

The Microcosm of Climate Change Negotiations

What Can the World Learn from the European Union?

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FOREWORD

The international negotiations on climate change are currently in dire need of direction. Setting targets for emission reductions, sharing the mitigation burdens and implementing measures will require more aggressive leadership. Many stakeholders in the negotiations seem to be searching desperately for guidance. One option would be to seek inspiration from the EU experience.

Despite its divergent interests and priorities, the European Union has been a leader in the international fight against climate change for over 20 years. The Union was the first actor to commit to stabilization targets, and it also took on the toughest commitments under the Kyoto Protocol. Prepared to commit to emission reductions of up to 30 percent by 2020, and indicating a willingness to contribute a substantial amount to support adaptation and mitigation actions in developing countries, it has been a driving force in the climate change negotiations in the run up to Copenhagen.

This has not been an easy task and the EU has had to overcome a multitude of challenges. The 27 Member States of the EU, with different levels of emissions as well as environmental ambitions, had to agree on a common position. What complicates the situation is that, whereas trade negotiations, for example, may be about sharing the pie, in climate negotiations countries have to share the bill.

Another considerable difficulty is the limited mandate of the EU. The EU cannot decide for Member States to phase out fossil fuels in favour of renewable energies, nor can it impose a carbon tax or cap-and-trade system without the agreement of *all* Member States. The same holds true in a practical manner at the global scale: without the involvement and cooperation of *all* major emitters, it will be impossible to tackle climate change.

This paper addresses one of the most challenging issues of the past EU negotiations and almost certainly in future global negotiations: the inter-linkage between trade and climate change. How did the EU deal with competitiveness concerns and carbon leakage? How did it get all Member States in general agreement? Most of all, can the internal formula of the EU 'microcosm' be transposed to the global level? Can we mobilize the leadership, burden sharing and financial support needed to reach a meaningful global agreement on climate change?

The paper has been authored by Håkan Nordström, the chief economist of the Swedish National Board of Trade. It was commissioned under the ICTSD Global Platform on Climate Change, Trade and Sustainable Energy.

This report places the intra-EU climate change negotiations within the global climate change negotiations and at the same time extrapolates the experience inside the EU on the global level. The author clearly posits the EU as a model for global climate change negotiations. In doing so, the author goes beyond simplistic comparisons and rhetorical statements but offers the analysis and research critically needed to examine, in a constructive manner, the lessons to be drawn from the EU microcosm. For those less familiar with EU policymaking, this work offers valuable insights into the heart of European decision-making.

Together with the author and all who assisted him in writing what will, hopefully, be both a stimulating and productive paper, I trust that it will not only be of interest but, most importantly, I very much hope it will contribute to effective and constructive solutions for climate change negotiations in Copenhagen and beyond.

Enjoy the reading and provide us with feedback,



Ricardo Meléndez-Ortiz
Chief Executive, ICTSD

EXECUTIVE SUMMARY

The EU has played a leading role in international efforts to combat climate change since the issue appeared on the agenda in the 1980s. The EU was the first party to commit to a stabilization target in 1990. It assumed the toughest target under the 1997 Kyoto Protocol, and it has made the most ambitious offer for Copenhagen with an autonomous target of 20 percent emission reductions by 2020, relative to the 1990 level, or 30 percent “provided that other developed countries commit themselves to comparable reductions and economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities.” The EU has also indicated a willingness to contribute between €2 and 15 billion annually to support adaptation and mitigation actions in developing countries, although the exact number is yet to be fixed by the Council.

The EU has emerged as a leader on climate change despite many obstacles. Collectively, the EU is responsible for 13.8 percent of current emissions of greenhouse gases, with individual shares ranging from 0.01 to 2.8 percent. None of the Member States are large enough to influence the global emission trajectory in any significant way, nor is the EU as a collective, since global emissions are growing faster than what the EU can offset alone. The leadership is especially interesting in that Member States have veto power over key aspects of climate policy, including fiscal measures and energy policy. The EU cannot order Member States to phase out fossil fuels in favour of renewable energies, nor can the EU impose a carbon tax or cap-and-trade system without the agreement of *all* Member States.

This raises a number of questions that are of potential interest for climate negotiators and NGOs. What formula did the EU use to get all Member States to reach a general consensus? How did the EU deal with concerns of international nation/state competition, carbon leakage and the distribution of burdens among the Member States? Can this internal formula be elevated to a global level? With these questions in mind, this study follows the paper trail of the *internal* climate change negotiations from the first stabilization target in 1990 to the adoption of the 2008 energy and climate package, which is the basis for the EU negotiations in Copenhagen. The analysis generates two interlinked lessons:

