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# **Differentiation, Leaders and Fairness**

## **Negotiating Climate Commitments in the European Community**

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## **ABSTRACT**

This report shows that it is possible to negotiate and reach asymmetrical environmental agreements that take into account significant national dissimilarities. The report argues that analytical models and intuitively appealing model-based quantitative indicators of national circumstances can establish premises for negotiations leading to differentiated environmental agreements. While they cannot take the place of political negotiation, they help identify a formula that defines the problem in a resolvable fashion and prevent the bargaining space from expanding uncontrollably. Scholars arguing that symmetrical environmental measures are widely used because they simplify negotiations and prevent countries from pursuing extremist positions, and that salient focal points are significant in negotiation, overlook this argument. In pre-Kyoto European Community climate policy, which this article empirically examines, high transaction costs and EC member states' ability to block economically hurtful agreements were not essential issues.

## 1 INTRODUCTION

Global environmental problems are unintended consequences of economic development, environmentally damaging technology, and population increase. As the global climate protocol negotiations have shown, international environmental negotiations and environmental treaties will increasingly need to take into account present and future national dissimilarities in terms of wealth, economic structure, energy basis, population, emphasis on environmental protection and perhaps other issues as well. The symmetrical approach widely used in international environmental conventions disregards national dissimilarities and might result in inefficient and unfair agreements and country obligations. It may be an obstacle to international environmental cooperation, and government officials and policy analysts have recently become interested in differentiated agreements reflecting present and future national dissimilarities. The achievement of fairness and the need for fair burden sharing have also been prominent issues in global climate negotiations and many believe that differentiation is preferable compared to the routinely followed symmetrical approach.

This report analyzes the recent climate policy negotiations within the European Community (EC) that in March 1997 produced an agreement among the EC member states on a differentiated or asymmetric negotiating position.<sup>1</sup> Although differentiation is generally considered unlikely to happen, this group of fifteen countries did manage to differentiate their national environmental commitments and attempted to equitably share the economic burden of climate protection. This successful attempt to differentiate raises a number of questions: Who are the key actors in international processes of differentiation? How do they facilitate the process of differentiation? How is a differentiation process best structured? How are essential issues resolved? The EC climate policy decision of March 1997 offers a good opportunity to begin exploring these important issues.

I first briefly describe the EC decision of March 1997 to differentiate climate policy targets among member states. Then follows a discussion of the advantages and disadvantages of symmetrical and differentiated environmental agreements, in particular in the context of climate policy. After the empirical study of the EC negotiations producing the decision of March 1997, the empirical findings will be analyzed. I will finally discuss

how differentiation could be achieved and how burden sharing arrangements are best designed in the light of the EC experience. Hopefully the final section will draw useful lessons on how differentiation of burdens of climate and environmental protection more generally could be achieved in the future.

## **2 THE EC CLIMATE POLICY NEGOTIATING POSITION OF MARCH 1997**

The parties to the United Nations Framework Convention on Climate Change (FCCC) agreed at the first Conference of Parties (COP-1), which took place in Berlin in the spring of 1995, that the existing national commitments in the FCCC to protect the global climate system were inadequate. They needed to be strengthened. Referred to as the Berlin Mandate, it was decided that a protocol, or another legal instrument, specifying abatement targets, policies and measures and time-frames for the industrialized countries should be signed no later than December 1997 when COP-3 would convene in Kyoto, Japan. The EC was an essential actor in the subsequent protocol negotiations and strongly wished to play an "environmental leadership" role.<sup>2</sup> The EC negotiating process and the differentiated negotiating position reached in March 1997 was thus part of the broader global negotiating process aimed at a Kyoto climate protocol.

Making a political move that greatly surprised many close observers and raised the hopes of the international environmental community, the EC proposed in March 1997 that the OECD countries cut their greenhouse gas (GHG) emissions by 15 percent in 2010. This became the toughest policy target proposed by industrialized countries in the protocol negotiations. This interim EC decision meant, more precisely, that the member states agreed to a negotiating position to reduce total EC emissions of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) by 15 percent in 2010, compared to the 1990 emission levels.

Environmental ministers from the EC member states agreed furthermore that some member states should reduce their GHG emissions, others should stabilize their GHG

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<sup>1</sup> It is the EC, not the EU, which has the legal competence in the area of climate policy. See Macrory and Hession, 1996.

emissions, but that five member states would be allowed to increase their GHG emissions by a certain percent. Thus, a considerable and quite complex differentiation of policy commitments was achieved within the EC. Luxembourg had committed itself to cut emissions by 30 percent; Portugal, however, was allowed a 40 percent rise (see Table 1). It was decided in June 1997 that the total EC GHG emissions should be reduced by 7.5 percent in 2005, relative to the 1990 levels.<sup>3</sup>

**Table 1.** Changes in emission levels in 2010 relative to 1990 levels (in %) allocated EC member states in March 1997.

Country	National emission target
Belgium	-10
Denmark	-25
Germany	-25
Greece	+30
Spain	+17
France	0
Ireland	+15
Italy	-7
Luxembourg	-30
Netherlands	-10
Austria	-25
Portugal	+40
Finland	0
Sweden	+5
UK	-10

*Source:* Council of the European Union, 7 March 1997.

The EC decision of March 1997 is noteworthy for two reasons. First, as already mentioned, burden sharing was a significant issue both in the EC climate negotiations and the global protocol negotiations. A number of industrialized countries hoped for differentiation of climate policy obligations of all the industrialized countries, not just within the EC. Second, the EC Large Combustion Plant (LCP) directive to limit acid emissions (1987) discussed below is the only prior example of a differentiated agreement reached within the EC. The EC agreement of March 1997 should therefore be considered a historic decision in the context of EC and international climate policy as well as a significant decision in the area of EC environmental policy.

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<sup>2</sup> For the development of the "environmental leadership" concept as an element of the EC political response to global warming, see Jachtenfuchs and Huber 1993.

### **3 SYMMETRICAL VIS-À-VIS DIFFERENTIATED ENVIRONMENTAL AGREEMENTS**

International negotiations seldom produce differentiated environmental commitments among industrialized countries.<sup>4</sup> Reaching international environmental agreements of significance is in itself a demanding and complex task. However, due to national dissimilarities or asymmetries, symmetrical environmental agreements often distribute burdens unevenly across countries. Considerable dissimilarities exist even within a relatively homogeneous group of countries such as the EC. Why, then, do not countries instead differentiate obligations? As discussed below, the explanations for the widespread use of symmetrical environmental agreements basically make two arguments.<sup>5</sup> First, countries prefer symmetrical agreements. Second, differentiating commitments will often be an insurmountable challenge because of the complexities that are introduced into the negotiation process. Consequently, symmetrical measures are widely used in environmental conventions and treaties, but differentiated agreements will remain exceptions.

Symmetrical agreements seemingly impose similar and equal obligations on those countries that are bound by them. They contain identical behavioral proscriptions and prescriptions for all. The signatories are to take "similar steps", for instance ceasing commercial whaling, adopting the polluter pays principle, or phasing out ozone-depleting substances. Such across-the-board measures treating all countries in the "same way" are well-known examples of the symmetrical approach to national obligations. In the climate policy area, a prominent example is the oft-repeated proposal that all countries should reduce GHGs emissions by the same percent relative to a specified base year.

One advantage of the symmetrical approach is that it reduces information requirements on governments. Negotiating differentiated agreements would become extremely time-consuming and technically complex if many countries were making individual proposals for national and collective obligations. This would result in an extreme expansion of the bargaining space, without guaranteeing that negotiations would be completed successfully. Symmetric agreements would therefore be preferable in

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<sup>3</sup> Council of the European Union 19/20 June 1997.

<sup>4</sup> Differentiating between industrialized and developing countries, however, is quite widespread.



situations where differentiation seems technically unfeasible, and when the "route" of differentiation seems uncertain and might lead to unattractive outcomes. During the global protocol negotiations Germany highlighted some well-known concerns about technical feasibility: "We foresee enormous practical difficulties and obstacles in identifying the relevant factors affecting the emissions of different greenhouse gases, in deriving corresponding indicators, in generating reliable and comparable data needed, and, last but not least, in weighting these indicators (...) Parties therefore would come up with very different proposals according to their individual circumstances and capabilities. This approach would mean even more complicated and lengthy negotiations without necessarily ensuring a more equitable outcome."<sup>6</sup> By contrast, the expectation of a symmetrical agreement imposing equal proportional obligations serves to narrow the bargaining space and focuses negotiations on the common level of reductions that all will be bound by.

In this line, scholars emphasize that high transaction costs make it unlikely that countries will pursue and reach differentiated agreements. Several have underlined that it took five years of negotiation, often twice-weekly and among a quite homogeneous group, to agree on the differentiated targets in the EC LCP directive.<sup>7</sup> Although primarily examining negotiation strategies for reaching global agreements among industrialized and developing countries, and underlining that differentiation at a global level would encounter even bigger political and technical obstacles, they conclude that countries' ability to block a costly EC climate agreement together with high transaction costs make it most unlikely that the EC could agree to differentiate national climate policy obligations.<sup>8</sup>

Still another advantage is that the symmetrical approach discourages countries from making extreme proposals for differentiated obligations intended to serve their self-interest by putting heavier burdens on others. By understating their own ability to make necessary changes and overstating the ability of others, countries might hope that a differentiated agreement will be relatively less burdensome for themselves. The presumption of equal measures will discourage use of this self-serving strategy and

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<sup>5</sup> Parson and Zeckhauser 1995.

<sup>6</sup> German Delegation, 6 March 1996. As an example of an unattractive outcome, the EC opposed differentiation within the OECD in the protocol negotiations because the issue was expected to derail the negotiations and result in a less ambitious climate protocol. The EC did accept OECD-wide differentiation in Kyoto, however.

<sup>7</sup> Grubb, 1990, 72; Parson and Zeckhauser 1995, 88; Sebenius 1995, 54.

<sup>8</sup> In addition to the references in footnote (7), see also Wagner 1997, 324-325. Scholars stress the UK's blocking power in the negotiations on the LCP directive. See U.S. Congress 1994, 11.

countries will instead make more reasonable proposals that are acceptable to themselves and, by implication, others similar to them. Unfortunately, this often leads countries to propose and adopt international environmental rules, norms and obligations at the level of the lowest common denominator.

