

**Putting the Party Back In:
Explaining EU Member State Compliance with the Kyoto Protocol, 1998-2003**

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Abstract

Why do some countries comply with their treaty obligations, even when those obligations impose a heavy political burden? Past analyses have shown domestic politics plays an important role. Downs et al (1996) and Von Stein (2005) argue that countries most readily enter into treaties when they would comply with the obligations anyway. Furthermore, Pahre and Papayanou (1997) and Dai (2005, 2006) posit that demands by domestic constituents for particular types of policies lead governments to first ratify and then comply with international agreements. While pointing to domestic politics as an important source of signatory states' compliance with international agreements, this line of research treats much of domestic politics as a black box. Building on their work and research from the comparative politics literature, we unpack critical aspects of that black box by examining the ideological preferences and institutional position of political parties. Using the European Union's Kyoto Protocol Burden Sharing Agreement as a natural laboratory, we show the importance of parties' preferences and their position in government. First, we find that governments that are ideologically divided with regard to the environment make slower progress towards full compliance. Second, we find that governments that are more pro-environment make better progress towards compliance. Finally, we find that green party representation in government predicts progress towards compliance while public opinion and green party representation on the parliament floor do not.

Political Scientists have devoted increasing attention to questions surrounding national compliance with international agreements. Researchers look more and more frequently for answers in the domestic politics of signatory states. However, the degree to which these scholars unpack the black box of domestic politics varies considerably. The cross-national research ranges from analyses that allude to domestic political goals and status quo policies to analyses that rely on broad conceptualizations of voters' demands or on assumptions about the office seeking motives of parties. In particular, scholars have argued that states comply best with those policies that they would implement regardless of their signing the agreement and/or policies that require the least change from the domestic status quo. Other scholars have suggested that public demand for better compliance drives governments to comply with agreements because office seeking parties, regardless of policy preferences, respond to those demands.

While these approaches are moving in a promising direction, both rely on flawed mechanisms. We contend that research designs that more clearly incorporate domestic institutions and the ideological motives of key actors, especially political parties in government, would advance our understanding still further. To that end, this article presents an analysis of European Union (EU) member states' progress towards meeting the greenhouse gas (GHG) emissions targets set forth in the EU's Burden Sharing Agreement as part of the EU's implementation of the Kyoto Protocol. Our analysis examines data from the Eurobarometer, the Comparative Manifestos Project, and annual data on GHG emissions by the 15 EU member states. We examine these factors for the period starting in 1998 and ending in 2003. We present two major findings. First, we show that the degree of change required to comply is not a good predictor of annual progress towards compliance in the case of the Kyoto Protocol targets. Second, we show that the policy preferences of the governing parties, rather than broad measures

of public demands for particular types of policies, are significant predictors of progress towards GHG emissions targets.

Our analysis concentrates on the EU member states for a number of reasons. First, all 15 members are industrialized democracies. This enables us to control for a variety of issues related to economic development. We can also control for the broad effects of regime type. Because all the member states are stable democracies, we can safely assume that parties play more or less the same role in all our cases. Second, annual data on GHG emissions is available for all 15 member states. Finally, data on the ideological positions of political parties is readily available for all 15 countries. Taken together these characteristics make the EU a natural laboratory for analyzing treaty compliance. The EU especially lends itself to studying progress towards compliance with the Kyoto Protocol.

The paper proceeds as follows. We first provide background on the Kyoto Protocol and Burden Sharing Agreement. Next, we discuss the existing literature on treaty compliance and present our hypotheses. In the subsequent section, we test our models of compliance on the 15 EU member states using time series cross sectional analysis. We then discuss our results and alternative explanations. The final section concludes.

The Politics of Kyoto

The Kyoto Protocol is an amendment to the United Nations Framework Convention on Climate Change. The Conference of the Parties adopted it in the third session in Kyoto, Japan in 1997. The goal of the Protocol is to reduce greenhouse gas emissions in the signatory countries. In June 1998, the EU reached a binding agreement to fulfill the Kyoto requirement to reduce greenhouse gas emissions in the EU to 8% of 1990 levels by 2012. The EU's response to its

obligations under the Kyoto Protocol was to adopt the Burden Sharing Agreement by a unanimous vote of the member state governments. The Burden Sharing Agreement allowed some member states to increase their emissions, some to keep their emissions at the same levels, and required others to decrease them. Austria, Ireland, Sweden, and the southern European countries were allowed to increase their emissions. France and Finland could keep theirs at 1990 levels. The remaining seven countries all had to reduce their emissions, with Denmark, Germany, and Luxembourg taking on the biggest burden, based on their 1990 levels (Sbragia 2000; EEA 2006). Table 1 shows greenhouse gas emissions for the 15 member states in 1998 through 2003 calculated as a percent of 1990 emissions. As of 2003, only three countries had met their targets—France, Sweden, and the United Kingdom.