First, it will not be easy for other parties in Copenhagen to squeeze out more concessions from the EU than what the Member States have agreed to beforehand. The EU will speak with one voice in Copenhagen, but behind this voice there are 27 others with different national interests to protect, all with an effective veto power. It would be a mistake to *assume* that the EU can be pushed to the 30 percent *conditional* target without significant commitments from other industrialized countries as well as economically more advanced developing countries. Even the 20 percent target was the result of a difficult negotiating process. The energy-intensive industry had to be “bought off” with free emission allowances: less developed Member States with generous allocation of emission rights and redistribution of the auction revenue, and developed Member States with flexible rules on clean development mechanism (CDM) credits. No formula has been agreed upon for the sharing of the burdens if the target were to be raised from 20 to 30 percent. If the negotiations break down in Copenhagen it may be difficult to maintain the political support for the 20 percent target. Indeed, after the dismal outcome of the Kyoto Protocol EU15 retreated from the initial 15 percent bid to 8 percent: a target that, in spite of being cut in half, has still been difficult to meet. Less than half of the distance has been covered thus far and 4 Member States are 20-35 percent above their national assignments in the 1998 burden sharing agreement. The appetite for taking on additional burdens for the 2013-2020 period is likely to be low if other parties shirk their responsibility in Copenhagen. A breakdown will also increase the pressure from industry and some Member States to introduce a “carbon equalisation system” (border tax adjustment), an option that was included in the revised ETS Directive. The global climate stakes are thus very high in Copenhagen, as are the stakes for the

global trading system. The EU may be a vital leader on climate change, but it cannot move much faster than “competing” nations.

Second, to the extent that the “microcosm” analogue is valid, the analysis may give some insights on what elements are needed to conclude a comprehensive international agreement. The internal negotiations suggest that four ingredients are necessary to make any progress.

1. *Strong leadership*. In the EU this is provided by the Commission and some climate-conscious Member States in Northern Europe, with support from green members of the European Parliament. It is more difficult to see where this leadership will come from at the international level. The Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) does not have the executive powers of the European Commission, although it provides invaluable intellectual leadership together with the IPCC. The leadership must instead come from the parties themselves. It would be particularly valuable if some developing countries would step forward in order to break the unfortunate “North-South” divide. The EU example clearly shows that progress can only be made by a multi-polar effort that can speak both for and to different constituents. The Annex I countries cannot halt climate change alone.

2. An “equitable” *burden/effort sharing formula*. The first stabilization target of EU12 in 1990 was made possible because of the pledges of a handful of Member States. In particular Denmark and Germany had adopted national plans to reduce emissions 20/25 percent by 2000/2005. This allowed the less-developed Member States to take on a lighter burden in accordance with their social and economic needs, subject only to an undertaking to enhance their energy efficiency per unit of output. The burden-sharing dispute became more difficult under the Kyoto Protocol, requiring a reduction of the overall emissions by 8 percent. Member States that were not in a position to reduce emissions in absolute terms had to accept a cap on emission growth. The national assignments under the 1998 burden sharing agreement ranged from minus 28 percent for Luxembourg to plus 27 percent for Portugal. The latter, while being far more generous than any other Annex I country, represented a significant cut from the business-as-usual scenario. The sticking point of the internal negotiations was to find a formula that ensured some degree of “comparability of efforts”. A similar solution was used in the 2008 energy and climate package. The global burden sharing formula in Copenhagen would presumably have to be based on a similar equation, factoring in both per capita incomes and “comparability of efforts”.

3. *Financial support* for the less developed Member States to ease the transition to a low-carbon development path. The financing issue was solved in an ingenious way in the EU through redistribution of auction rights under the EU Emission Trading System. Specifically, 12 percent of the auction rights will be redistributed to the Member States in the lower income brackets. Some Member States will receive more than 50 percent more auction rights than their basic allocation (“needs”). The additional revenue may be worth 0.5 percent of GDP by 2020, depending on the market price of the allowances. The income transfer is earmarked for climate investments. The financing issue would also have to be solved at the global level. One could, for instance, consider a share of the revenue from a future global carbon market be set aside for mitigation and adaptation actions in developing countries, as within the EU. But a global carbon market is a long way off. In the meantime, the EU has proposed a formula for sharing financing burdens based on (a) ability to pay and (b) responsibility for emissions. It remains to be seen if such a formula, or version thereof, will be accepted in Copenhagen.

4. *Provisions that reduce competitiveness and climate leakage concerns*. This is bound to be a controversial issue in Copenhagen (and in the WTO), but there is no way around it. Competitiveness and carbon leakage concerns have been a restraining factor for the climate policy of the EU from

the early days in the 1990s. (It was also the reason why the US backed down from the Kyoto Protocol). In the absence of such concerns, the EU (and other Annex I parties) would have moved both faster and more forcefully, as explained by the President of the Commission, José Manuel Barroso, when introducing the energy and climate package to the European Parliament, “There is no point in Europe being tough [on itself] if it just means production shifting to countries allowing a free-for-all on emissions.” For its part, the EU left the option of a “carbon equalisation system” in the bottom drawer in wait for the outcome of Copenhagen, but it came at the cost of having to concede free allowances to sectors and sub-sectors exposed to a significant risk of carbon leakage. The forgone auction revenue would have gone a long way towards financing the EU’s contribution to international climate financing.

In the best of all possible worlds it is hoped that Copenhagen will be a success, with all parties making meaningful commitments in accordance with the principle of common but differentiated responsibilities. Auctions could then be phased in at a faster rate in the EU and other countries considering domestic cap-and-trade systems. Sharing of the revenue could be used to finance mitigation and adaptive actions in developing countries, which would reduce the cost for developing countries to undertake ambitious commitments quickly. There would also be no need to reach for the bottom drawer (border tax adjustments) with all the tensions it would create for the global trading system.