Symmetrical agreements often come about as a result of the pull or "guiding force" which focal points exert on negotiators.<sup>9</sup> The expectations of governments tend to converge on salient focal points, even when agreement close to a focal point would be preferable from the viewpoint of economic efficiency or scientific knowledge. Environmental treaties therefore typically contain identical round number obligations. One example is the 1987 North Sea Conference's ministerial declaration with respect to land-based marine pollution sources which urges countries to aim for "a substantial reduction (of the order of 50%) in total inputs...between 1985 and 1995."<sup>10</sup>

It should be underlined, however, that a symmetrical agreement might not always be as unfair as it first appears to be. Countries that are very concerned about an environmental problem are often willing to pay more relative to less concerned countries. For example, in the early 1970s, industrialized countries were more concerned about ocean dumping than developing countries.<sup>11</sup> When it was decided to prohibit ocean dumping of heavy metals, industrialized countries were willing to incur pollution abatement costs, even though developing countries, which did not ocean dump heavy metals, would not incur economic burdens as a result of international agreement. In some situations, the pollution control costs imposed by a symmetrical environmental agreement might roughly correspond to countries' willingness to pay for environmental protection.

Finally, countries might prefer a symmetric agreement if differentiation would unacceptably increase their obligations and create heavier burdens. Differentiation is fundamentally a zero-sum game. Assuming that a group of countries intends to reduce a given total amount of emissions, the less GHG emissions a country reduces, the more emissions others will have to reduce, and vice versa. Consequently, countries are as much concerned about the obligations of others as about their own. Sometimes differentiation

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<sup>9</sup> For focal points, see Shelling 1960, 1980, 70.

<sup>10</sup> Ministerial Declaration 1987, 9.

<sup>11</sup> Ringius 1992.

might make it possible to increase coordination benefits that will reduce the net economic costs of differentiation, but it nonetheless largely remains a zero-sum game.<sup>12</sup>

In summary, scholars argue that the rare use of differentiated environmental agreements is a consequence of how symmetric agreements simplify negotiations by reducing the bargaining space. Also countries have a common interest in preventing individual countries from pursuing extremist negotiation positions at the expense of others, and salient focal points have a significant impact on negotiations. With respect to EC climate agreements more specifically, there is general agreement that differentiation of national obligations within the EC would be unlikely due to high transaction costs and member states' ability to block agreements that would hurt them economically.<sup>13</sup>

Ideally, complete differentiation would imply that national obligations perfectly match asymmetries across countries. Seen from the economics viewpoint, it would be optimal if obligations perfectly reflected asymmetrical abatement costs because emissions would then be reduced as cheaply as possible. Moreover, identical abatement cost for all countries, some argue, is the most fair and equitable.<sup>14</sup>

The possibility of setting the collective target above the lowest-common-denominator level is another significant advantage of differentiation. Cuts in a few countries might be sufficient to reach a modest common abatement target, but an ambitious target can be achieved only if many countries cut emissions. At the same time, the more GHG emissions a country can reduce, the more it can contribute toward a common goal, and even though small emitter countries contribute only little or nothing, countries contributing considerable amounts of reductions make it possible to raise the target. How much a country contributes basically depends on the population size, the carbon-intensity of the energy system, the structure, the size and the growth of the economy, and the ambitiousness of its climate policy. Large emitters, who often will be significant political and economic actors in their own right, will play a key role. As illustrated by the United States' position in the Kyoto Protocol negotiations, however, it

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<sup>12</sup> For example, removal of fossil fuels subsidies would presumably reduce GHG emissions, would be economically beneficial, and international trade distortions might be prevented, if this is done in a coordinated fashion by a group of countries. See, for example, Ruijgrok and Oosterhuis 1997.

<sup>13</sup> Haigh, however, has outlined a possible "top-down" approach to EC differentiation in which the Commission, possibly in an informal way, sets legally binding targets for member states. "The negotiations may need to be based on some attempt at an objective evaluation of what fair burden sharing should entail." Haigh 1996, 173.

<sup>14</sup> For fairness principles discussed in the context of climate policy, see Ringius, Torvanger, and Meze 1996.

cannot be taken for granted that large emitter countries always are willing and able to "go first" by aggressively cutting emissions. And, evidently, a large emitter country can only offset, but not eliminate, GHG emissions from a small emitter country.

Still another advantage is that differentiation enhances participation, and perhaps cost-effectiveness, in climate agreements. Because of national dissimilarities, countries are not able to contribute equal amounts of GHG emission reductions. Also, their contributions will vary over time. Those countries that are able to reach an ambitious target might want others to make a similar contribution, but it will often be impossible for others to commit themselves to the same target. Thus it would be better if targets reflect dissimilar opportunities for abatement across countries. As often noted, when national targets reflect national circumstances, it becomes possible for more countries to participate in international efforts to control and reduce GHG emissions.<sup>15</sup> Furthermore, international mechanisms reducing low-cost GHG emissions in developing countries and formerly centrally planned economies, especially joint implementation and international trade in emission permits, could significantly increase the cost-effectiveness of international cooperation in climate protection.

Yet another, more political advantage of differentiation is that a group of countries setting an ambitious environmental target and demonstrating willingness and ability to achieve it may act as lead countries. The group increases the political pressure on other countries to set a similarly stringent environmental target.

Differentiated obligations in the climate policy area will most likely reflect that the opportunities and constraints regarding control of GHG emissions vary from one country to another. Because high abatement costs are often taken to imply that a country has fewer opportunities for reducing emissions compared to countries where abatement costs are lower, abatement costs will likely be used in comparisons of opportunities and constraints in various countries and in differentiating national obligations. National obligations also have to reflect countries' willingness to reduce emissions. All else equal, countries that take a strong pro-environment stance and reduce emissions vigorously want comparatively ambitious obligations. It is unlikely that less environmentally concerned countries accept similar obligations to reduce emissions. An asymmetric distribution of obligations will

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<sup>15</sup> The *Financial Times* wrote at the time of the last pre-negotiation round before Kyoto: "The Kyoto meeting has more chance of success if it seeks a formula of equality of effort. A pledge by each nation to do what it can may produce better results than a target that is widely ignored." October 14, 1997, 17.

therefore be most satisfactory when it reasonably reflects both dissimilar abatement costs and dissimilar preferences for reducing emissions. If not, agreement is unlikely because differentiation will be perceived to be economically unfair and in discord with countries' environmental policies.

The national energy basis has important implications for countries' ability to reduce GHG emissions. It will be relatively more costly for countries depending heavily on nuclear power, hydro-power and other non-fossil fuels in their national fuel mix if all countries have to cut emissions by the same percent – if, in other words, a symmetrical agreement is established. All else equal, countries relying heavily upon non-fossil fuels will want to reduce less than if they had more fossil fuels - oil, natural gas, and coal - in their national fuel mix. It is therefore quite likely that they wish to reduce less than those countries they themselves and others compare them with, and that it is considered reasonable that countries depending greatly on non-fossil energy have less stringent targets. Conversely, because GHG emission reductions will not be as costly for them, countries emitting large amounts of GHGs are more likely to aggressively reduce emissions, and it is probably expected that they will reduce more than other countries. Pro-environment countries whose emissions are considerably higher than average may in particular want to cut emissions. They might therefore make a larger contribution than other, seemingly comparable countries.

Essentially, differentiation poses the challenge of constructing asymmetrical obligations that reasonably reflect significant national dissimilarities and at the same time achieve a collective target. To differentiate, a group of countries first must reach agreement on a collective policy target. Second, assuming everyone intends to contribute to the achievement of the target, it is necessary to identify the way(s) in which the total collective commitment could be distributed fairly and feasibly within the group. Third, the group will need to allocate the contributions to the group members, most likely through a negotiation process.

Although negotiating in good faith, any group of countries intending to differentiate obligations is facing significant political and intellectual obstacles. Regarding the latter, it becomes necessary to develop a framework consisting of a set of "objective" criteria on the basis of which differentiated national obligations can be constructed systematically. The framework and the set of criteria should make it possible to construct national obligations reflecting significant dissimilarities and similarities across countries.

The framework will need to include those issues that countries agree are most significant, and obligations reflecting to what extent countries are alike or dissimilar must then be constructed and developed systematically. Accordingly, it seems necessary to operationalize the framework and the selected “objective” criteria, and choose quantifiable indicators of national circumstances.

Needless to say, there are potentially many ways of identifying and comparing dissimilarities. Countries might disagree on which dissimilarities are important and which are insignificant, and it becomes important to have agreement on those criteria or issues that should be used in comparing countries. In the case of climate policy targets, the differentiation criteria agreed upon in the Berlin Mandate mentioned above include economic structure and energy basis.<sup>16</sup> The global climate negotiations have also underlined differences with respect to wealth and countries’ preferences for environmental protection. Consequently, it seems crucial to establish a framework and a set of criteria aimed at developing country obligations that reflect national circumstances such as wealth, structure of economy, national fuel mix, and environmental policies.

National obligations do not automatically emerge even though countries share notion(s) or standard(s) of fairness in a particular negotiating context. Economic analysis and energy modeling will probably play a key role in providing information about the economic costs of achieving a collective environmental policy target and abatement costs of individual countries.<sup>17</sup> In the policy area of climate protection, a number of sectors, policies and measures should be examined in order to produce relevant cost estimations. A large number of detailed studies might be available, and it will often be necessary to synthesize existing economic information and distill input from studies. Negotiators and decision-makers are primarily generalists, not specialists, and governments will often employ expertise from universities, consultants and research institutions to synthesize knowledge and develop qualitative energy indicators and differentiated national targets. However, in order to reach agreement, considerable emphasis on simplicity is important.

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<sup>16</sup> See in particular article II.2(a). FCCC/CP/1995/7/Add.1, 6 June 1995. The Berlin Mandate makes reference to the Climate Convention, which draws attention to countries with fossil fuel dependant economies.

<sup>17</sup> For example, for the use of energy modelling (the “RAINS” model) in negotiations on long-range transboundary air pollution controls in Europe, see Gehring, 1994. For a discussion of the use of analytical models in negotiations, see Sebenius 1981.

It will be necessary that frameworks for differentiation help make comparisons both among countries and among economic sectors within individual countries. Countries will want to know whether national contributions and obligations are comparable and proportional. Negotiators will probably find relatively uncomplicated differentiation criteria identifying and justifying dissimilar obligations on the basis of dissimilar economic sectors and countries the most appealing. Also, they will probably best be able to survive a negotiation process and resist the pressure of national self-interests.

As the above discussion shows, the symmetrical and the differentiated approach both have advantages and disadvantages. However, the question of *how* differentiated agreements are established has so far not been explicitly addressed and empirically documented. How is it possible to reach a differentiated agreement? Who are the significant actors? How do they facilitate the negotiation process? Which are the key challenges? Differentiation constitutes a formidable challenge, both politically and intellectually. By examining how the EC reached the climate policy decision of March 1997, we will gain useful knowledge about how differentiated agreements are reached and how negotiation processes should be designed in order to reach differentiated environmental agreements.