(Insert Table 1 here)

Existing Literature

Selection bias and misfit

A prominent approach to the study of compliance with international agreements centers on the argument that states sign treaties that they know they can comply with easily. When the demands of compliance are high, the states avoid signing in the first place. This argument figures prominently in the broader international relations literature (Downs et al 1996; Von Stein 2005). Downs et al argued:

A treaty, like the selection of an orchestra's repertoire, is also an endogenous strategy...If some treaties are more likely to be complied with than others or require more enforcement than others, this will almost certainly affect the choices states make. Just as orchestras will usually avoid music they cannot play fairly well, states will rarely spend a great deal of time and effort negotiating agreements that will continually be violated (Downs et al 1996: 383).

Von Stein (2005) found empirical evidence in support of this argument by applying a Heckman probit model to data measuring the compliance with the International Monetary Fund's Section VIII. She found evidence that unobserved factors that lead to a state signing an agreement in the first place, lead to behavior that is more compliant after signing (Von Stein 2005). It is important to note that Von Stein's results relied on "unobserved factors" the effect of which she was able to indirectly measure using her model. This approach leaves much of the black box of domestic politics unexplored.

The argument that states sign agreements with which they find it easiest to comply, is closely related to an argument often raised in the literature on compliance with EU policy by the member states. Scholars adopting this approach argue that the degree to which member states must change their policies in order to comply with EU policy drives compliance. That is, the greater the *misfit* between the member state's domestic status quo and the EU policy, the less compliant the member state will be (Knill and Lenschow 2000; Knill 2001; Borzel 2002). Other researchers have examined *misfit* but have not identified a straightforward, quantifiable measure for it. These works have relied on aggregated indexes of *misfit* that often depend on subjective comparisons of policy style or content across countries (Falkner et al 2002, 2005). This body of literature defines *misfit* very broadly. It can mean anything from the differences in the content of laws to differences in the style of policy formation and implementation. It relates most clearly to the selection bias approach outlined above when it is defined as the differences between the domestic status quo and the EU policy. This is not the only definition of *misfit*. However, policy *misfit* is a critical element of the overall *misfit* approach that shares a great deal with the selection bias approach.

Defining *misfit* as the difference between the domestic policy status quo and the EU policy lends itself most clearly to cross national empirical analysis. This is particularly true of the GHG emissions targets imposed by the Kyoto Protocol and the EU Burden Sharing Agreement. In this case, we can measure the GHG emissions levels at the time of the agreement and in every year since then. We also know the GHG emissions levels that were set as targets by the agreement. We can use the difference between the targets and the emissions at the time the targets were agreed upon as a direct measure of *misfit*. Therefore, not only is the EU a natural laboratory for testing arguments raised in the international relations literature, compliance with the Kyoto Protocol provides us with a naturally quantifiable and objective measure of *misfit*.

Table 1 shows the level of misfit in each of the member states. Table 2 then provides the correlation between the distance to target and misfit levels across the 15 member states in each of the six years. Levels of misfit are calculated as the difference between 1998 emissions and the target established by the Burden Sharing Agreement. The correlation between misfit and the 2003 distance from the burden sharing target is 0.48. Based on the misfit theory, we would expect Finland, Portugal, and Sweden to be the best compliers. However, this prediction only holds for Sweden, while Finland and Portugal are two of the worst compliers. As Table 2 demonstrates, over the six year period, the magnitude of the correlations are fairly consistent, but has a different sign (negative) in 2000, indicating that the misfit theory does not necessarily explain which countries will be the best compliers. Finally, the correlations, while not weak, are not strong enough to confirm the misfit hypothesis outright.

(Insert Table 2 here)

Downs et al (1996) and Von Stein (2005) argue that states do not enter into agreements with which they expect to have difficulty complying. The EU *misfit* literature argues that compliance with EU policies depends on member states being fairly close to compliance already. Taken together these approaches lead to the expectation that more *misfit* means less compliance. This leads to our first hypothesis.

H1: *The greater the difference between a member state's GHG emissions at the time of signing and the targets set by the agreement, the less able that state will be to make progress towards its target.*

While this hypothesis is intuitive, there are reasons to believe that it will not hold. For example, if the same parties that make a state a good complier also make it more willing to accept ambitious policy obligations, then we would expect something considerably different from the selection bias and *misfit* approaches. Under such circumstances, the best complying states would be those that had accepted the highest burdens. Indeed, in our research for this paper, we interviewed a number of current and former EU officials who described just this willingness to accept demanding obligations. The former Finish Minister for the Environment, Satu Hassi (Green League), told us that the EU's position on the Kyoto Protocol was motivated by a desire to be a leader in addressing global climate change and to lead by example.¹

Constituency demands

One alternative to the selection bias/misfit approach centers on the argument that governments comply with treaties when domestic constituencies demand that they do so. This approach grew out of the two-level games approach and it examines domestic politics more

¹ Interview conducted by Jensen 6 February 2007.

explicitly than does the selection bias approach (Milner 1997; Pahre and Papayanou 1997; Dai 2005, 2006). These authors argue that the more organized interest groups are and the more electoral success they have, the more their preferences will be reflected in the policies of the government. They contend that ratification of agreements (Pahre and Papayanou 1997) and compliance with those agreements (Dai 2005, 2006) are conditional on such sub-national policy demands. These scholars suggest that domestic popular demands for policy explain the circumstances under which governments will agree to and comply with international treaties. In doing so, they build on the selection bias approach discussed above.