1. INTRODUCTION

*The Rapporteur believes that to date, politicians have failed miserably to respond adequately to the climate challenge and the 2°C target laid out so clearly in the peer reviewed scientific literature, the IPCC reports and in the Stern Review amongst others. This time we cannot be found wanting - our children, their children, depend on us.*¹

The international efforts to address climate change have so far produced very few measurable results. The institutional structure and principles for co-operation were laid down in the 1992 *UN Framework Convention on Climate Change* and some initial commitments were made under the 1997 Kyoto Protocol. Yet global emissions of greenhouse gases continue to rise. The reason, in a nutshell, is that too few countries have made too few commitments, reflecting the weak individual incentives to make sacrifices for the common good ("the tragedy of the commons").² The Kyoto Protocol regulates but a third of global emissions, and even if the US is re-engaged under the Obama administration, it will not suffice to offset the growing emissions of China, India and other developing countries that use fossil fuel as their primary source of energy. Climate change can only be addressed by a concerted effort of the entire world, in accordance with the principle of common but differentiated responsibilities.

The preparation for the climate summit in Copenhagen in December 2009 is now in full swing. The ambition is to conclude a comprehensive agreement entailing quantitative targets for industrialized and economically more advanced developing countries up to 2020, supported by financial commitments and a framework for transfers of technology to assist developing countries to adjust to a low-carbon development strategy. The EU was the first party to make a numerical offer for Copenhagen, announced at the Poznan Conference in December 2008. The offer entails an autonomous undertaking to reduce emissions by 20 percent by 2020

compared to 1990 levels, with a conditional offer of 30 percent "provided that other developed countries commit themselves to comparable reductions and economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities."³ The EU has also indicated a willingness to contribute €2-15 billion annually to support adaptation and mitigation actions in developing countries, although the exact number is yet to be fixed by the Council.⁴

Despite numerous challenges the EU has emerged as a leader on climate change. The EU was the first party to commit to a stabilization target in 1990. It assumed the toughest target under the 1997 Kyoto Protocol, and it has now made the most ambitious offer for Copenhagen. This leadership is intriguing in at least two ways. First, none of the Member States is large enough to influence the global emission trajectory in any significant ways, nor is the EU as a collective, as global emissions are growing faster than what the EU can offset alone. Collectively, the EU is responsible for 13.8 percent of the current emissions of greenhouse gases, with individual shares ranging from 0.01 to 2.8 percent.⁵ The individual incentive to make sacrifices for the common good is no stronger in the EU than elsewhere in the world. In fact, both the United States and China, representing about 20 percent each of global emissions, have a higher leverage over the climate.⁶ The EU leadership is intriguing also in that the Member States have a veto power over key aspects of the climate policy. The EU has no power under the Treaty over "provisions primarily of a fiscal nature" and "measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply." The EU cannot order the Member States to phase out fossil fuels in favour of renewable energies, nor can the EU impose a carbon tax or cap-and-trade system without the agreement of *all* Member States. Each and every Member State can thus, at least *in theory*,⁷ prevent progress in the climate area.

In spite of these obstacles the EU is playing a major role on climate change, especially after the abdication of the US during the Bush administration. This raises a number of questions that are of potential interest in the run-up to the Copenhagen summit. How has the EU overcome the collective decision-making problem? How did it deal with concerns regarding competition, carbon leakage and distribution of burdens among the Member States? How are these factors reflected in the EU's negotiation position for Copenhagen? Can the internal formula be elevated to the global level?

With these questions in mind, this study follows the paper trail of the *internal* climate change negotiations from the first stabilization target in 1990 to the adoption of the 2008 energy and climate package, which is the basis for the EU negotiations in Copenhagen. The analysis may be useful in two ways for climate negotiators and non-governmental organizations trying to influence the outcome of Copenhagen: *First*, the analysis will shed light on EU's position for Copenhagen, including constraints imposed by the internal decision-making rules. *Second*, to the extent that the "microcosm" analogue is valid, the analysis may give some guidance for Copenhagen. The internal negotiations suggest that four ingredients are necessary to make progress at the global level: (a) strong leadership; (b) a burden/effort sharing formula with differentiated obligations; (c) financial support to the less developed parties to ease the transition to a low-carbon development path;

and (d) provisions reducing the competitiveness and climate leakage concerns.

The outline of this paper is as follows: *Section 2* provides a brief institutional background on decision-making rules and environmental provisions of the Treaty. This section can be skipped without loss of continuity for readers already familiar with these subjects. *Section 3* traces the genesis of the common climate policy from the formulation of the first stabilization target in 1990 to the commitments made under the 1997 Kyoto Protocol, including the interlinked burden sharing agreements. *Section 4* reviews the considerable challenge of transposing targets to actions on the ground. The analysis covers the failed attempt to introduce a carbon tax in the Community and the birth of the Emission Trading System. It also reports on the somewhat dismal results thus far. *Section 5* outlines the initial consultations on the post-2012 climate strategy, including the widely divergent positions of various stakeholders and the eventual adoption of the future climate target in March 2007. *Section 6* provides an in-depth study of the political economy of the reforms of the ETS, including the influence exerted by industry and environmental NGOs. The focus is particularly on the issue of how the EU dealt with the interlinked issues of competitiveness and carbon leakage. *Section 7* outlines the effort-sharing agreement on greenhouse gas emissions not covered by the ETS. *Section 8* analyses the conditional 20/30 offer for Copenhagen. The *final* section draws some lessons for the international climate change negotiations.