#### **4 EC CLIMATE POLICY AND BURDEN SHARING**

Already when the EC became involved in the global climate negotiations in the early 1990s, the member states and the Commission realized that some sort of internal differentiation would be necessary to reach agreement within the EC. Hence, a number of proposals for EC burden sharing were developed before and after the establishment of the FCCC in 1992. It was not until March 1997, however, that the EC reached a formal differentiated agreement.

Early on, Greece, Ireland, Portugal and Spain, the so-called cohesion countries, were concerned that the EC's climate policy could negatively affect their development. They believed that it would be necessary to take into account their need for economic development. They were in fact hoping for lighter burdens compared to the richer member states. Spain had resisted common standards in the negotiations on the LCP directive, and

vigorously defended the poorer member states.<sup>18</sup> It suggested the formulation in the Council Decision of 1992 declaring: "[...] countries with, as yet, relatively low energy requirements, which can be expected to grow in step with their development, may need targets and strategies which can accommodate that development, while improving the energy efficiency of their economic activities."<sup>19</sup> Other member states insisted on improving energy efficiency in cohesion countries but acknowledged, since the cohesion countries had fewer resources and legitimately needed economic development, the reasonableness of distinguishing between themselves and the cohesion countries. Although no official document was ever produced, the member states reached a common understanding and informal agreement that lesser burdens should fall on cohesion countries relative to other member states.

The Commission dealt with the question of burden sharing at several occasions in the 1990s. In 1990 and 1991, Draft Communications suggested that the share of emissions and wealth should determine the allocation of emission targets to member states.<sup>20</sup> The Commission distinguished between three groups of member states with different obligations. Member states emitting above the EC average - Germany, the Netherlands and Denmark - should reduce emissions by 5 percent relative to the 1990 levels. A group of member states emitting around the EC average - Luxembourg, Belgium, the UK, Italy and France - should stabilize their emissions at the 1990 level by 2000, and the cohesion countries would be allowed to increase their emissions by 15 percent relative to the 1990 level.<sup>21</sup> But France, Italy and the UK resisted this idea, which they thought was unfeasible, and a Council meeting in October 1991 decided instead in favor of financial assistance to the cohesion countries. The assistance would be provided by the Structural Funds and the Cohesion Fund established by the Maastricht Treaty.<sup>22</sup>

The Commission believed that it was necessary to take into account the development concerns of the poorer member states when it later developed a proposal for a CO<sub>2</sub>/energy tax. In order to accommodate the interests of the cohesion countries, which otherwise would withhold their political support, the commission proposed compensation

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<sup>18</sup> For the negotiations on the LCP directive, see H ritier, Knill and Mingers 1996, 184-208.

<sup>19</sup> Haigh 1996, 162. The conclusions from the EC Environment Council in March 1997 contain an almost identical wording. Council of the European Union, 7 March 1997, 6.

<sup>20</sup> Jachtenfuchs and Huber 1993, 48-49.

<sup>21</sup> Notice that Luxembourg, Belgium and the UK emitted above average, measured per capita.

<sup>22</sup> For the Structural Funds and the Cohesion Fund, see Laffan 1997.



payments under a burden sharing scheme. This would imply that the EC provided "funding to offset the global economic costs of the tax and other measures within the CO<sub>2</sub> strategy package for the less developed EC member states."<sup>23</sup> The issue of burden sharing was again addressed in a Commission document prepared for an EC summit in Essen in 1994. This document suggested that finances from the Structural Funds and the Cohesion Fund of the Maastricht Treaty should be used to achieve a fair treatment of Greece, Ireland, Portugal and Spain.<sup>24</sup>

The EC target to stabilize CO<sub>2</sub> emissions in year 2000 at 1990 levels, which was agreed to in October 1990, implicitly acknowledged the need for differentiating the member states' obligations. The EC stabilization target was not premised upon a careful and systematic review of existing and future potentials for stabilizing and reducing CO<sub>2</sub> emissions within the EC. Rather, after a pledge-and-review round in which member states described their expected energy use and trajectories of GHG emissions until 2000, it seemed feasible, primarily because Germany expected significant emission reductions, to stabilize the total EC emissions in year 2000. This "bottom-up" approach raised the question whether a genuine EC policy in the area of climate protection existed at all. It was evident that the cohesion countries would increase their emissions over this period.

In short, how climate policy obligations could feasibly be shared among the EC member states became an essential issue as soon as the EC began responding at the policy level to the climate change issue in 1990. Despite this, and although a number of common statements and various proposals were generated, no substantial political progress was achieved on the issue until 1997. However, when the EC became involved in the global protocol negotiations, which, as mentioned, began after COP-1 in the spring of 1995, it was necessary to revisit the critical and complex issue of burden sharing. Because a possible future protocol was expected to reduce, not just stabilize, GHG emissions, and in order to identify individual countries' legally binding targets, the EC had to work out a formal agreement on burden sharing among the member states. The climate policy targets of the member states in 1995 are shown in Table 2.

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<sup>23</sup> Héritier, Knill and Mingers 1996, 312.

<sup>24</sup> Huber 1995, 19.

**Table 2.** Climate policy targets of EC member states in 1995.

Germany	25% CO <sub>2</sub>	Reduction from 1990 by 2005
Austria	20% CO <sub>2</sub>	Reduction from 1988 by 2005
Denmark	20% energy-based CO <sub>2</sub>	Reduction from 1988 by 2005
Luxembourg	20% CO <sub>2</sub>	Reduction from 1990 by 2005
Belgium	5% CO <sub>2</sub>	Reduction from 1990 by 2000
The Netherlands	Stabilize CO <sub>2</sub> by 1994-1995, 3-5% reduction from 1989-1990 by 2000 10% CH <sub>4</sub>	Reduction from 1990 by 2000
Finland	Stabilize N <sub>2</sub> O emissions on 1990 level by 2000	
Italy	Stabilize energy-based CO <sub>2</sub> on 1990 level by 2000	
Sweden	Stabilize fossil energy-based CO <sub>2</sub> on 1990 by 2000, and reduce post-2000 30% CH <sub>4</sub> from landfills	Reduction from 1990 by 2000
United Kingdom	Stabilize greenhouse gases on 1990 level by 2000	
France	Maintain annual CO <sub>2</sub> emissions per capita below 7.33 ton CO <sub>2</sub>	
Greece	15% CO <sub>2</sub>	Increase from 1990 by 2000
Ireland	20% CO <sub>2</sub>	Increase from 1990 by 2000
Spain	25% energy-based CO <sub>2</sub>	Increase from 1990 by 2000
Portugal	40% CO <sub>2</sub>	Increase from 1990 by 2000

*Source:* European Commission, 1996. However, Germany's target has been corrected. For Spain's target, see FCCC/IDR.1/ESP, 10 July 1996.

## 5 "TOWARDS A EUROPEAN CONSENSUS " IN DUBLIN

During the 1996 Irish Presidency, a Community climate policy workshop titled "Towards a European Consensus" was held on 2-3 September 1996 in Dublin, Ireland. The workshop focussed on national circumstances, such as energy-efficiency differences in various economic sectors, and also looked at policies and measures to reduce GHG emissions within the EC. The workshop brought together the negotiators from the member states participating in the EC Ad Hoc Group on Climate, officials from the Commission's Environment Directorate General (DG XI), Dutch energy policy advisors and a professional facilitator.

DG XI presented a 3-page proposal for an EC target of 10 percent in year 2005 and burden sharing among member states in Dublin. It was suggested that nine member states would reduce CO<sub>2</sub> emissions, a smaller group would stabilize emissions, and two cohesion countries could increase emissions somewhat.<sup>25</sup> DG XI had estimated contributions of CO<sub>2</sub> emissions from the energy and transformation sector, the industry

<sup>25</sup> European Commission, Discussion Paper.

sector, the transport sector, and the commercial/institutional/residential sectors. But most of the member states preferred a common 2005 target to be around 5 percent, and did not support the Commission's proposal. As a DG XI official noted later, the Commission proposal for differentiation was rather similar to those obligations member states agreed to in March 1997.<sup>26</sup> However, the DG XI proposal set a too ambitious common target, appeared to be ill prepared, and was not persuasively presented in Dublin. For these reasons, especially the lack of substantive content, the proposal failed to build consensus among the member states. Explained an astute Irish negotiator: "The proposal did not have the necessary intellectual rigor."<sup>27</sup>

DG XI strongly urged the EC to play a leadership role at the global level. DG XI was particularly concerned about the political credibility of the EC target. Significantly, because of the national targets for 2005 set by Germany, Austria, and Denmark, and expected CO<sub>2</sub> reduction in the UK due to the conversion from coal to gas, considerable future GHG reductions seemed very likely. In fact, these member states would alone almost achieve what would be needed to reach a 10 percent EC wide reduction by 2005. This would mean that the member states without national targets could increase their emissions and did not need to take any efforts towards reduction. DG XI concluded: "It would therefore politically not be credible to propose less than a 10 % EC wide reduction of GHG emissions."<sup>28</sup> Hence, throughout the EC negotiation process, DG XI stressed that a politically credible EC target for year 2005, or later, should be no less than 10 percent.

A professional facilitator participated in the Dublin workshop. At the initiative of the facilitator, the negotiators informally indicated what they thought would be a suitable EC CO<sub>2</sub> policy target for the year 2010. The responses of the member states were represented by marks placed at points along a line indicating the percent size of an EC wide reduction target and showed that they preferred a target for year 2010 to be somewhere in the range of 10-20 percent. It also seemed clear that a majority would prefer an EC wide target of about 15 percent. The EC negotiation process would in that case need to distribute approximately 15 percent of the total CO<sub>2</sub> emission in 1990, i.e. around

<sup>26</sup> Personal interview with EC official in DG XI, Brussels, 14 May 1997.

<sup>27</sup> Personal interview with Irish government official, Dublin, 10 October 1997.

<sup>28</sup> European Commission, Discussion Paper.

493 million tons CO<sub>2</sub>, plus possible increases in emissions in the 1990-2010 period, among the member states.<sup>29</sup>

The climate issue was discussed when EC environment ministers met in mid-October 1996. Ministers stressed the importance of the Commission's contribution to the negotiations on a protocol, and "the Presidency called on delegations to work actively on this issue in order to reach conclusions at the Environment Council in December."<sup>30</sup> But when environment ministers met on 9-10 December in Brussels it quickly became clear that the member states rejected the Irish Presidency's proposal of a 5-10 percent reduction in 2005 and a 10-20 percent reduction in 2010, relative to the 1990 emission level.<sup>31</sup>

Because of lack of agreement, the EC was still unable to present a proposal for a protocol and could therefore not assume a leadership role in the global climate negotiations. Consequently, the political pressure to find a solution to the burden sharing issue was increasing significantly. The only remaining realistic opportunity to reach an agreement was the EC environmental ministers meeting in March 1997.