The central assumption is that parties are office-seeking and respond to policy demands in the general populace. An additional assumption is that parties will respond to these demands regardless of their own policy preferences. To use environmental policies as an example, the assumption is that parties across the political spectrum will favor more environmental protection if there is a large proportion of the population that supports such policies. The central assumption about parties being pure office-seekers leads scholars to neglect a number of important features of domestic politics ranging from the role parties play in mobilizing opinion, the different roles played by parties included in government and those in the opposition, and the policy conflicts that can emerge within governing coalitions. We discuss these features in more detail below. For now, it is worth noting that empirical analysis based on this approach, does not include the decision-making politics at work at the national level (Dai 2005). Instead, researchers assume that decision-making is an automatic response to sub-national stimuli such as levels of activism or interest group mobilization. Indeed, Dai's (2005) analysis of compliance with the LTRAP agreement on acid rain focuses exclusively on non-governmental factors. Dai based her operationalization of constituency policy demands on a combination of Green Party

vote share and a series of surveys measuring public opinion on acid rain and other environmental issues. It is noteworthy that Dai's measure does not include Green party seat share, the presence of Greens in government, or other parties' positions on environmental policy. All of these factors influence decision-making by national governments.

We prefer using seat share to vote share because seat share has a more direct influence on decision-making. For example, in the last parliamentary elections, the German Greens received 8.1% of the vote compared to the French Greens' 4.5%. However, the German Greens currently have 51 seats in the *Bundestag*, which translates as 8.3% of the seats. Importantly, the party also narrowly missed being a part of a center-left (non-communist) majority. This compares with the Greens' 3 seats in the French *Assemblée Nationale*, or 0.52% of the seat share. This discrepancy in the translation of vote share to seat share is due to the different electoral rules in the two countries. Vote share thus does not accurately capture the significantly larger influence the German Greens have on policy or the strategies of parties that compete with them for representation in parliament.

With regard to compliance with the Kyoto Protocol, this leads to a clear expectation. States will be more compliant with their international agreements when there are large domestic constituencies demanding compliance. This leads us to our next two hypotheses:

H2a: *The more public concern there is for the environment in a state, the more able that state will be to make progress towards its target.*

H2b: *The greater Green party representation is in a state's parliament, the better able that state will be to make progress towards its target.*

Like the first hypothesis, these hypotheses are intuitive. It makes sense to expect that more green representatives in parliament leads to more compliant behavior with regard to the Kyoto

Protocol. However, there is reason to expect that hypothesis H2a will not hold. If the Green party of a particular state is successful relative to its counterparts in other states, it may still have little influence on policy if it is in the opposition. There is no reason to expect a center right government whose constituency is less concerned about the environment to alter its policies simply because the Green party gains seats. If the Greens are gaining those seats at the expense of parties on the left, the hypothetical center right government could ignore this development with impunity. At the same time, a green party that is less successful in terms of seats but has been included in government can exert considerable influence on policy. Even a small green party can force its coalition partners to consider its policies if its departure would bring down the government or force a renegotiation of the coalition agreement. Consider, for example, the minimal-winning coalition between the Social Democrats (SPD) and Greens in Germany between 1998 and 2005. Although the Greens were the junior partner, their parliamentary seats were needed for the coalition to achieve a majority. As a ‘kingmaker’ party, they had a substantial amount of influence on the policies the government took.

We can make a similar argument about H2b. The constituency mechanism approach suggests that all parties will adjust their policies to changes in the level of public interest in a particular policy area. However, just as a center right coalition can ignore a green party that only wins votes at the expense of the left, it can also ignore increasing concern for the environment among voters who would probably not vote for it anyway. Parties do want to win votes and may even pander to get them. But rational politicians will recognize that some votes are not worth changing policy to get. If, for example, parties are Downsian (Downs 1957) actors and seek to maximize their vote share, they will go where the voters are. If the voters who are concerned about the environment are on the fringes of the ideological spectrum, then a party may not move

its position to accommodate these voters at the expense of a larger pool of voters centered on the median.