2. INSTITUTIONAL BACKGROUND

2.1. The Birth of the Environmental Mandate

The original Treaty, signed in Rome 1957, did not include any environmental provisions, not even for trans-boundary pollution. The objective was to foster economic development and political unification of Europe through the means of economic integration.⁸ The environment entered the policy space in the 1970s both for economic and environmental reasons.⁹ Once the first phase the economic integration was completed in 1968, marked by the removal of internal tariffs between the Member States and the establishment of a common external tariff against other countries, the attention shifted to national regulations. The legal basis for these actions was Article 100, which provided that “[t]he Council, acting by means of a unanimous vote on a proposal of the Commission, shall issue directives for the approximation of such legislative and administrative provisions of the Member States as have a direct incidence on the establishment or functioning of the Common Market.” This opened an indirect route to address environmental problems, which had grown in the footsteps of the economic advances of the EC, through “common market legislation”. The first application was the 1970 Directive on the approximation of the laws of the Member States on measures to be taken against air pollution by emissions from motor vehicles.¹⁰ A further step was taken in 1973 when the Member States agreed to inform the Commission of regulatory measures on the drafting board.¹¹ The purpose was to give the Commission the possibility to forestall potentially-conflicting national regulations by proposing Community legislation in this area. Over time, this resulted in a mass of “environmental” legislation in areas such as air and water quality, hazardous chemicals, waste control and animal welfare.

2.2 The Current Regime

The current regime was established by the *Maastricht Treaty*, effective on 1 November 1993. The environmental mandate was extended to *promotion of measures at the international level to deal with regional or worldwide environmental problems*. This extension confirmed the *de facto* mandate already enjoyed by the EC. The decision-making was also streamlined by introducing *qualified*

The establishment of indirect environmental competence through the means of common market legislation also had repercussions for international treaty-making. In a landmark ruling in 1971, the European Court of Justice pronounced that the *internal* and *external* competences were intrinsically linked.¹² The judgment extended the treaty-making power of the European Economic Community (EC) - as it was referred to before the 1993 treaty of Maastricht - from policy areas expressly conferred by the Treaty to *any* area where common rules had been laid down by the Community institutions. This opened the door for the EC to become a party in its own right alongside the Member States in international conventions such as the Convention on Long-range Trans-boundary Air Pollution and the Vienna Convention for the Protection of the Ozone Layer (the precursor to the Montreal Protocol).

Little by little, the EC gained a *de facto*, if not *de jure* competence over environmental affairs. However it was not until the adoption of the *Single European Act* in February 1986, effective on 1 July 1987, that the Community was granted an express mandate by the Treaty shared with the Member States (“mixed competence”). It was not an open invitation, however. *Article 130r* restricted legislative initiatives to areas where the objectives “can be attained better at Community level than at the level of the individual Member States”.¹³ The target was above all pollutants that crossed national borders. As a further check against initiatives that intruded on the national self-determination, the Member States retained the veto power in the Council.¹⁴ Also international environmental agreements entered by the EC had to be adopted by a unanimous decision of the Council.¹⁵

majority decisions in the Council, with the notable exception of “provisions primarily of a fiscal nature” and “measures significantly affecting a Member State’s choice between different energy sources and the general structure of its energy supply”. The EU can thus not order the Member States to phase out fossil fuels in favour of renewable energies. Nor can the EU impose a carbon tax or cap-and-trade

system without the agreement of *all* Member States. Another perhaps even more significant change was the extended powers of the European Parliament which previously only had a consultative role. The legislative function was now to be shared equally between the Council and the Parliament under the new co-decision procedures (Article 251), requiring the two legislative bodies to agree on a common text to become law.

In terms of substantive provisions, the Community policy on environment shall aim at a *high level of protection* based on the principles of *precaution* and *polluters pay* (Art. 174(2-3)). At the same time, it should take into account the *diversity of economic and social conditions* in different parts of the Community (Art. 174(2) and (3)). Specifically, without prejudice to the principle that the polluter should pay, if a measure involves costs deemed disproportionate for the public authorities of a Member State, the

Council shall, in the act adopting that measure, lay down appropriate provisions in the form of *temporary derogations* and/or *financial support* from the Cohesion Fund (Art. 175(5)).

These provisions are the counterpart of the UNFCCC principle of “common but differentiated responsibilities and respective capabilities”. Environmental ends must be weighed against economic and social ends, and priorities vary within the Community. It is therefore necessary to lay down provisions for temporary derogations and/or financial support in order to make any progress. This goes to show that environmental policymaking in the Community is not much different than at the international level, although the *order* of the problem is certainly less. While the 27 Member States are relatively heterogeneous in terms of income levels, economic structure and dependency on fossil fuel: these differences are arguably less than at the international level.

Box 1. Treaty Provisions (excerpts)

Article 174

1. Community policy on the environment shall contribute to pursuit of the following objectives:
 - preserving, protecting and improving the quality of the environment
 - protecting human health
 - prudent and rational utilization of natural resources
 - promoting measures at the international level to deal with regional or worldwide environmental problems.
2. Community policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.
3. In preparing its policy on the environment, the Community shall take account of:
 - available scientific and technical data
 - environmental conditions in the various regions of the Community
 - the potential benefits and costs of action or lack of action
 - the economic and social development of the Community as a whole and the balanced development of its regions.
4. Within their respective spheres of competence, the Community and the Member States shall cooperate with third countries and with the competent international organizations. The arrangements for Community cooperation may be the subject of agreements between the Community and the third parties concerned, which shall be negotiated and concluded in accordance with Article 300.