## **6 THE TRIPTIQUE APPROACH**

The Netherlands hoped to be able to resolve the burden sharing issue within the EC during its 6-month Presidency period beginning on 1 January 1997. The Dutch strategy for the EC climate target negotiations was developed well ahead of the Dutch Presidency period. An essential feature of the strategy was to follow a sectoral approach to these negotiations rather than one analyzing member states as "black-boxes". With hindsight, choosing this approach was perhaps not surprising, as there appeared to be general agreement among involved government officials in several member states that a sectoral approach seemed most promising. Some policy experts and specialists had examined OECD-level allocations of climate policy targets that were based on indicators of energy-efficiency and countries' contributions of GHG emissions, in particular CO<sub>2</sub> emissions per GDP and CO<sub>2</sub> emissions per capita. But such approaches seemed to be too complex, aggregated and insensitive to national differences to be of use in climate negotiations.

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<sup>29</sup> In 1990 the EC emitted in total 3285.52 million tonnes CO<sub>2</sub>. See Appendix 1.

<sup>30</sup> Europe Daily Bulletin, No. 6835, 18 October 1996.

The Dutch environment ministry commissioned energy expert Kornelis Blok and his colleagues at the University of Utrecht to help develop a useful sectoral approach. Blok and his colleagues, who had participated in the Dublin workshop, provided EC climate negotiators with expert input about policies and measures to limit and reduce GHG emissions within the EC.<sup>32</sup> The EC Environment Council had in December 1995 decided that the "equitable sharing of the objective within the Community should be discussed and agreed in parallel with the decision on proposals by the Community for quantified reduction objectives and policies and measures for inclusion in the protocol."<sup>33</sup> Perhaps unsurprisingly, the EC had made little progress on the burden sharing issue by focusing on measures and policies. Instead, more emphasis on burden sharing seemed necessary, as well as a new approach to the issue.

The Dutch government initiated such a new approach, namely "The Triptique Approach." Bert Metz, the chief Dutch government participant in climate negotiations at the EC and the global level, was the primary architect of the Triptique Approach. The Approach was intended to make the member states reach an agreement both on a total EC-wide abatement target and on individual national targets. Previous attempts to reach agreement within the EC pointed towards the necessity of the total EC abatement target and the national shares being negotiated together. An EC agreement was reached in 1996 on stabilizing CO<sub>2</sub> concentrations in the atmosphere below 550 ppmv, i.e. approaching twice the pre-industrial concentration level of 280 ppmv.<sup>34</sup> The member states failed, however, to reach an agreement on national targets. Indeed, high-level Dutch government officials concluded that the EC negotiation process, instead of separating these issues, should directly couple the size of a total EC target with the size of national contributions to the total EC target.

The Dutch negotiators intended to design an approach to the EC burden sharing negotiations that was quite simple, at least in the beginning.<sup>35</sup> The approach should be able to accommodate national circumstances to a reasonable degree, but should avoid creating insurmountable requirements for data and projections of future developments. The

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<sup>31</sup> Europe Daily Bulletin, No. 6870, 9 December 1996.

<sup>32</sup> Blok and Phylipsen 1996; Phylipsen and Blok 1996.

<sup>33</sup> Council of the European Union, 7 March 1997, 3.

<sup>34</sup> Parts per million (10<sup>6</sup>) by volume.

<sup>35</sup> As Metz later underlined, the Dutch government followed the so-called "KISS principle" ("Keep it simple, stupid") when developing the Triptique Approach. See Alfsen, Ringius and Torvanger 1997, 26-27.

Triptique Approach separated the national economy into three broad sectors; the light domestic sector, the energy-intensive, export-oriented sector, and the electricity generation sector.<sup>36</sup> CO<sub>2</sub> emissions per capita from the domestic sector did not vary significantly across member states, although the cohesion countries in general emitted less. In the case of the heavy industry and the power generation sectors, however, considerable differences existed across the EC.

Before deciding to follow the Triptique Approach, Dutch officials and the Utrecht University experts had experimented with alternative approaches dividing the economy into either two or four sectors. It did seem necessary to separate the electricity sector from the rest of the economy. The EC moved in the 1990s toward establishment of an EC-wide electricity market, but, although a significant development from the perspective of climate and energy policy, it was not for this reason that the Triptique Approach singled out the electricity sector.<sup>37</sup> Rather, power production is an essential sector from the perspective of controlling GHG emissions, and fuel shares in the electricity sector varied significantly from one member state to another. For example, Sweden and France depended greatly on carbon-free nuclear and hydro-power; Danish and German electricity production was heavily coal-based. By singling out the electricity sector, the Triptique Approach clearly demonstrated, and in effect justified, distinguishing between various countries when setting targets. It was partly for political reasons that the energy-intensive, export-oriented industries were singled out in the Triptique Approach. These industries had been strongly opposed to the carbon/energy tax first proposed by the Commission in 1992 and had therefore been granted partial or total exemption from the tax until major OECD countries would adopt comparable measures.<sup>38</sup> By setting identical "targets", or "allowances", for energy-intensive, export-oriented industries across the EC, it was hoped that the Triptique Approach could avoid disruptive export and trade effects due to climate policy. This could minimize opposition from the member states.

The domestic sector was defined to include households, services, light industry, agriculture, and transportation. The heavy industrial sector consisted of the following industries: building materials, chemical, iron and steel, non-ferrous metals, pulp and paper, refineries, coke ovens (if they were not a part of the iron and steel industry), gasworks and

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<sup>36</sup> Blok, Philipsen, and Bode 1997.

<sup>37</sup> Midttun 1997.

<sup>38</sup> Haigh 1996, 165; Wagner 1997, 317.

other energy transformation branches, electricity generation excluded. The third sector, as mentioned earlier, was power generation. National obligations for the member states would be calculated by adding up individual allowances calculated for each of the three sectors and by taking into account economic growth, population changes and climate-adjusted energy-use (heating and cooling). The sectoral allowances would not be regarded as sectoral targets themselves.

A per capita approach was used to calculate emission allowances in the domestic sector. The Triptique Approach assumed that these emissions would converge at an equal level in year 2030 in the member states, and that emissions allowances per head should be identical in all EC countries in 2030. The allowed per capita emissions in 2010 were calculated by linear interpolation from 1990 per capita emissions to the common converging emissions level in 2030. Corrections were made for climate differences influencing the energy demand across the EC, and for expected population changes.

Energy efficiency improvement targets were established for heavy industry. Taking the existing sector structure as a reference point, a common growth rate of 1.2 percent was assumed for all countries. To this was added the same energy efficiency improvement rate (0.66 percent per year between 1990 and 1995, and 1.2 percent, or 1.5 percent, per year between 1995 and 2010). These assumptions about growth rate and energy efficiency improvement rate were in accordance with the projections in a widely accepted DG XVII (Energy) business-as-usual scenario, the so-called Conventional Wisdom scenario.<sup>39</sup> It was furthermore assumed that industry in all member states would decarbonize fuels, i.e. switching from fossil to non-fossil fuels, by 0.17 percent annually.

The largest differences existed in the electricity sector. For this reason, a so-called tailor-made approach, combining a county-to-country approach and general guidelines, was followed. The guidelines implied that growth in electricity consumption should be limited to 1 percent annually; however, the cohesion countries were allowed a growth rate of 1.9 percent in order to create more leeway for economic development. By 2010, use of renewables should increase by 8 percent, use of coal and oil should be reduced to 70 percent of the 1990 levels, nuclear energy should be used in accordance with national preferences, and the use of natural gas should be increased. It was emphasized that member states were free to choose their preferred combination of options.

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<sup>39</sup> European Commission, DG XVII, 1996.

## 7 THE ZEIST WORKSHOP

The 30-page report on the Triptique Approach was presented for the first time at an informal workshop organized by the EC Ad Hoc Group on Climate on 16-17 January 1997 in Zeist, the Netherlands.<sup>40</sup> This was the first time that actual individual targets for all fifteen member states were presented.

The report outlined four different variants. In variants I and IA, domestic sector emissions would be reduced by 10 percent by 2010 compared to 1990, an annual energy efficiency improvement of 1.2 percent from 1995 to 2000 in the heavy industry would be achieved, and emissions from power production would be reduced as described above. The significant difference between I and IA was that national climate targets for Denmark, Germany, Austria and Sweden for year 2010 were included in alternative IA. These national targets were a 25 percent reduction in Austria and Denmark, a 30 percent reduction in Germany, but a 5 percent increase in Sweden.<sup>41</sup> Variant I would mean an EC-wide reduction target of 9 percent; IA would mean a reduction of 14 percent (see Table 3).

In variants II and IIA, domestic sector emissions would be reduced by 15 percent by 2010 compared to 1990; an annual energy efficiency improvement of 1.5 percent would be achieved from 1995 to 2000 in heavy industry. There were no changes in the electricity sector compared to I and IA. Variant II would mean an EC-wide reduction target of 13 percent; IIA would reduce by 17 percent.

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<sup>40</sup> Blok, Philipsen, and Bode 1997.

<sup>41</sup> These targets were taken from an Irish Presidency report that incorrectly set Germany's target to 30 percent. Austria's target was 25 percent in the report, and Sweden's unofficial target was a 5 percent increase.



**Table 3.** Climate targets for the member states in each of the four variants

COUNTRY	I	IA	II	IIA
Belgium	-12	-12	-15	-15
Denmark	-12	-25	-14	-25
Germany	-17	-30	-20	-30
Greece	+2	+2	-2	-2
Spain	+11	+11	+6	+6
France	-4	-4	-12	-12
Ireland	-2	-2	-5	-5
Italy	-5	-5	-9	-9
Luxembourg	-17	-17	-20	-20
Netherlands	-6	-6	-9	-9
Austria	-1	-25	-5	-25
Portugal	+21	+21	+16	+16
Finland	-4	-4	-7	-7
Sweden	+26	+5	+22	+5
United Kingdom	-17	-17	-20	-20
EC	-9	-14	-13	-17

Source: Blok et. al 1997, 14.

Not surprisingly, the Triptique report gave rise to discussion. Member states raised questions about the sectoral approach and how the report dealt with the agriculture and transportation sectors, the share of electricity in space heating, previous member states efforts, and climate corrections. The Austrian delegation, for example, would have preferred that the transportation sector be singled out as a separate sector. However, the meeting agreed that the approach seemed highly useful. Thus, a Swedish negotiator concluded: "The approach presented a new, promising angle on the whole question of burden sharing."<sup>42</sup> Although they thought that some would object to the report's sectoral approach, and somewhat doubted if it was "fair" to add the unilateral national commitments to their share of the EC commitments the way this was done in the Triptique Approach, Danish government officials completely supported the Dutch approach.<sup>43</sup> Member states in general were satisfied with the report, and none of them fundamentally questioned the usefulness of the three-pronged Triptique Approach. They all stressed that the decision on differentiation was political and could not be made on the basis of a "mechanical formula."<sup>44</sup>

The Zeist workshop did not attempt to reach agreement on a total EC target and burden sharing on the basis of the four variants. In fact, there was no detailed discussion of

<sup>42</sup> Personal interview with Swedish government official, Stockholm, 19 June 1997.