Putting the party back in

Past analyses of the role of domestic politics in driving states' compliance with international agreements has advanced our understanding of the phenomenon but have left out important factors. We argue that the two-level game models of government decision-making used in the literature discussed above have omitted the central role of political parties (Milner 1997; Pahre and Papayoanou, 1997; Dai 2005, 2006). However, other versions of this framework have incorporated domestic politics in more detail. In his work on two level games, Putnam (1988) explores the preferences of domestic political actors and their role in voting rules. In his discussion, he also includes the internal structure and cohesion of domestic partisan and institutional actors (Putnam 1988: 448-449).

Thus, we argue that parties and their preferences matter, especially when one is interested in how governments establish new policies. Even in democracies, public opinion is not translated directly into policy. Parties mobilize those opinions and translate the demands of voters into action. They act as an intermediary step or filter. However, parties do not perform this function automatically. Not all parties respond to all constituency demands with equal enthusiasm. Parties will have closer relations with some constituency groups while largely ignoring the demands of others. Although it is beyond the scope of this paper to explore the mechanisms by which interest groups' demands are transformed into party positions, we can measure the party positions and determine their relationship to policy outcomes.

Not only do parties vary in their responsiveness to different groups of constituents, they do not enact policy alone. They operate within an institutional context that guides their cooperation and conflict with each other. Even in situations where a majority of voters demand compliance with a treaty, a well-placed party with close ties to opponents to that treaty can derail implementation. This veto player effect has been well documented in the comparative politics literature discussed below (see for example Alivizatos 1995; Tsebelis 1995, 1999, 2002; Bawn 1999; Thies 2001). In this section, we briefly examine the role that policy preferences play for parties and how those preferences interact with the veto player environment to constrain policy outputs.

Parties affect policy outcomes

Contrary to the assessment of parties as solely office seeking, Strøm (1990) and Strøm and Müller (2000) posit that parties can also be vote-seeking and policy-seeking. A party's objectives can include all three goals: votes, office, and policy. Indeed, Strøm (1990) argues that "pure vote seekers, office seekers, or policy seekers are unlikely to exist" (570). If a party's motivation is not purely office-seeking, then its behavior is affected by these additional goals. Thus, if the party also cares about policy and has a set of policy objectives that differ from its competitors, then we would expect its policy preferences to differ once it gains office. This is especially true for more ideologically focused parties, such as the Greens.

In his seminal framework for party behavior, Key (1958) argued that parties have three distinct functions, which he called party-in-the-electorate, party-as-organization, and party-in-government. The role of the party-in-government is to organize the legislature, implement policies, and make voting more efficient for legislators (Cox and McCubbins 1993; Aldrich

1995). While many argue that the role of parties in the electorate has declined (see, for example, Dalton and Wattenberg 2000; Dalton 2005), their role in the legislature and in the executive is still important, especially in consensus systems, where we often find coalition governments. Thies (2000) posits that it was inside the legislature that parties formed and that it is feasible for parties to still have an important role to play inside this institution, while their role among the voters has waned. He sees parties as facilitating the production of public goods and so long as there are core policy issues which bring legislators together, there will be a reason to maintain the party. Thies assumes that there are different issues that bring legislators together, thus, policy positions do matter. Strøm (2000) concurs and argues that parties still play an important role in the executive and legislature, though he recognizes that partisan control may be slowly eroding, especially with the rise of ‘fringe’ parties and party switching. On the other hand, Caul and Gray (2000) find evidence of policy convergence among parties in government. They find little difference in policy outputs among parties on the left and right when looking at economic growth, inflation, or unemployment. Importantly, they do not assess whether there has been policy convergence on environmental issues.

Following Thies, Strøm, and Strøm and Müller, we argue that which parties are in government should matter for policy outcomes. This assumption leads to the following two hypotheses.

H3a: *If a green party is a member of a state’s governing coalition, the more able that state will be to make progress towards its target.*

H3b: *The more pro-environment the governing coalition is as a whole, the better able that state will be to make progress towards its target.*

Hypothesis H2b, that greater Green party representation in parliament is related to a state’s ability to reach its target, also follows from this assumption.

Parties as veto players

A veto player is any actor whose agreement is required to change the legislative status quo. Veto players can either be institutional or partisan. Institutional veto players are offices or bodies whose agreement is required to change policy. These can be, for example, presidents with veto power or either chamber of a bicameral legislature. Partisan veto players are political parties that occupy key positions within those institutions (Tsebelis 1995, 1999, 2002). Parties in a multi-party coalition are a common example in parliamentary democracies. When there is only one such actor, change is relatively easy. However, when there are multiple veto players, change can come more slowly, if at all, and those changes that are possible involve less substantive changes to the status quo policy. This consequence of multiple veto players increases in importance as the disagreements between the veto players over policy become greater. That is, as the range of policy preferences among the veto players increases, the number of policies that can defeat the status quo decreases (Tsebelis 1995, 1999, 2002).