The previous subparagraph shall be without prejudice to Member States' competence to negotiate in international bodies and to conclude international agreements.

Box 1. Continued**Article 175**

1. The Council, acting in accordance with the procedure referred to in Article 251 and after consulting the Economic and Social Committee and the Committee of the Regions, shall decide what action is to be taken by the Community in order to achieve the objectives referred to in Article 174.
2. By way of derogation from the decision-making procedure provided for in paragraph 1 and without prejudice to Article 95, the Council, acting unanimously on a proposal from the Commission and after consulting the European Parliament, the Economic and Social Committee and the Committee of the Regions, shall adopt:
 - (a) provisions primarily of a fiscal nature;
 - (c) measures significantly affecting a Member State's choices between different energy sources and the general structure of its energy supply.
5. Without prejudice to the principle that the polluter should pay, if a measure based on the provisions of paragraph 1 involves costs deemed disproportionate for the public authorities of a Member State, the Council shall, in the act adopting that measure, lay down appropriate provisions in the form of:
 - temporary derogations, and/or
 - financial support from the Cohesion Fund set up pursuant to Article 161.

2.3 The Legislative Process (Co-decision)

The *legislative initiative* rests with the Commission, sometimes acting on requests from the legislators.¹⁶ The process typically starts with a "Green Paper" or "White Paper" outlining the issues, motivation and proposals.¹⁷ Comments are then invited from the Member States and other stakeholders, including industry, trade unions and civil society. The draft legislative proposal is then submitted to the Council and the European Parliament, inviting opinions also from the Economic and Social Committee and the Committee of the Regions.¹⁸

The proceedings of the European Parliament are led by a "Rapporteur" or Co-Rapporteurs, if the legislative initiative covers different policy areas. The Committees are composed of MEPs from the seven political groups in the Parliament. The Committees scrutinize the proposals and suggest amendments. The draft legal resolution, as amended by the Committee(s), is then put before the full plenary session for a first reading, where further amendments may be introduced and voted on. Decisions are taken by a (simple) *majority* vote. The dossier is then passed on to the Council.

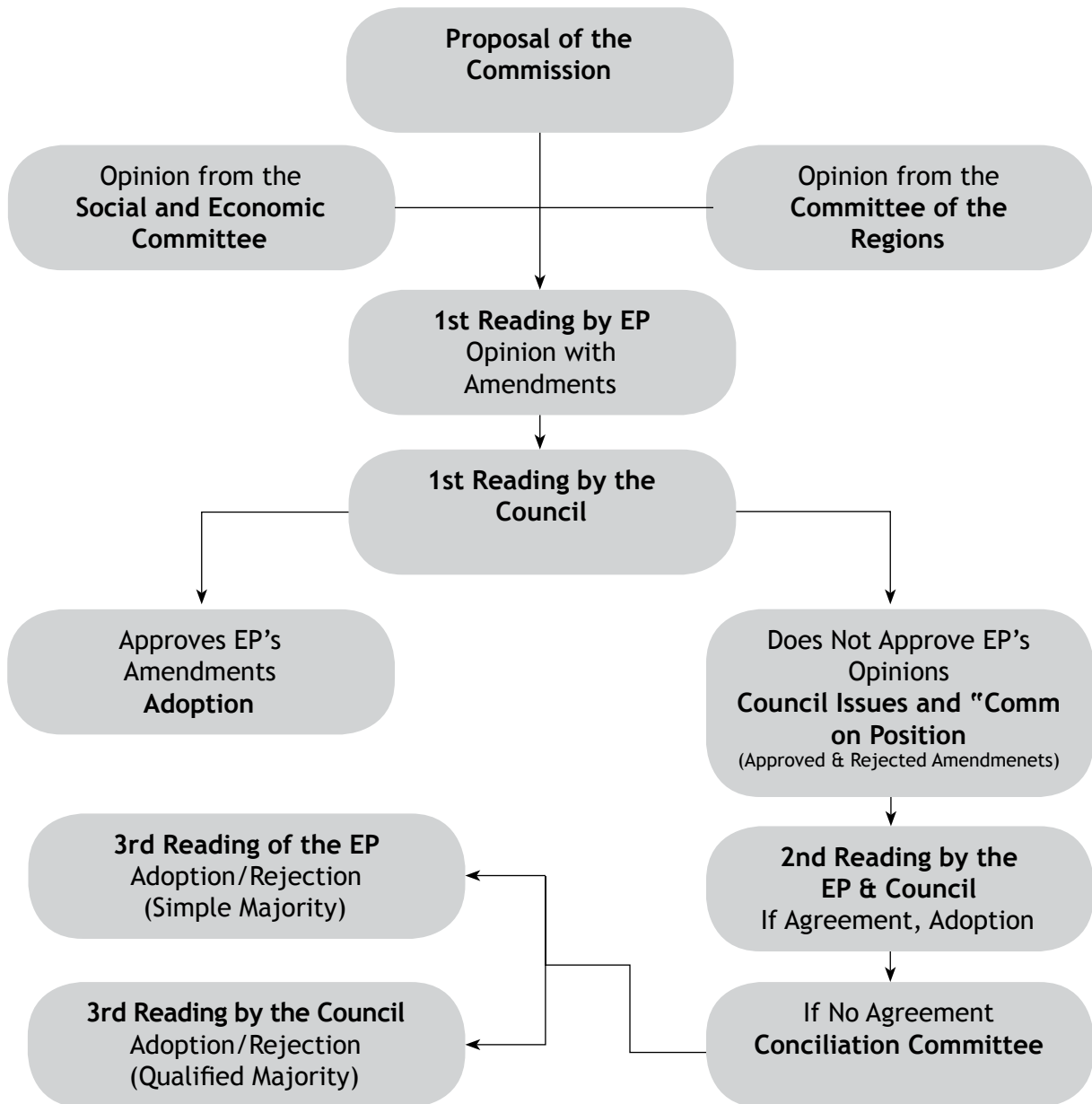
The proceedings of the Council of the European Union, also known as the Council of Ministers or simply the Council, are similar.¹⁹ The dossier is first referred to a working party with delegates from each Member State. Issues that cannot be solved at the "technical" level are referred to the EU ambassadors in the Committee of Permanent Representatives (COREPER), which have more leverage to make difficult compromises. The compromise is then forwarded to the Council for formal decision, indicating unresolved issues ("B-points") that need to be discussed at the table. If the Council agrees with the amendments proposed by the Parliament, it is adopted at the first reading. Decisions are taken by a *qualified majority*,²⁰ apart from fiscal measures and energy policy that belong to the national competence. If the Council does not agree with the European Parliament, it issues a "common position" that indicates areas of agreement and disagreement. The common position is then referred back to the Parliament for a second reading.