<sup>43</sup> Personal interview with Danish government official, Copenhagen, 29 April 1997.

<sup>44</sup> Correspondence with high-level Dutch negotiator. 25 February 1998.

the percent targets allocated to the individual member states. The Utrecht University experts explained that the scenario targets indicated the amounts of GHG emissions they concluded could feasibly be achieved, based on analysis of the specific circumstances of member states in various economic sectors and sub-sectors. Belgium, which thought that its target was too stringent compared to the Netherlands, came to the conclusion that its target was feasible and would not mean a comparatively heavier burden. Significantly, however, cohesion countries objected to their targets, which they thought were too stringent, and argued that they needed more allowances for future emissions. Not surprising, given the lenient attitude of the Netherlands towards the poorer member states, the Dutch sympathized with the concerns of the cohesion countries and appeared willing to propose less stringent targets for them.

Because of "The Triptique Approach" report, the Zeist workshop successfully managed to establish an objective technical framework within which national targets and contributions as well as collective commitments were proposed. It forced the member states to think concretely about their targets and contributions, and "accelerated the process of differentiation."<sup>45</sup> The Triptique Approach "set the premises" for the subsequent negotiations inside the EC.<sup>46</sup> While organized as an informal, technical workshop, the Zeist meeting therefore marked a decisive political step towards climate policy differentiation within the EC.

## **8 THE EC ENVIRONMENT COUNCIL MEETING**

Shortly after the informal workshop in Zeist, the member states received a letter from the Dutch environmental minister, Margreth de Boer, proposing EC wide reduction targets and a burden sharing arrangement for member states. The letter underlined the urgency of reaching an EC negotiating position.<sup>47</sup> It was proposed that the EC would commit itself to 10 percent reduction by 2005 and 15 percent reduction by 2010 at the March Environmental Council meeting. The proposal for burden sharing focused on 2010, "in order not to complicate the decision any further and because the precise burden sharing for

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<sup>45</sup> Personal interview with Irish government official, Dublin, 10 October 1997.

<sup>46</sup> Personal interview with Spanish government official, Madrid, 8 October 1997.

<sup>47</sup> Letter 27 January 1997.

the reduction that will be agreed in Kyoto has to be determined at that time" (see Table 4). De Boer further explained that interim targets for the year 2005 could be deducted from the 2010 targets. The minister concluded by reiterating the importance of EC leadership in the protocol negotiations and contributions from all the member states: "A challenging period is ahead of us and I firmly believe the world is looking to the European Union to play an ambitious leading role in the international negotiating process. That role can never be more than the sum total of the commitments individual Member States are willing to make."<sup>48</sup>

**Table 4.** The Netherlands presidency proposal for national emission reduction targets for year 2010.

Member States	Emission index 2010 (1990=100)
Belgium	85
Denmark	75
Germany	70
Greece	105
Spain	115
France	95
Ireland	105
Italy	90
Luxembourg	60
Netherlands	90
Austria	75
Portugal	125
Finland	90
Sweden	105
United Kingdom	80

*Source:* Letter from Ministry for Housing, Planning and the Environment, 27 January 1997.

Evidently, despite rounding the national targets to the nearest 5 or 10 percent points, the Dutch proposal was built on the targets developed in the Triptique Approach. Significantly, as had been made clear at the Zeist workshop, the Dutch Presidency proposal took into consideration the concerns of the cohesion countries. As a result of these target modifications, it would be possible for these member states to increase emissions. On the other hand, Finland, Italy and the Netherlands would have to reduce further emissions. The differences between the Netherlands Presidency's proposal and the Triptique Approach are shown in Table 5.

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<sup>48</sup> Ibid.

**Table 5.** Difference between presidency proposal and Triptique targets

Country	I	IA	II	IIA
Belgium	-3	-3	0	0
Denmark	-13	0	-11	0
Germany	-13	0	-10	0
Greece	+3	+3	+7	+7
Spain	+4	+4	+9	+9
France	-1	-1	+7	+7
Ireland	+7	+7	+10	+10
Italy	-5	-5	-1	-1
Luxembourg	-23	-23	-20	-20
Netherlands	-4	-4	-1	-1
Austria	-24	0	-20	0
Portugal	+4	+4	+9	+9
Finland	-6	-6	-3	-3
Sweden	-21	0	-17	0
UK	-3	-3	0	0

The Dutch proposal was examined by the Ad Hoc Group on Climate at its meeting on February 17-18, 1997. It now became obvious that a number of the member states considered their proposed national targets too ambitious and unfeasible. In fact, a majority of member states wanted their targets to be less stringent and adjusted with what they perceived to be realistically achievable (see Table 6). Consequently, at this point the total reachable EC target for year 2010 was about 11 percent, or 4 percent below the target proposed by the Netherlands.

**Table 6.** Comparison between presidency proposal and member states' informal pledges<sup>49</sup>

	<b>(A) 2010 Presidency proposal All climate gasses</b>	<b>(B) 2010 Informal pledges from member states at Ad Hoc Group meeting 17-18 February 1997</b>	<b>Difference (B)-(A)=</b>
	INDEX	INDEX	INDEX
Belgium	85	90	+5
Denmark	75	75	0
Germany	70	75	+5
Greece	105	(110)	+5
Spain	115	115	0
France	95	95	0
Ireland	105	(110)	+5
Italy	90	95	+5
Luxembourg	60	70	+10
Netherlands	90	90	0
Austria	75	75	0
Portugal	125	(125)	0
Finland	90	(95)	+5
Sweden	105	105	0
UK	80	90	+10
EC-15	85	89	+4

Compared to the technical meetings of the EC Ad Hoc Group on Climate, the EC Environmental Ministers Council politicized the negotiations considerably. The political pressure was increased further because the meeting took place just previous to a new round of global negotiations beginning on 3 March 1997, in Bonn, Germany. The final national targets and the EC wide target were uncertain. However, there was a real possibility that the 15 percent target would not be reached. Some of the biggest European contributors in an absolute sense, namely Germany, UK and Italy, seemingly wanted to lower their national targets, while no member countries were opting for more ambitious national targets.

Despite these uncertainties, however, an analysis made by the Danish negotiators clearly showed that a well-demarcated bargaining space had been constructed by following the Triptique Approach.<sup>50</sup> The analysis basically identified three possible final negotiated outcomes. A first possible outcome would be similar to the informal pledges that the member states made in mid-February at the Ad Hoc Group on Climate. It would mean an EC wide target of approximately 10 percent. This outcome identified what the Danish

<sup>49</sup> Notice that the Greek, Irish, Portuguese and Finnish informal pledges were not entirely clear.

negotiators considered to be the "baseline" of the EC negotiations: a situation of non-cooperation in which individual member states primarily followed their own interests with little regard for the preferences of others. This would be the outcome if a significant number of member states did not compromise and refused to make comparable or proportional contributions – that is, they would not be "fair" and contribute to an equitable distribution of obligations. Conversely, the Danish negotiators perceived the Dutch proposal for a 15 percent EC wide target and its burden sharing arrangement to be the upper bound. Thus the Dutch proposal demarcated what appeared as the maximum feasible given the configuration of interests among EC member states.

The Danish negotiators then compared two negotiated outcomes to the negotiation "baseline." They referred to a second EC negotiated outcome as "Possible Compromise." This outcome would be furthest away from the Netherlands Presidency proposal. In the "Possible Compromise", Belgium, Finland, France, Italy, the Netherlands and the UK would adopt positions close to their informal pledges made in the Ad Hoc Group on Climate, and the total EC emissions would be reduced by 13 percent. A third negotiated outcome, termed "Fair Burden Sharing", came closer to the Presidency proposal and would produce a 14 percent reduction in total EC emissions. "Fair Burden Sharing" implied raised targets for Belgium, the UK, Finland, France, Italy and Netherlands. Seen from a Danish perspective, it was the positions of these six member states that determined whether the final outcome would reflect fairness or self-interest. The targets of the cohesion countries, which were almost identical to the Dutch proposal, remained unchanged in the three negotiation scenarios forecasted by the Danish negotiators.

When EC environmental ministers met in March, a number of member states believed that their targets were too ambitious and wanted adjustments in line with what they considered to be more realistic. By now, it was evident that the final EC wide target could be lower than 15 percent and, crucially, below 10 percent. The German environmental minister and the Commission in particular emphasized that a common EC target below 10 percent would mean that the EC position in the global negotiations was not politically credible. Again, it was strongly stressed that all member states needed to contribute as much as possible.

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<sup>50</sup> Memo. No date.

Although the Netherlands had successfully accelerated the process of differentiation within the EC, and had earned the respect of many European negotiators, member states were dissatisfied with the Netherlands's self-imposed target. In fact, a number of member states believed that the Dutch commitment of 10 percent was insufficient, if not self-serving. Germany therefore opposed the Dutch proposal for a 30 percent reduction, which set Germany's contribution at an additional 5 percent over its domestic target of 25 percent.<sup>51</sup> UK and Belgium also responded to the perceived low Dutch target.<sup>52</sup> UK wanted to contribute only 10 percent, not 20 percent as suggested by the Netherlands, and Belgium decided to contribute 10 percent, instead of 15.<sup>53</sup> Thus, both countries adopted a target similar to the Netherlands. France and Finland both committed themselves to a stabilization target, not a reduction target.

Although it was acknowledged that they necessarily would increase their emissions, the cohesion countries were under significant political pressure to limit their increases as much as feasibly possible. Other member states believed that the cohesion countries jeopardized the EC negotiating position by cutting back their national targets, and a negotiation breakdown was a real possibility. Some member states found it particularly unacceptable if emission increases in cohesion countries would make it impossible to reduce total EC emissions by 10 percent by 2010. The cohesion countries would, if negotiations broke down, be publicly criticized for their lack of willingness to cooperate and their disregard of the global warming issue. The Irish and especially the Spanish accepted the targets proposed by the Dutch, but Greece and Portugal lowered their targets significantly. In the end, six member states reduced their targets even further (see Table 7).

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<sup>51</sup> Personal interview with German government official, Bonn, 10 October 1997.

<sup>52</sup> Personal interview with Danish government official, Brussels, 12 May 1997; Personal interview with Spanish government official, Madrid, 8 October 1997.

<sup>53</sup> The British government under Tony Blair quickly made the environment a priority issue and raised the UK's climate target to 20 percent. It was probably no coincidence that this target was in perfect accord with the Triptique Approach and the Netherlands Presidency proposal (see variants II and IIA of the Triptique Approach in Table 3). 20 percent was considered a national target, however; the UK did not raise its 10 percent contribution to the common EC target.