Since compliance with treaties often involves one or more policy changes, there is reason to believe that the ideological range of veto players matters for making progress towards GHG targets. Enacting the changes required to comply with international agreements can require significant compromises between parties. When the policy preferences of these parties are similar, the range of possible compromises is bigger, making a successful compromise more likely. However, when the parties' policy preferences diverge, compromise can be increasingly difficult. In the context of the Kyoto Protocol, we expect that governments that exhibit divergent preferences for environmental policy will find it more difficult to enact the policies required to comply the Kyoto targets. This is our final hypothesis:

H4: *The greater the ideological range with regard to environmental policy, the less able the state will be to make progress towards its target.*

Data Collection and Methods

We based our dependent variable on the EU's and OECD's data on GHG emissions (EEA 2006). These sources report the level of emissions for each country in each year as a percentage of the 1990 levels. For each country-year we took the difference between the emissions levels in a given year and the target set by the EU's burden sharing agreement. This measure is the distance to the target in any given year. The deadline for meeting the targets is still a year away (2008) and our data only cover up until 2003². To accommodate these features of our data, our dependent variable is the change in the distance to target rather than the absolute distance. We want to determine whether some characteristics make a country more or less compliant. Our dependent variable helps us do this by measuring whether and how much a member state's emissions are converging with or diverging from the target.

The dependent variable is the difference between the distance to the target in time 2 and in time 1. When this value is positive it means that the distance in time 2 is greater than that in time 1, indicating that the member state is diverging from the target. When this value is negative it means that the distance in time 2 is smaller than time 1, indicating that the member state is converging on the target. The dependent variable is continuous and ranges from -7.25 to 13.34 over the five year period. We observe the -7.25 value for Denmark in 2000. This indicates that the Danish government at the time was converging on its target. Conversely, we observe the 13.34 value for Portugal in 1999. This indicates that Portugal was diverging from its target early in the period.

² We only look at this time period because the CMP data only goes through 2003.

Using data from the Comparative Manifestos Project (CMP) from 1998 to 2003, we calculated each government's mean score on the environment. The CMP data measure what percentage of the platform address environmental issues. The Environmental Protection category has a positive valence and includes the following: preservation of countryside forests, etc.; general preservation of natural resources against selfish interests; proper use of national parks; soil banks, etc.; and environmental improvement. It also includes 'green' politics as they apply to environmental policy (Klingemann, et al. 2006, 189). Unlike other issue categories that the CMP data include, the environment category is not further divided into pro-environment and anti-environment groups. This is because a party will not include in their manifesto that it is against preserving national resources, for example, unlike being for or against additional taxes. We argue that the higher the percentage of a party's platform that addresses environmental issues, the more pro-environment it is. Additionally, one could argue that these data represent how salient the environment is for given party. The CMP data allow us furthermore to examine how party positions have changed during this period.

There are two methods for assessing parties' positions on various issue dimensions, which are both routinely used throughout the literature. The CMP is one method. The second method uses expert surveys (see, for example, Laver and Hunt (1992); Huber and Inglehart (1995); and most recently Benoit and Laver (2006)).³ While both are valuable, we chose to use the CMP data for two reasons. First, the most recent expert survey (Benoit and Laver 2006), only provide a single point in time for the analysis and which precludes over time analysis of party position change. Second, the experts evaluate the parties' environmental position on a taxes versus environment continuum. In other words, does the party support protection of the

³ A recent special issue of *Electoral Studies* (Vol. 26.1, March 2007) discusses the debates surrounding the use of the party manifestos and the expert survey methods, specifically in coding parties on the left-right dimension.

environment even at the cost of economic growth? Or does it support economic growth, even at the cost of damage to the environment? This is a very specific type of environmental policy, which does not depict completely the range of party positions and issues regarding the environment. One could also look at the salience of the environment for the party, defined in this manner, but again it is not capturing the environment as a larger issue dimension. As will be discussed later in the Results section, it is for these reasons that we argue the government mean and range variables are not significant when using the expert survey data.

Following Tsebelis's (1995, 1999, 2002) approach to measuring veto players, we compute the range of positions on the environment for the parties in each governing coalition. Again, we calculate this as the percentage of environmental issues on the parties' platform.

To calculate both the government's mean score and its ideological range during an election year, we weighted each governing coalition's score by how many months of the year it was in office. We used date of investiture, not election, as the point of transition. Each month was divided into four groups and coded as follows for the outgoing government (the incoming government was then weighted by the difference): if the date of investiture was between the 1st and the 7th of the month we coded it as .25; 8th-14th was coded as .50; 15th-21st was coded as .75; and 22nd-31st was coded as 1.

To measure public opinion, we use Eurobarometer data from Spring 1999 and Autumn 2002. We use Eurobarometers 51.1 and 58.0, which are the only surveys during this period that ask about environmental concern in all 15 countries. We have created an index of environmental concern, through which we can assess the percentage of the population that is very worried, fairly worried, or not at all worried about the environment (see the Appendix for a discussion of

how this variable was created). In our analysis, we use a variable that integrates the data from both surveys.