If the two legislators are unable to reach agreement after the second reading, a *conciliation committee* is formed to bridge the gap, which is

then voted on a final time after a third reading in the respective bodies. Both the Parliament and the Council have power to reject a proposal either at second reading or in third reading,

causing the proposal to fall. The Commission may also amend or withdraw a proposal at any time if it does not agree with the turn the issue takes in the legislative bodies.

Figure 1. The Legislative Process (Co-decision)



2.4 Implications for International Negotiations

As evident from the above sketch of the co-decision procedure, it is a long and trying process to shape environmental policy at the Community level. It may take years from the proposal of the Commission to the final passage of the legislative act, as amended by the Council and the Parliament. The final acts are carefully-balanced compromises between various interests

in the Community. Once a compromise is reached, it cannot easily be changed. This also means that the room for manoeuvre in international negotiations is limited since the treaty will have to be ratified using the same co-decision procedure. Moreover, since environmental protection is a mixed competence, international treaties must be ratified by the Member States also.

3. THE GENESIS OF THE COMMON CLIMATE POLICY

3.1. Brussels, We Have a Problem

The potential hazards of a changing climate were brought to the attention of EC policy makers in the late 1970s. To learn more about the problem and the risk involved for the Community, the Council agreed to fund a common research programme over the EC budget.²¹ The research programme covered both evidence and projections of climate change and the potential impact on various sectors of the economy. The internal research programme played a key role in building a common understanding of the problem.

The first institution to run with the issue was the European Parliament, which in 1986 passed a resolution calling on the Community to take actions to counteract the rising concentration of carbon dioxide in the atmosphere.²² It took another three years of deliberations in the shadow of international climate conferences before the Council was ready to act. In a 1989 resolution, the Council acknowledged the evidence of anthropogenic (man-made) climate change and the need of the Community and the Member States to play their full part in the definition and implementation of a global response.²³

The urgency of the matter was further underscored in 1990 when the *Intergovernmental Panel on Climate Change (IPCC)*²⁴ issued a consensus view among scientists that human emissions were at least partly responsible for the observed climate change. This report was taken to heart by the EU heads-of-state, which at the Dublin summit in June 1990 issued a declaration - *The Environmental Imperative*²⁵ - urging all countries to introduce extensive energy efficiency and conservation measures and to quickly adopt targets and strategies for limiting emissions of greenhouse gases. The European Council recognized that the Community and its Member States had a special responsibility, as one of the foremost regional groupings in the world, to encourage and participate in international actions to combat global environmental problems. It further recognized that the Community's credibility and effectiveness at the global level depended in large part on the ability to adopt progressive measures at home. Towards this end, the European Council called on the Commission to expedite proposals for concrete actions, in particular measures relating to CO₂ emissions, with a view to establish a strong Community position for the Second World Climate Conference in Geneva that fall.

3.2. The October 1990 Stabilization Target

The Commission had circulated some preliminary thoughts on targets and measures earlier that year, including a proposal to stabilize CO₂ emissions by 2000 at the 1990 level. This was to be achieved by measures promoting energy efficiency and carbon taxes.²⁶ However, these ideas enjoyed nowhere near unanimous support in the joint energy and environment Council that owned the issue. Moreover, a formula had to be worked out for the internal burden-sharing. Uniform undertakings were not acceptable for the less-developed Member States, which feared it would jeopardise their growth prospects. It quickly became clear that it would not be possible to agree on all elements of the strategy before the start of the international climate conference that was only 4 months away.