**Table 7.** Comparison between presidency proposal (I) and member states' targets (II)

Country	I. Dutch proposal	II. National emission Target	Difference I-II=
Belgium	-15	-10	+5
Denmark	-25	-25	0
Germany	-30	-25	+5
Greece	+5	+30	+25
Spain	+15	+17	+2
France	-5	0	+5
Ireland	+5	+15	+10
Italy	-10	-7	+3
Luxembourg	-40	-30	+10
Netherlands	-10	-10	0
Austria	-25	-25	0
Portugal	+25	+40	+15
Finland	-10	0	+10
Sweden	+5	+5	0
UK	-20	-10	+10

Because of the cuts in member states' targets, the reachable EC target was reduced by about 5 percent to 10 percent reduction in year 2010. A political problem immediately arose as a 10 percent reduction target was perceived to be insufficient to influence the positions of the United States and Japan in the protocol negotiations. A solution lacked at first. The Netherlands proposed to adjust the EC target downward by 3 percent to a 12 percent reduction with accompanying adjustment of national targets. However, Denmark's environment minister, Svend Auken, proposed an acceptable solution. Auken suggested to hold the 15 percent target and accept the 10 percent "shared-out" contributions as an interim solution.<sup>54</sup> Moreover, the EC, in case the Kyoto target exceeded 10 percent, would distribute the remaining emission reductions after Kyoto.<sup>55</sup>

The 10/15 proposal was finally accepted because it was seen as important, if not essential, that the EC target was both politically credible and ambitious.<sup>56</sup> Moreover, because the negotiators believed that the Kyoto target might be less stringent than 15 percent, the unusual 10/15 negotiating result was not expected to compromise the position

<sup>54</sup> In fact, only a 9.2 percent reduction of total EC emissions would be achieved.

<sup>55</sup> As the Environment Council concluded: "The Council stresses (...) that the outcome of COP-3 in Kyoto will determine (...) the actual Community target." Council of the European Union, 7 March 1997, 4.

<sup>56</sup> There had been no discussion within the Ad Hoc Group on Climate on solutions to such an outcome. The idea of a 10/15 solution would have been "dead" had it been suggested in this group. Auken himself came up with the solution. Personal interview with Danish government official, Brussels, 12 May 1997.



of the EC in the global negotiations.<sup>57</sup> The EC would, in case there was agreement on a 15 percent cut in Kyoto, subsequently negotiate a distribution of the remaining 5 percent. The member states believed that those policies and measures that they were in the process of implementing, or soon would implement, could achieve a total reduction of 10 percent within the EC. If necessary, implementation of common and coordinated policies and measures (CCPMs) would achieve the residual 5 percent.<sup>58</sup> Consequently, national targets and the EC target would primarily be achieved by national measures. The member states were confident that they would be able to reach their targets.<sup>59</sup>

By differentiating the obligations of member states, the EC achieved its external political objective: injecting new energy into the global negotiations on the Kyoto Protocol.<sup>60</sup> The outcome of the EC negotiations made it possible to increase political pressure on other industrialized countries. In the summer of 1997, the president of the European Commission, Jacques Santer, and European leaders criticized the positions of the United States and Japan. At the G-8 meeting in June, the French president, Jacques Chirac, declared: "The Americans are the biggest polluters."<sup>61</sup> "We in Europe have put our cards on the table," British Prime Minister Tony Blair said at a UN Earth Summit in New York. "It is time for the special pleading to stop and for others to follow suit."<sup>62</sup> The EC maintained its leadership role in the final phases of the global negotiations up to the Kyoto Protocol.

## 9 FINDINGS AND DISCUSSION

Contrary to the predictions of most analysts and scholars, the previous section shows that differentiation of national commitments is achievable in the EC policy area of climate

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<sup>57</sup> A high-level Dutch official, for example, expected that a "minus 10 percent" agreement from Kyoto was more realistic than a "minus 15 percent figure." *Financial Times*, 4 March 1997, 2.

<sup>58</sup> For the CCPMs identified by the Ad Hoc Group on Climate, see Council of the European Union, 7 March 1997, 7.

<sup>59</sup> The Commission later prepared a report intended to document the technical, political and economic feasibility of the EC target. See European Commission, 1 November 1997.

<sup>60</sup> The EC environment council noted in June 1997 that, "(t)he negotiating position adopted by the Community on the basis of those Conclusions [of 3 March 1997] had a significant impact both at the session of the negotiating body in Bonn and at the recent CSD meeting in New York." Council of the European Union, 19/20 June 1997.

<sup>61</sup> *Financial Times*, 23 June 1997, 1.

<sup>62</sup> *International Herald Tribune*, 24 June 1997, 6.

protection. This case could even be seen as evidence that it is impossible to reach agreement on symmetrical climate obligations, primarily because the considerable asymmetries in the climate policy area make differentiation necessary.<sup>63</sup> The EC constitutes a relatively homogenous group of industrialized countries, and, as the Kyoto Protocol shows, differentiation should therefore be even more likely at the OECD level: the Kyoto Protocol targets range from a 10 percent rise (Iceland) to a 8 percent cut, largely in the EC and economies in transition; the U.S. reduction target is 7 percent, and Japan's 6 percent.<sup>64</sup> Unlike the EC agreement, however, the Kyoto targets were reached through an "inductive" negotiation process; in other words, countries "put the agreement together piecemeal, building it primarily through mutual compromise or exchanged concessions on specific items."<sup>65</sup>

As the EC process shows, differentiation will not necessarily result in an uncontrollable expansion of the bargaining space. The EC avoided many of the pitfalls identified by governments and analysts. Informal agreement was achieved on a set of quantifiable indicators of national circumstances which made it possible to develop national and EC contributions; emphasis was put on simplicity and "learning by doing"; the task of developing energy indicators and policy targets was delegated to a group of independent experts, not individual member states; a "menu" of EC climate policy scenarios and national and common targets was developed; expert proposals for targets could be revised in the light of better knowledge of national circumstances; and, finally, targets developed by experts served as the starting points, rather than end-points, of a negotiation process.<sup>66</sup>

National characteristics and significant national concerns within the EC were taken into account in designing the Triptique Approach and in structuring the negotiation process. As mentioned, the Triptique Approach assumed that CO<sub>2</sub> emissions per head from the domestic sector in member states should converge to an equal level in 2030. This approach reflected the French, Portuguese and Spanish views, namely that CO<sub>2</sub> emissions per capita should be chosen as an indicator of national obligations.<sup>67</sup> Paralleling the

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<sup>63</sup> Parson and Zeckhauser, 94.

<sup>64</sup> For the Kyoto Conference, see *Earth Negotiations Bulletin*.

<sup>65</sup> Zartman and Barman, 1982, 89.

<sup>66</sup> Luxembourg's target was modified, in fact strengthened, after Luxembourg had provided the Utrecht University experts with more accurate national information.

<sup>67</sup> For France's proposal to differentiate industrialized countries' climate targets according to net per capita GHG emissions, see FCCC/AGBM/1997/2 31 January 1997, 41.

emphasis that especially Denmark, the Netherlands and Germany put on improving energy efficiency, the analysis of the heavy industrial sector assumed that the member states moved toward the same energy efficiency level in this sector. Also, as there was general agreement within the EC that the cohesion countries should carry lesser burdens, the Triptique Approach assumed a higher growth rate in electricity consumption in these member states. Thus, rather than choosing a single indicator at the level of individual member states (e.g. CO<sub>2</sub> emissions per person or per GDP), the Triptique Approach combined several energy indicators at the level of sectors. In this way the approach shifted the attention away from comparing contributions and fairness among member states to instead comparing sectoral contributions and fairness across sectors within the EC. When developing climate policy, it is necessary to examine opportunities for GHG emissions reduction, including the scope for behavioral changes, at the sectoral, not the national level, and the Triptique Approach took a significant step in this direction.<sup>68</sup>

Experienced and skillful Dutch negotiators and energy experts played a vital role by developing a suitable conceptual framework for differentiation and by identifying what could be considered fair and appropriate targets. The Triptique Approach accomplished two things at the same time; it defined both the anthropogenic sources of global climate change and suggested a reasonable fair distribution of responsibilities among countries. It diagnosed the climate change problem in a politically acceptable way and provided a framework for differentiation of targets. Zartman has generalized this way of reaching agreement as "deductive"; first "identifying a formula that defines the problem in a resolvable way, and then translating the principles of the formula into specific details of implementation."<sup>69</sup>

This case strongly suggests that it is necessary to negotiate national and collective targets together. Countries will not agree on a collective target as long as national implications and obligations are uncertain. In the case of the EC, a facilitator assisted in identifying the boundaries of the collective political willingness and an EC target reflecting an average of the member states' preferred EC targets served as a reference point when energy experts constructed asymmetrical national contributions. Potentially unproductive

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<sup>68</sup> A recent Energy Advisory Panel in Britain took into account constraints existing at sector levels and assumed that emission reductions in the electricity supply industry were achievable. In the transportation sector, however, emission reductions would be much less achievable, "given the difficulty of curbing the use of the car and other vehicles." *Financial Times*, 28 November 1997, III.

<sup>69</sup> Zartman, 1992, 115. For the deductive approach, see Zartman and Barman, 1982, 89.

negotiations on a common target were thus avoided and alternatives to lowest common denominators and salient focal points were constructed.

The EC negotiations were conducted primarily among three distinct groups of member states. The first group, which, for lack of a better phrase, might be called the "rich and green" EC member states, consisted of Austria, Denmark, Finland, Germany, the Netherlands and Sweden.<sup>70</sup> Although they most likely would incur considerable abatement costs as a result, they set themselves ambitious domestic targets and wanted the EC to vigorously attack the global warming problem and play an environmental leadership role in the global climate process.<sup>71</sup> In general, the "rich and green" member states quickly respond to perceived environmental problems by setting ambitious targets ahead of others. They subsequently try to pressure and persuade other member states to imitate their level of environmental protection.

Belgium, France, Italy, Luxembourg, and the UK might then be described as the "rich but not-so-green" member states.<sup>72</sup> The cohesion countries, the poorer countries, constituted the third group. Significant variations in abatement costs largely explain the deviations in the case of climate policy – the Dutch, Finnish, French and Swedish targets – from this generally observed pattern in EC environmental negotiations. Noteworthy, although adding more political emphasis on climate protection, the accession of Austria, Finland and Sweden to the EC in 1995 did not significantly influence the differentiation process compared to earlier.