Our measures of green representation in parliament and in governing coalitions come from the *European Journal of Political Research's* annual election issues from 1995-2004. Green representation in parliament is the number of Green MPs divided by the seat size of the parliament. Greens in government is a dummy variable. If there was a green party in government for more than six months of a given year, it was coded 1; if the party was in government less than six months in a given year, it was coded 0.

Results

To model the annual change in distance to target, we follow Beck and Katz's (1995) suggestion and use a time series cross-sectional analysis with panel corrected standard errors, where the parameters are estimated using OLS. We have selected this method as we are interested in looking at what affects a country's progress towards its target, during the five year period across the 15 countries.

We run two models to test our hypotheses. In the first model, we include government mean, ideological distance, Greens in government, Greens in parliament, and percent of the population who is very worried about the environment. In the second model, we add degree of misfit in 1998 to the analysis. We find strong support for hypotheses H3a, H3b and H4, which we discuss in detail below (see Table 3).

(Insert Table 3 here)

Mean government position

Hypothesis H3b was that the more pro-environment the governing coalition is as a whole, the better able that state will be to make progress towards its target. We tested this hypothesis in two models. In the first model, we did not include the *misfit* variable but in the second model we did. We find some support for this hypothesis. The mean government position on the environment is significant at the .10 level in both models. The sign is negative indicating that governments with more pro-environment positions overall converge with their targets more rapidly than do governments with less pro-environment positions. Conversely, governments that have a mean position that indicates less concern by its coalition members for the environment diverge from their targets.

This finding is consistent with the expectation, derived from much of comparative politics literature on parties, that which parties are included in government and what their policy preferences are matter with regard to policy outputs.⁴ Furthermore, this finding reveals elements of the black box of domestic politics that had been unexplored by the international relations literatures discussed above. By demonstrating that governments' mean policy preferences are a significant predictor of progress towards compliance targets, we show that government preferences matter without regard for broad measures of public opinion.

⁴ We also conducted the analysis using Laver and Benoit's (2006) expert survey data. The environment dimension for these data asks experts to score the party on an environment versus taxes dimension. On one end of the spectrum is supporting protection of the environment even at the cost of economic growth and at the other end is supporting economic growth, even at the expense of the environment. Neither the government mean nor the government range variables are significant. In addition, the mean and range using the salience scores for this issue are also not significant. We argue that this is because of the limited (though conventional) way the environment as an issue is defined on this survey. As discussed above, this definition omits other key aspects of the environment as an issue that the CMP data captures.

To further validate this claim, we also substituted our measure of environmental concern for the measure used by the fourth wave of the World Values Survey (WVS). On this survey, respondents were asked their opinion about increasing taxes to prevent environmental pollution. Although other questions were included regarding the environment, this was the only question which was asked in all 15 countries during the 1998-2003 time period. This measure of environmental concern was also not significant in our models.

Ideological range

We argued that states with greater ideological range within their governments will be less able to make progress towards their Kyoto targets. We tested this hypothesis with the two models described above. Our statistical analysis supports this hypothesis. In model 1, ideological range is significant at the .05 level. In model 2, it is significant at the .1 level. In both models, higher ideological range significantly predicts that a government will not make progress towards its Kyoto target. We find that when ideological range is higher, the change in the distance to the target is high. This indicates that governments that are divided over the environment are actually moving further away from their targets rather than making progress towards meeting them. Conversely, when ideological range is lower, the change in the distance to the target is also lower. This demonstrates that governments that are less divided along the environment dimension are making progress towards their Kyoto target. This result holds when controlling for the presence of Greens in the government and the mean government position on the environment, regardless of whether we control for the degree of misfit.

These results confirm the expectation that ideological disagreements between coalition partners inhibit those governments from making the policy changes necessary to make progress towards their agreed upon targets. This finding is consistent with the growing literature on veto players' effects on a range of issues relating to policy stability. Our finding contributes to this literature by showing that in the case of the Kyoto Protocol, veto players influence progress to compliance targets with international agreements. The situation described by our data is one in which governments that are divided on the environment issue are less capable of making progress towards their targets. This represents a more detailed look inside the black box of domestic politics than we observed in the international relations literature described above.

Greens in government

Hypothesis 3a was that when a green party is represented in government, that state will be better able to make progress towards its target. We find mixed support for this hypothesis in our results. In model 1, when we do not include misfit, we find that the presence of Greens in the government is a significant predictor of progress towards the target. Green representation in the government is associated with more rapid convergence, or slower divergence, with the target. Governments with no Green participation are associated with divergence, or at least slower convergence, with the targets.