The situation in the Community at this time was that only a handful of the Member States had concrete plans for addressing climate change, and fewer still had any policy measures in place. The frontrunners were Denmark and Germany which aimed for a reduction of CO₂ emissions in the order of 20/25 percent by 2000/2005. Italy was also discussing targets in this range but no decision had been taken. The Netherlands was aiming at a reduction of 3-5 percent. Belgium, France and the UK were considering stabilization by the end of the century. Luxembourg was still to develop a climate policy. Spain had taken a decision that CO₂ emissions should grow by no more than 25 percent between 1990 and 2000. Greece, Ireland and Portugal had no plans to limit CO₂ emissions, nor did they think they had

the same responsibility as others, being less-developed economies (“Cohesion countries” in the EC parlour) with relatively low per capita emissions. Their emissions must be allowed to grow over the medium run in order to give room for social and economic development.

After long deliberations in the joint energy and environment Council, the ministers announced on the opening day of the *Second World Climate Conference* (29 October, 1990) that they had agreed on a common target for the Community.²⁷ Specifically, assuming that other leading countries would undertake commitments along the same lines, the European Community and Member States were willing to take actions aimed at reaching stabilization of the total CO₂ emissions by 2000 at 1990 levels in the Community as a whole. The Council conceded that not all Member States were in a position to stabilize national emissions at this stage. Member States which started from relatively low levels of energy consumption and therefore low emissions on a per capita or other appropriate basis, were entitled to have CO₂ targets and/or strategies corresponding to their economic and social development, while improving the energy efficiency of their economies.²⁸ The community-wide stabilization target would thus require emission cuts by the Member States in the upper income bracket in order to offset the anticipated growth of emissions in the lower income bracket.

The Council also agreed on a mandate for the upcoming climate conference in Geneva. The

objectives should be to secure a Declaration recognizing:

- (1) the *scientific evidence* presented by the IPCC of a climate effect of human emission of greenhouse gases
- (2) that industrialized and developing countries have a *common but differentiated responsibility* of dealing with this problem
- (3) the need to assist developing countries to play their full part in an international response through *financial assistance and transfer of environmentally sound technologies*
- (4) a recommendation to commence negotiations of a *framework convention on climate change* and related protocols.

As one observer noted, “the first goal-formulating phase progressed remarkably smoothly.”²⁹ However, behind the surface were many unresolved issues. Nothing had been agreed on the individual responsibilities of A, B and C, only that they had a collective, albeit differentiated, responsibility to make good on the joint commitment to stabilize the CO₂ emissions of the Community as a whole by 2000. As noted in an explanatory statement, the agreement was above all motivated by the need to establish a Community position for the Second World Climate Conference and secure a launch of the negotiations on a framework convention on climate change. This mission was accomplished by brushing aside the “details”.

3.3. Postscript (The UN Framework Convention on Climate Change)

Negotiations on what became the *UN Framework Convention on Climate Change* (UNFCCC) were launched in December 1990 by the UN General Assembly. The Convention was adopted on 9 May 1992, and opened for signature a month later at the UN Conference on Environment and Development in Rio de Janeiro, Brazil. It entered into force on 21 March 1994, after receiving the requisite 50 ratifications. The Convention has, as of September 2009, been ratified by 193 parties - including the EC that is a party in its own right alongside the Member States. The ultimate objective is

“stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”.³⁰ The Convention calls on the parties to cooperate with each other “on the basis of equity and in accordance with their *common but differentiated responsibilities and respective capabilities*. Accordingly, the developed country Parties [identified in Annex I of the Convention] should take the lead in combating climate change and the adverse effects thereof.”³¹ [Italics and comments added].

The Convention was ratified by the EC in December 1993, accompanied by the following declaration:

The European Economic Community and its Member States declare that the commitment to limit anthropogenic CO₂ emissions set out in article 4(2) of the Convention will be fulfilled in the Community as a whole through action by the Community and its Member States, within the respective competence of each.

In this perspective, the Community and its Member States reaffirm the objectives set out in the Council conclusions of 29 October 1990, and in particular the objective of stabilization of CO₂ emission by 2000 and 1990 level in the Community as a whole. The European Economic Community and its Member States are elaborating a coherent strategy in order to attain this objective.³²

No other party submitted a quantitative target.

3.4. Negotiating Commitments for the Kyoto Protocol

The parties to the UNFCCC reassembled in Berlin in 1995 to evaluate the progress (and lack thereof) and decide on the next step. The very first decision taken by the Conference of Parties (COP-1) was the "Berlin Mandate", calling on the Annex I parties to set quantified limitation and reduction objectives within specified time-frames, such as 2005, 2010 and 2020, for their emissions, by sources and removals by sinks of greenhouse gases.³³ The EC entered these negotiations with the ambition of setting the world on a path that would prevent the mean global temperature to rise by more than 2°C above the preindustrial level,³⁴ which at the time was believed to require a 50 percent reduction of global emissions over the long run.³⁵ The first step was to agree on an intermediate target for the period up to 2010.

It soon became clear that the Community target and the burden sharing had to be negotiated in tandem.³⁶ The joint target could be no more than what the Member States were willing to concede. The starting point for the discussions was the national targets adopted by the Member State, which varied considerably in ambition (Table 1). For CO₂ emissions they ranged from minus 25 percent by 2005 from 1990 level for Germany to plus 40 percent by 2000 from 1990 level for Portugal. The Netherlands also had self-imposed targets for methane (CH₄) and nitrous oxide (N₂O) and Sweden for methane from landfills, whereas the UK stabilization target was set in relation to total GHGs. The French stabilization target differs from the others in that it was defined on a per capita basis.

