germany), 18 November 2009
Randall Bowie, European Commission DG TREN (Desk Officer for the EPBD), 6 November 2009 and 23 November 2009
Michael MacBrien, European Property Federation, 17 February 2010
Ingrid Vogler, GdW (Immobilienwirtschaft), 3 March 2010
Marcos Gonzalez Álvarez, Instituto para la Diversificacion y Ahorro de la Energia (Email Correspondence), 17 March 2010.
Joergen Henningsen, DG Tren (2001 to 2006), 7 April 2010
Arianna Vitali, WWF European Office, 12 April 2010
Per Högström, Swedish Ministry of Energy, 16 April 2010
Frank Faraday, FIEC (Rapporteur of the Technical Committee), 29 April 2010
Annette Persson, Chairperson of the Energy Working Group during the Swedish Presidency 2009, 7 May 2010
Horst Schettler-Köhler, Federal Office for Building and Regional Planning (BBR), 9 September 2010
Stefanie Langkamp, Deutscher Naturschutzring, 25 September 2010
Stéphane Bourgeois, Assistant to Fiona Hall, MEP/ALDE/UK (Rapporteur on the 2006 Energy Efficiency Action Plan), 1 October 2010
Hyewon Seo, Verbraucherzentrale Bundesverband, 6 October 2010
Gai Oren, Secretariat of European Parliament Industry- (ITRE-) Committee Secretariat, 12 October 2010
Christiane Sauer, Hauptverband der deutschen Bauindustrie (Email Correspondence), 12 October 2010
European Commission Official, DG Tren, 18 October 2010
Romain Remesey, Ministère du Développement Durable, France, 27 October 2010

Hélène Chauveau, Ministère du Développement Durable, France 4 November 2010
Tobias Linnemann, Energy Expert, European Party Group of the European People's Party, 5 December 2010
Roland Fauconnier, Fédération Nationale du Bâtiment, France, 28 December 2010
Eduardo Maldonado, Portugal, Chairman of Concerted Action Program, 17 January 2011
Official, European Council Secretariat, 24 January 2011

Renewable Energy Promotion

John Traynor, Eurelectric (responsible for renewable energy policy during the late 1990s and the negotiations of the 2001 RES-E Directive), 5 October 2010
Rolf Linkohr, MEP, Socialists until 2004 (involved in renewable energy policy), 11 October 2010
Tom Howes, European Commission, DG TREN (Desk Officer for RES-Directive), 29 October 2010
Christophe Schramm, Ministère du Développement Durable, France, 9 November 2010
Silvo Skornik, Slovenian Ministry of the Economy, 15 December 2010
Urska Dolinsek, Energy Attaché, Slovenian Permanent Representation to the EU, 10 January 2011
Official, European Council Secretariat, 17 January 2011
Official, European Commission DG Environment, 27 January 2011
Official[277], UK Permanent Representation to the EU, 28 January 2011
Official, European Commission DG Environment, 1 February 2011
Jacopo Moccia, European Wind Energy Association, 11 February 2011
Rainer Hinrichs-Rahlwes, Bundesverband Erneuerbare Energien, 15 February 2011
Tim Abraham, UK Department of Energy and Climate Change, 16 February 2011
Joshe Muth, Assistant to Mechthild Rothe (until mid-2009, since then Deputy Secretary General of EREC), 18 February 2011
Thomas Siegmund, Bundesverband Bioenergie, 10 March 2011
Udo Hemmerling, Deutscher Bauernverband, 29 March 2011
Frauke Thies, Greenpeace EU, 20 April 2011

277 This interview dealt with the Energy Performance of Buildings as well.

Agriculture[278]

Dietrich Schulz, Umweltbundesamt, 9 March 2011
Martin Hofstetter, Greenpeace Germany Agriculture Campaigner, 17 March 2011
European Commission Official, DG Agriculture, 18 March 2011
Steffen Pingen, Umweltreferent, Deutscher Bauernverband, 18 March 2011
European Commission Official, DG Clima, 22 March 2011

278 In most interviews on agriculture, I also asked questions concerning biomass energy.

Appendix III: List of abbreviations

AAU	Assigned Amount Unit
ACEA	Association of European Automobile Manufacturers
BBE	Bundesverband Bioenergie
BDI	Bundesverband der Deutschen Industrie
BEE	Bundesverband Erneuerbare Energien
BMELV	Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz (German Federal Minister for Food, Agriculture and Consumer Protection)
BMU	Bundesministerium für Umwelt (German Federal Ministry for the Environment)
BMVBS	Bundesministerium für Verkehr, Bau und Stadtentwicklung (German Federal Ministry for transport, construction, and urban development)
CAP	Common Agricultural Policy
CBI	Confederation of British Industry
COPA-COGECA	Committee of Professional Agricultural Organisations in the European Union and General Confederation of Agricultural Cooperatives in the European Union
CCS	Carbon Capture and Storage
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CEFIC	European Chemical Industry Council
CEPI	Confederation of European Paper Industries
CHP	Combined Heat and Power
CNE	Climate Action Network Europe
COP	Conference of the Parties (to the UNFCCC)
CRF	Common Reporting Framework
DBV	Deutscher Bauernverband
DG	Directorate General (European Commission)
DG TREN	Directorate General for Transport and Energy (European Commission)
DIHT	Deutscher Industrie- und Handelstag

DNR	Deutscher Naturschutzring
ECCP	European Climate Change Program
EEA	European Environment Agency
EEG	Erneuerbare Energien Gesetz (Renewable Energy Act, Germany)
EnEV	Energieeinspaarverordnung (German Energy Efficiency Ordinance)
EP	European Parliament
EPBD	Energy Performance of Buildings Directive
EPF	European Property Federation
EPP	European People's Party
ERU	Emission Reduction Unit
EU	European Union
ERU	Emission Reduction Unit
EUA	European Union Allowance
EU ETS	European Union Emissions Trading Scheme
GHG	Greenhouse Gases
GO	Guarantee of Origin
IETA	International Emissions Trading Association
INC	International Negotiating Committee
IPCC	Intergovernmental Panel on Climate Change
ITRE	European Parliament Committee on Industry, Research, and Energy
JAMA	Japanese Automobile Manufacturers' Association
JI	Joint Implementation
KAMA	Korean Automobile Manufacturers' Association
LI	Liberal Intergovernmentalism
MEP	Member of the European Parliament
MS	Member state (of the European Union)
MVEG	Motor Vehicle Emissions Group
NAP	National Allocation Plan
NFFO	Non-Fossil Fuel Obligation (UK)
NGO	Non-Governmental Organization
QMV	Qualified Majority Voting
REA	Renewable Energy Association (UK)
SMMT	Society of Motor Manufacturers and Traders (UK)
StrEG	Stromeinspeisegesetz (German feed-in tariff law of 1991)
UK ETG	UK Emissions Trading Group
UNCED	United Nations Conference on Environment and Development

UNFCCC	United Nations Framework Convention on Climate Change
UNICE	Union of Industrial and Employers' Conferedation of Europe
VA	Voluntary Agreement
VDA	Verband der deutschen Automobilindustrie (Association of the German automotive industry)
VDEW	Vereinigung deutscher Elektrizitätswerke
VIK	Vereinigung der industriellen Energie- und Kraftwirtschaft
vzbv	Verbraucherzentrale Bundesverband (German Consumer Advocacy)

Appendix IV: List of tables

Appendix V: List of figures

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