However, when we include the misfit variable in model 2, we find that Green participation in government is not significant. In our discussion of the misfit argument, we suggested that those governments that are most likely to accept heavy burdens (i.e. high degrees of misfit), may also be those governments that are likely to make progress on those burdens. It may be the case that misfit captures much of explanatory power of green representation in government. Indeed, introducing the misfit variable does not change the coefficients of the other independent variables but does change the coefficient and standard error of the Greens in government variable. This may suggest a relationship between the two variables.

As with the mean government position and ideological range of governments, this finding unpacks the black box of domestic politics further than has been done in the literature discussed above. While the results here are different in the two models, we nevertheless demonstrate that green party participation in government matters.

Popular concern about the environment

Hypothesis H2a stated that when there is increased public concern about the environment in a country, that state will be better able to make progress towards its target. We derived this hypothesis from research arguing that treaty compliance is a function of domestic interest groups' demands for more compliant behavior by the government. We found no support for this hypothesis. This finding is not surprising. Our argument is that parties in government make decisions and while they may consider popular opinion, parties do not respond to all policy demands from all groups equally.

This result, in combination with the positive results for H3a, H3b and H4, confirms that party preferences act as a filter between popular demands for policy and policy output. While popular opinion probably influences party preferences, there are important reasons to believe that not all parties will respond to public opinion in the same way. As we discussed above, parties respond to constituents whose support they might reasonably expect to win. A shift of votes from the SPD to the Greens in Germany, for example, may not cause the Christian Democrats to change their position on the environment. Thus, there is little reason to expect broad measures of public opinion alone will drive government actions.

Green seat share in parliament

Hypothesis H2b was that the greater the Green party representation in a state's parliament, the better able that state will be to make progress towards its target. Researchers using the constituent mechanism approach (Dai 2005) have used Green party vote share as an indicator of the salience of popular demands for compliance with international environmental agreements. We derived our hypothesis from this approach. However, rather than looking at vote share, we

looked at seat share to better account for influences on decision-making. We find no evidence in support of this hypothesis. Our approach emphasizes not only the policy preferences of the parties but their role as part of the government or the opposition. Building on Putnam (1988) and on the literature on coalition governments and veto players we expected that representation in parliament would not, in and of itself, lead to policy influence. Instead, we hypothesized in H3a and H3b that the presence of Greens in the government, or other pro-environment parties, would matter for policy outcomes.

Participation in government is much more important than merely holding seats in parliament. Consider the example from Germany discussed above. While the German government consisted of a coalition of SPD and Greens, the Greens had a veto over that government's policies as well as influence over the content of the coalition agreement. Despite holding many more seats than the Greens, the Christian Democrats had no such influence as members of the opposition.

Degree of misfit

The misfit approach in the EU studies literature and the selection bias approach in the wider international relations literature argue that compliance with international agreements is most likely when states are asked to implement policies that they are already implementing. From this argument, we derived hypothesis H1, which stated that the greater the difference between a member state's GHG emissions at the time of signing and the targets set by the agreement, the less able that state will be to make progress towards its target. In model 2, in which we included the misfit measure, our results show a strong relationship in the opposite direction. We find that increased distance between the 1998 emissions levels and the target is

associated with more rapid progress towards the target. The coefficient is very small and has the opposite sign from that predicted by H1. This finding is interesting because the basis of the misfit argument is that states that start out with more substantial changes ahead of them are unlikely to catch up with less burdened states. Our findings show that states with a high degree of misfit are capable of catching up albeit slowly.

We suggested earlier that there is reason to expect the observed sign. That is, those states most willing to accept the most onerous burdens might also be those states that can best make progress towards the target. A government with an ideological commitment to environmental protection may be willing to accept more ambitious targets than a government without such a commitment. At the same time, a government with an ideological commitment to environmental protection may also be better able to make progress towards the target it does accept.

One might argue that because our dependent variable is based on the change in the distance from year to the next, that the research design is biased to show that states with a high degree of misfit make the most progress. In other words, the biggest moves towards the target are going to be observed in those states that have the most distance to make up. This is a valid concern. Indeed, to demonstrate that our overall results are not the result of this effect, we tested our hypotheses with two models, one of which did not include the misfit variable. The results for government range and mean are significant in both models.

Conclusions

In our analysis, we have found support for our theory that to understand a member state's progress towards its target under the Kyoto Burden Sharing Agreement, one must look to the political parties in the government. The parties that give higher priority to the environment in

their manifestos, and the more of them that are in a state's governing coalition; the more able the country will be to reach its target. Moreover, a green party in government boosts the coalition's level of environmental concern. These findings contribute to the literature on understanding what drives compliance.

Our analysis also shows that the misfit theory does not necessarily hold. We find that an increased distance between the 1998 emissions levels and the burden sharing target are associated with more rapid progress towards the target.