Regarding the differentiation process as such, rather than the structure of positions created by the member states, the previous section documented that the "rich and green" Netherlands and Germany played essential, but different, leadership roles. As I argued earlier, differentiation creates a significant conceptual and negotiation challenge as it is necessary to identify important national dissimilarities and suggest politically acceptable objective criteria as well as quantifiable indicators for the purpose of international comparison of countries. Thus, differentiation creates a demand for two distinct types of leadership; intellectual and entrepreneurial leadership.<sup>73</sup> The intellectual leader influences

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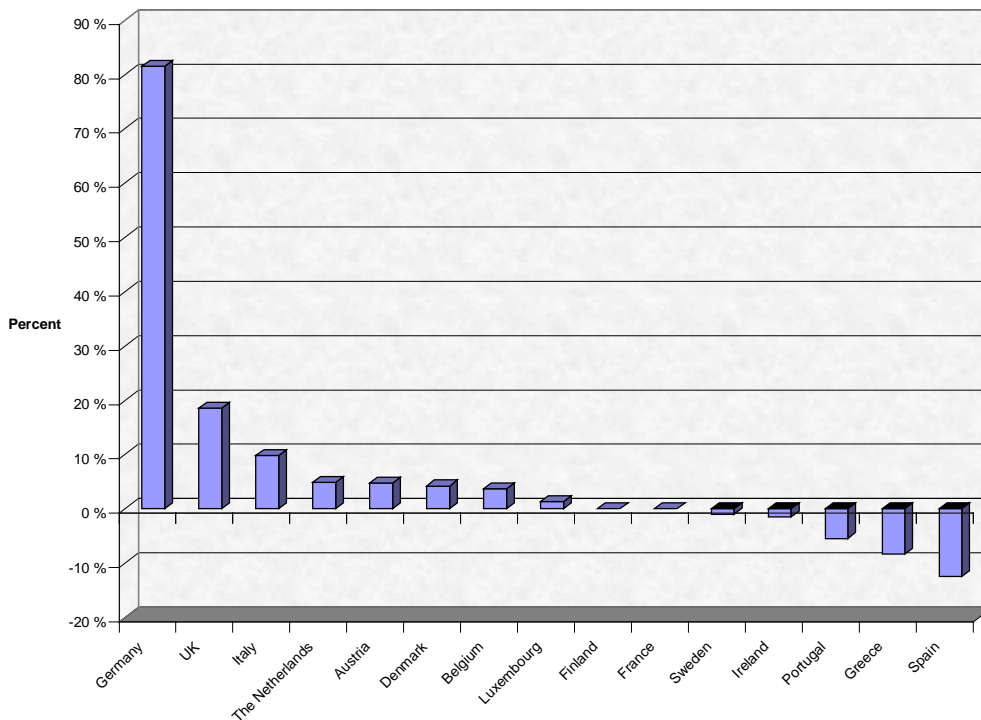
<sup>70</sup> For analysis of the group of self-declared environmental leaders in EC environmental policy, see Skou Andersen and Liefferink 1997.

<sup>71</sup> Grubb and Brackley 1991, 229.

<sup>72</sup> Golub, for example, has concluded that the Netherlands, Germany and Denmark generally have pursued higher levels of environmental protection than France, UK, Belgium and Italy in the period prior to the 1987 Single European Act. Golub 1996, 6.

<sup>73</sup> For intellectual, entrepreneurial and structural leaders, see Young 1991.

how negotiators perceive and think about important issues on the negotiation table; the entrepreneurial leader is a skillful broker among actors and a shrewd designer of acceptable negotiation solutions. Evidently, the Netherlands acted as both intellectual and entrepreneurial leader in the EC differentiation process. Germany, however, played the role of structural leader, the third primary type of leadership. This leadership type stems from an actor's ability to provide the material resources, in this case considerable amounts of GHG emission reductions, which are necessary to achieve international agreement and reach a common target. In fact, Germany alone contributed approximately 253 million tons CO<sub>2</sub> necessary to reach the common EC target, or around eighty percent of the emissions (see Fig 1).<sup>74</sup>



**Figure 1.** March 1997 EC negotiating position - percent distribution of CO<sub>2</sub> emissions reductions within the EC.

Evidently, bargaining power and political pressure play a significant role when a group of countries negotiate national targets in a differentiated environmental agreement. In the case of the EC, a symmetric climate agreement at the level of the lowest common denominator was unacceptable to major European powers. At the same time, they acknowledged that economic development inevitably would increase emissions in the

<sup>74</sup> For calculations, see Appendix 1.

cohesion countries, and urged these member states to increase energy efficiency. Lead countries will attempt to make others contribute their "fair" shares. Indeed, it is essential if laggards are able to block agreements.

The case documents different negotiation games within and among the three distinct groups of countries. By self-imposing stringent climate targets, Austria, Denmark, Germany and the Netherlands had in a sense their hands "tied". They shared an interest in providing prestigious environmental leadership at the EC and global level, and would undermine their political credibility as lead countries if they had lowered their targets during the negotiations. In addition, climate protection was a significant environmental issue in these member states and such a move would therefore be politically unattractive. Differentiation was a necessity in order to set an ambitious EC target, primarily based on Germany's contribution of emission reductions.

The "rich but not-so-green" member states, by contrast, had not committed themselves to specific targets beforehand. They mutually adjusted their targets over the negotiation process, and an entirely different group dynamic evolved as a result. As described, Belgium and the UK responded to the Dutch contribution, which they perceived to be insufficient, by adjusting their national targets downwards.<sup>75</sup> Within this group, a pronounced tendency to adjust obligations to the level set by the least ambitious member and adopt symmetrical obligations is observable. The "rich and green" member states did not succeed to persuade or pressure the "rich but not-so-green" member states. Comparison with the Presidency Proposal and the expectations of the Danish negotiators indicates that most of these member states did not shoulder their presumed fair share of the burden within the EC.

Some of the poorer member states, however, adopted more stringent targets as a result of the EC climate policy negotiations. The differentiation process influenced Spain's target in particular. Although rejecting the Dutch proposal, Portugal changed its national target from a 40 percent increase in 2000 to instead a 40 percent increase in 2010 (compared to 1990). The EC's scientific, technological and financial assistance to the cohesion countries makes them dependent on other member states and vulnerable to

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<sup>75</sup> Member states' expectations about the EC Presidency role in general also might explain some of the observed behavior. As described, the Netherlands took full advantage of its Presidency to suggest an ambitious EC climate policy, but as the Netherlands' contribution did not meet the high expectations created by the Dutch strategy, the member states reacted even more critically toward the Dutch contribution.

political pressure, and this explains why the EC membership has made the cohesion countries adopt environmental standards that were more stringent than their own national measures.<sup>76</sup>

Theories of international environmental negotiations and differentiation pay much attention to side-payments.<sup>77</sup> Linkages to non-climate issues were not made, however, nor were package deals constructed in order to make less climate ambitious member states raise their targets. "This is not how Brussels works", responded a German negotiator when asked about the use of linkages to other EC policy areas and package deals in the negotiations.<sup>78</sup> As well, the leader countries did not apply any form of direct sanctions or economic incentives, but instead attempted to persuade, pressure and shame others into following their policy. Although some member states believed that the Structural Funds and the Cohesion Fund would cover some future abatement costs incurred by the poorer member states, these funding possibilities were never explicitly addressed and did not influence the EC negotiations. While it was expected that each member state contributed according to its ability to reduce, the cohesion countries were treated more leniently. Fairness mattered and member states made comparisons between and within groups of comparable countries.

Despite different levels of concerns among the member states, there was strong agreement that the EC would have to deal with global climate change both internally and through international leadership. As mentioned, especially Germany, the Netherlands and Denmark, and DG XI, vehemently stressed the need for establishing an ambitious EC climate policy. Negotiators from member states were thus under considerable pressure to reach an agreement, especially after environment ministers failed to reach agreement in December. Early failures and the deadline created by the pace of the global negotiation process both were essential when an agreement was finally reached in March 1997.<sup>79</sup>

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<sup>76</sup> See, for example, Golub 1996, 3.

<sup>77</sup> See, for example, Barrett 1995; Botteon and Carraro 1995; Parson and Zeckhauser 1995; Sebenius 1995.

<sup>78</sup> Personal interview with German government official, Bonn, 10 October 1997. In general, intra-sectoral package deals are quite widespread and side payments crucial for southern member states, but inter-sectoral package deals, linkages and side-payments to northern states are not used. Golub 1996.

<sup>79</sup> Personal interview with Dutch government official, 22 May 1997. Personal interview with Spanish government official, Madrid, 8 October 1997.

The Commission did not exert a strong direct influence over the differentiation process.<sup>80</sup> As described earlier, DG XI advocated an ambitious climate policy and Commission officials involved in renewables and energy-efficient technologies seemed favorable towards this policy. However, DG XVII opposed an ambitious policy and energy models in DG XVII indicated that implementation of an aggressive climate policy most likely would create significant economic costs. The multi-sectoral climate issue divided the Commission, especially DG XI and DG XVII.<sup>81</sup>

The leader countries were concerned about the conflicts within the Commission.<sup>82</sup> However, they could not influence the internal politics of the Commission. Although they would have preferred that the Commission had played a much more progressive role and exploited its potential for influence better, they saw no way to interfere with such supranational power struggles. In general, DG XI did not seem closely involved in the global climate change issue, but gave higher priority to local and regional environmental problems. Since 1992, the Commission had played a less active role in the climate policy area.<sup>83</sup>

Nonetheless, by providing energy studies that created a backdrop to the negotiations, the Commission played a constructive role. Compared to earlier, more knowledge existed about the opportunities and barriers for achieving emissions reduction in member states, especially the poorer ones. The Triptique Approach benefited from improvements in EC energy modeling achieved since the early 1990s, especially *European Energy to 2020*. But the Commission did not have the flexibility needed in order to tailor an approach to EC burden sharing within a short period of time. Indeed, a Dutch high-level official emphasized: "The Commission is much too bureaucratic and slow-moving to play such a role."<sup>84</sup>

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<sup>80</sup> For an overview of the DGs involved in EC climate change policy, see Huber 1995, 26.

<sup>81</sup> A communication from the Energy Directorate clearly illustrated the differences of opinion within the Commission. See European Commission, 12 May 1997, 1, 2, 15.

<sup>82</sup> Personal interview with Danish government official, Copenhagen, 29 April 1997.

<sup>83</sup> Wagner 1997.

<sup>84</sup> Personal interview with Dutch government official, 22 May 1997.



## 10 BUILDING DIFFERENTIATED CLIMATE REGIMES

Possibilities for differentiation will greatly depend on the number and characteristics of countries. In general, the larger and more diversified the group of countries, the more necessary and more complicated it will be to differentiate. Moreover, there will be more interests to accommodate within larger groups.