On the whole, these findings demonstrate that studying state compliance with international treaties is a dynamic field. We add a new dimension to the conventional approach and find significant results. By quantifying *misfit*, we show that the evidence supporting this theory may not be as strong as previously understood. To further unpack the black box of domestic politics, future analyses should explore the effects of specific policies such as taxes, emissions trading, emissions caps, subsidies for green technologies and behaviors on progress towards target. Importantly, continuing to study domestic politics in more detail will improve our understanding of international affairs.

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Appendix

Public Opinion Data

For Eurobarometer 51.1, the index of environmental concern was created using question 6 parts 1 (pollution of rivers and lakes), part 2 (pollution of seas and coasts), part 4 (air pollution) and part 5 (pollution from farming). It is a simple additive index with the minimum value equal to 4 and the maximum value equal to 16. Respondents were coded as follows: 1 (very worried) if the cumulative score was 4-7; 2 (fairly worried) if 8-10; 3 (not very worried) if 11-13; and 4 (not at all worried) if 14-16.

For Eurobarometer 58.0, the index of environmental concern was created using 9 sub-questions of question 39 regarding concern for destruction of the ozone layer, climate change, acid rain, pollution to tap water, pollution of rivers and lakes, pollution of seas and coasts, pollution from farming, air pollution, and underground pollution. Again, a simple additive index was created with the minimum value equal to 9 and the maximum value equal to 36. Respondents were coded as follows: 1 if the cumulative score was 9-14, 2 if 15-22; 3 if 23-30; and 4 if 31-36.

Table A1: Independent Variables Descriptive Statistics

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>Min.</i>	<i>Max.</i>	<i>St. Dev.</i>
Government Mean	90	0.52	0.05	1.09	0.25
Government's Ideological Range	90	0.59	0	4.42	0.88
Green Party in Government	90	0.24	0	1	0.43
Green Seat Share in Parliament	90	0.04	0	0.13	0.04
% Very Worried	90	44.02	20.48	75.96	14.55
Degree of Misfit in 1998	90	4.21	-10.46	31.14	10.06

Table 1: Greenhouse Gas Emissions in the European Union (as % of 1990 emissions)

Country	Burden Sharing	1998	1999	2000	2001	2002	2003	Met Target as of 2003?	Level of Misfit 1998
Austria	13	5.06	2.53	2.53	7.59	10.13	17.72	-	-7.94
Belgium	-7.5	4.79	0.68	0.68	0.68	99.32	1.37	-	12.29
Denmark	-21	10.14	5.80	-1.45	1.45	0	7.25	-	31.14
Finland	0	1.41	1.41	-1.41	5.63	9.86	21.13	-	1.41
France	0	3.17	0.18	-1.06	-0.88	-1.94	-1.06	+	3.17
Germany	-21	-14.03	-16.56	-16.56	-15.58	-16.88	-16.48	-	6.97
Greece	25	16.51	16.51	21.10	22.02	22.02	25.69	-	-8.49
Ireland	13	17.86	19.64	23.21	26.79	23.21	21.43	-	4.86
Italy	-6.5	4.42	5.58	6.73	7.88	8.08	10.96	-	10.92
Luxembourg	-28	-38.46	-30.77	-23.08	-23.08	-15.38	-15.38	-	-10.46
Netherlands	-6	6.57	0.94	0.94	1.41	0.94	0.94	-	12.57
Portugal	27	28.33	41.67	36.67	40.00	46.67	40.00	-	1.33
Spain	15	19.16	28.92	3.80	34.15	40.07	42.16	-	4.16
Sweden	4	1.39	-2.78	-5.56	-4.17	-2.78	-1.39	+	-2.61
UK	-12.5	-8.64	-13.22	-13.09	-12.17	-14.66	-13.87	+	3.86

Source: EEA 2006

Table 2: Correlation Between Misfit and Distance to Target (by year)

	1998	1999	2000	2001	2002	2003
Misfit	0.56	0.48	-0.52	0.53	0.45	0.48

Source: EEA 2006

Table 3: Time-Series Analysis of Compliance with Kyoto Burden Sharing Agreement

<i>Variable</i>	<i>Model 1</i>	<i>Model 2</i>
Mean Government Position	-3.375* (2.074)	-3.347* (1.939)
Government's Ideological Range	1.099** (0.467)	0.937* (0.509)
Greens in Government	-2.224** (1.02)	-1.491 (0.959)
Greens Seat Share in Parliament	16.136 (11.805)	6.903 (11.153)
% Very Worried	0.023 (0.039)	0.001 (0.036)
Degree of Misfit in 1998	-	-0.084*** (0.031)
R-squared	0.0844	0.1186
Wald Chi ²	15.88	47.11
Prob > Chi ²	0.0072	0.0000
N	75 [^]	75

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

[^] Our N is 75 because our dependent variable is annual distance to target. Since the Burden Sharing Agreement was not signed until 1998, we could not look at the annual distance to target in 1998, thus removing 15 observations (1 for each member state) from our sample size.