Regarding climate negotiations within the EC and the burden sharing issue, two general observations are relevant. First, the question of responsibility for the historical cumulative GHG emissions, i.e. the historical emissions added over time, played no role in the negotiations. Second, neither was the issue of adverse climate change impacts (e.g. flooding of coastal areas or ecosystem damage due to temperature increase) significant. Developing countries, however, mostly focus on the historical GHG emissions and the adverse effects of climate change in developing countries. Climate negotiations will obviously be more complex if these asymmetries play a role.

Countries will follow either a deductive or a less systematic inductive approach to differentiation. Below I focus on the deductive approach and industrialized countries.

### *Diagnosis in the prenegotiation phase is needed to make the climate issue negotiable*

The three initial steps in a differentiation process are to set a common target, develop a conceptual framework for differentiation, and choose criteria for comparison of contributions of countries. Before that, in the prenegotiation phase, it will be necessary to define the climate problem so that it is negotiable and potentially resolvable.<sup>85</sup> It is usually in the prenegotiation phase that analytical models can help bargainers develop the overall formula that forms the basis for agreement.<sup>86</sup> Analytical models can thus help “diagnosing” the problem, but are unlikely to be significant once the problem definition or formula is established. Governments will be the key actors when contributions are distributed among countries.

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<sup>85</sup> For prenegotiation, see Stein 1989.

<sup>86</sup> Sebenius 1981, 78-79.

***Quantified indicators of national circumstances will be preferable to technical formulas and rules***

It appears very useful to develop quantified indicators of national circumstances. It is possible to develop reasonably useful energy indicators for a relatively small, homogenous group, such as the EC. It might be quite difficult for a larger, more heterogeneous group, such as the OECD.<sup>87</sup>

The EU-differentiation process shows that a few, intuitively appealing quantitative indicators at the level of economic sectors can usefully guide negotiations on differentiated targets. Proposals for differentiation will be most useful when they are thoroughly prepared, apply reasonable energy indicators based on reliable, available and comparable data, build upon detailed knowledge of national circumstances et cetera.<sup>88</sup> DG XI's proposal for differentiation did not generate sufficient attention because it, in addition to being tabled too early in the EC negotiation process, was technically inadequate. Energy models and energy scenarios will stimulate learning among negotiators and, because they might shape common perceptions of policy opportunities and constraints, could facilitate climate negotiations.

It seems that quantitative indicators of national circumstances might assist negotiators more than mathematical formulas and burden sharing rules.<sup>89</sup> First and foremost, mathematical and technical rules seem unable to take into account all significant national circumstances.<sup>90</sup> Because countries quite simply are too different, it might be impossible to determine national contributions on the basis of a set of quantified indicators. Moreover, it is evident that rules cannot take into account unquantifiable factors, for example foreign policy goals, which countries care about in climate negotiations.

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<sup>87</sup> See Ybema 1997.

<sup>88</sup> For a discussion of the usefulness of various types of energy and CO<sub>2</sub> indicators to decision-makers, see Schipper and Haas 1997.

<sup>89</sup> One prominent example is the proposal Norway made in the protocol negotiations. The proposal is a multi-criteria indicator combining and attaching weights to three individual indicators (CO<sub>2</sub> equivalent emissions per unit of GDP, CO<sub>2</sub> equivalent emissions per person, and GDP per person). The formula is defined as  $Y_i = A [x(B_i/B) + y(C_i/C) + z(D_i/D)]$ .  $Y_i$  is the percentage reduction of emissions for country  $i$ . The relation of  $B_i$  to  $B$  is CO<sub>2</sub> equivalent emissions per GDP unit for country  $i$  relative to the OECD average, the relation of  $C_i$  to  $C$  is GDP per person in country  $i$  relative to the OECD average, and the relation of  $D_i$  to  $D$  is CO<sub>2</sub> equivalent emissions per person in country  $i$  relative to the OECD average.  $A$  is a scaling factor, while coefficients  $x$ ,  $y$  and  $z$  are weights, which add up to a total of 1. Norway indicated that more weight should be put on the  $C_i/C$  indicator. See FCCC/AGBM/1996/10, 19 November 1996, 10.

<sup>90</sup> All negotiators interviewed for the purpose of this report were quite skeptical about the usefulness of highly formalized burden sharing rules. However, there was some interest in using single indicators, especially CO<sub>2</sub> emissions per capita, to develop proposals for national contributions of emission reductions.

Furthermore, differentiation by technical formula could greatly complicate negotiations by increasing their technical and scientific content.<sup>91</sup> "They [burden sharing formulas and rules] never give us a number", explained a German negotiator. "We need a percent!"<sup>92</sup> Differentiation will in the end be decided through a political process, not a technical one, involving pressures and offers. For such reasons, it seems likely that countries will prefer a more flexible approach of negotiating differentiated targets directly with others.

***Start early but wait for "ripe moments" and policy windows***

National negotiators in the EC generally were cautiously optimistic regarding possibilities for differentiation. It should be underlined, however, that the member states had tried for more than five years to adopt an EC climate policy before they managed to work out a differentiated arrangement. Good knowledge of national circumstances is necessary in order to develop quantifiable indicators. Developing and collecting relevant knowledge and data takes time, although it is essential.<sup>93</sup>

Time will also be necessary for sufficient awareness and pressure to build up. The global climate problem is not yet considered an essential environmental problem, although awareness of the problem presently is increasing. Increasing awareness will influence national policies and, if societies' preparedness to pay for climate protection increases, expand the range of reduction options.

Last but not least, it will be important to seize the "ripe moment" for differentiation of targets.<sup>94</sup> Although their occurrence is notoriously difficult to identify beforehand, negotiators should use policy windows and "ripe moments" to table target proposals.<sup>95</sup>

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<sup>91</sup>A former chief US negotiator criticizes using formulas in climate negotiations: "This approach would entail extremely difficult and potentially adversarial negotiations if differentiated targets were to be negotiated on a formula-basis, i.e., by weighting some or all of the factors above [emission per capita, emissions per unit of GDP, GDP per capita etc.] and adjusting the basic target accordingly. Each country would seek to include the factors and formula weights that advantaged it (and disadvantaged its trading partners). One can imagine groups of negotiators sitting around with computers trying to calculate the relative impacts of different proposed factors and weighting coefficients. It would probably also be one of the least transparent approaches to determining national commitments." Reinstein 1997, 7. Germany has likewise criticized that "the selection of indicators as well as their relative weight is highly arbitrary, with results differing substantially." German Delegation, 6 March 1996.

<sup>92</sup> Personal interview with German government official, Bonn, 10 October 1997.

<sup>93</sup> Because there were no parallels at the OECD level, and therefore no politically feasible proposals for differentiation were introduced into the global negotiating process, the EC proposed a symmetrical climate agreement in Kyoto for non-EC OECD countries.

<sup>94</sup> For a discussion of 'ripe moments' in negotiations, see Zartman, 1992, 114-15.

<sup>95</sup> For discussion of policy windows in the domestic politics context which can be extended to the international level, see Kingdon, 1984.

Even highly useful indicators and skillful leaders will fail if the climate change problem is attracting little attention among governments. Negotiation is both an art and a science, and negotiators will have to act on intuition and rely on their training and experience when hoping to take advantage of a “ripe moment” for reaching agreement.<sup>96</sup>

## 11 CONCLUSIONS

The question of how much individual member states should contribute to the EC climate policy has been important ever since the global warming issue appeared for the first time in the EC context. This report has focused on how differentiated national targets are developed, how alternatives to lowest common denominators and influential focal points are constructed, how model-based indicators can establish the premises for negotiations, and how differentiated targets can create a bargaining space. While the total reduction target may be a salient focal point, national obligations are results of negotiations mediated by energy models and cost assessment studies.

Both domestic and international political processes influence national climate policy. Because this report primarily focussed on the EC process, less attention was paid to how countries develop their domestic targets, or why countries reacted as they did towards the targets developed in the differentiation process. These issues need to be examined further. It is evident, however, that the Triptique Approach influenced member states significantly, in particular the cohesion countries. The Netherlands acted as an intellectual and entrepreneurial leader, while Germany was a strong structural leader.

The report shows that three factors strongly influence climate policy targets, namely ambitiousness of environmental policy (the "greenness" of a country), wealth, and costs of environmental protection - in this case GHG abatement costs. This is not surprising. It is less clear, however, how much these factors individually mattered when the EC member states agreed to differentiate their commitments. These questions should be examined further. It will in addition be necessary to learn more about how other economic and trade interests influence differentiation of climate policy targets. Exporters of fossil fuels fear that they will lose income because the demand for fossil fuels is

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<sup>96</sup> Raiffa, 1982.

expected to decline as a consequence of international climate policy; exporters of environment-friendly technologies and know-how, by contrast, view climate protection as a business opportunity. It is highly likely that also such economic aspects influence policy targets and state positions in international negotiations.<sup>97</sup>

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This report draws upon a number of personal interviews conducted in 1997-1998 with researchers, government officials in Denmark, Germany, Ireland, the Netherlands, Portugal, Spain and Sweden, and officials of the European Community. I am grateful for helpful comments from Knut H. Alfsen. In addition, I want to thank Arild Underdal for his many valuable suggestions.

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<sup>97</sup> Germany, for example, controls about 20 percent of the global export market for environment-technologies worth about US\$ 3 billion a year. *International Herald Tribune*, 17 November 1997, 1.

**12 APPENDIX 1**

<b>Member states</b>	<b>CO<sub>2</sub> emissions (1990) million tonnes</b>	<b>Reduction target, in % (reference year 1990)</b>	<b>CO<sub>2</sub> emissions million tonnes</b>	<b>CO<sub>2</sub> emissions (% of EU wide target)</b>
Germany	1013	-25	-253,25	-81,49
UK	577	-10	-57,7	-18,57
Italy	436,3	-7	-30,541	-9,83
The Netherlands	151,8	-10	-15,18	-4,88
Austria	59,2	-25	-14,8	-4,76
Denmark	52,1	-25	-13,025	-4,19
Belgium	114,5	-10	-11,45	-3,68
Luxembourg	13,3	-30	-3,99	-1,28
Finland	53,9	0	0	0,00
France	366,5	0	0	0,00
Sweden	61,3	5	+3,065	+0,99
Ireland	30,72	15	+4,608	+1,48
Portugal	42,5	40	+17	+5,47
Greece	86,1	30	+25,83	+8,31
Spain	227,3	17	+38,641	+12,43
<b>Total</b>	<b>3285,52</b>	<b>-</b>	<b>-310,792</b>	<b>100,00</b>

*Source:* European Commission, Communication, 1996.

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CICERO was established by the Norwegian government in April 1990 as a non-profit organization associated with the University of Oslo.

The research concentrates on:

- International negotiations on climate agreements. The themes of the negotiations are distribution of costs and benefits, information and institutions.
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