Table 1. Climate policy targets of EC member states in 1995

| Member State | GHG | Target and Year |
|--------------|--------------------------------|-------------------------------|
| Germany | CO ₂ | - 25% from 1990 by 2005 |
| Austria | CO ₂ | - 20% from 1988 by 2005 |
| Denmark | CO ₂ , energy-based | - 20% from 1988 by 2005 |
| Luxembourg | CO ₂ | - 20% from 1990 by 2005 |
| Belgium | CO ₂ | - 5% from 1990 by 2000 |
| Netherlands | CO ₂ | - 3-5% from 1989-1990 by 2000 |
| ... | CH ₄ | - 10% from 1990 by 2000 |
| ... | N ₂ O | ± 0% from 1990 by 2000 |
| Finland | CO ₂ , energy-based | ± 0% from 1990 by 2000 |
| Sweden | CO ₂ | ± 0% from 1990 by 2000 |
| ... | CH ₄ from landfills | -30% from 1990 by 2000 |
| Italy | CO ₂ | ± 0% from 1990 by 2000 |

Table 1. *Continued*

| Member State | GHG | Target and Year |
|--------------|--------------------------------|------------------------------------|
| UK | GHG total | ± 0% from 1990 by 2000 |
| France | CO ₂ per capita | Maintain max 7.33 tonne per capita |
| Greece | CO ₂ | + 15% from 1990 by 2000 |
| Ireland | CO ₂ | + 20% from 1990 by 2000 |
| Spain | CO ₂ , energy-based | + 25% from 1990 by 2000 |
| Portugal | CO ₂ | + 40% from 1990 by 2000 |

Source: Ringius (1999), table 2.

CO₂ = carbon dioxide, CH₄ = methane, N₂O = nitrous oxide

The problem with the national targets was that they were *self-imposed* and in many cases lacking in ambition. They did not add up to any significant reductions in the overall emissions of the Community, thereby undermining EC's standing in the international negotiations. Nobody suggested that everyone would have to take on the same burdens, nor was it acceptable that Member States set their own goals. The responsibility for the climate was common, albeit differentiated. The burden sharing agreement had to be based on some notion of "comparability of efforts", taking due account of the diverging national circumstances.

3.4.1. The Triptique Approach³⁷

After two years of fruitless deliberations in the Council, an energy expert group was called in from Utrecht University to facilitate the discussions. They proposed that the national targets should be built from the bottom-up, with common targets at the sector level. This approach would be neutral with respect to the composition of the economy and energy supply, thereby ensuring "comparability of efforts" between the Member States.

Specifically, they proposed a division of the economy into three broad sectors: (1) the light domestic sector; (2) the energy-intensive, export-oriented sector; and (3) the power generation sector. The proposed target for the first sector was convergence of per capita emissions of this sector by 2030, with some allowances for differences in the climate. The target for the energy-intensive, export-oriented sectors was x percent (to be

negotiated) annual improvement in the energy efficiency. The target for the power generating sector was more difficult to define in a way that ensured "comparability of efforts" since the energy systems were so different. Some Member States generated virtually all electricity from fossil fuel while others had a high share of hydroelectric and/or nuclear power. Moreover, energy was a "national competence" that could not be regulated at the Community level without a unanimous decision by the Council. They therefore suggested a flexible approach with a combination of several targets, including targets for how fast the electricity consumption was allowed to grow and targets for fuel shifting from fossil to renewable energy. The "Cohesion countries" (Greece, Ireland, Portugal and Spain) were allowed to grow their electricity consumption at a faster rate than the others to create more leeway for social and economic development.

The Triptique approach created an automatic link between the overall Community target and the national sub-targets. Specifically, for a given Community target defined by the Council, the burdens would be shared out among the Member States according to the Triptique formula. While the proposal was welcomed by the Member States as a valuable discussion input, none were ready to accept the proposal *in verbatim* without knowing the consequences for their own economies. Several examples were presented to the Member States under different assumptions of the Community target and parameterization of the model, but none were acceptable to all.

3.4.2. The 10/15 Compromise

The EC was working against the clock. It was late making a concrete proposal for the Kyoto Conference, as were other parties. The EC urgently needed an internal agreement on a number to bring to the negotiation table, and it had to be ambitious enough to set the tone. If the EC would forward a cautious bid, everyone else would in all likelihood follow the lead.

The Member States were divided into three camps.³⁸ The “rich and green” camp - comprised of Austria, Denmark, Finland, Germany, the Netherlands and Sweden - pushed for a Community target of 15 reductions of GHG emissions by 2010. They were also ready to take on a disproportionate share of the burden, with national targets in the 20-25 percent range. The “rich but less green” camp comprised of Belgium, France, Italy, Luxembourg and the UK pledged that the target had to be feasible. Their self-imposed national targets were also less ambitious, ranging from a reduction of 5 percent to stabilization at the 1990 level. The

“poorer and least green” camp was made up of the four Cohesion countries - Greece, Ireland, Portugal and Spain. Their national plans and projections indicated that their emissions would continue to grow by a few percent annually over the foreseeable future. The common EC target would have to make room for the projected growth of their emissions.

Adding up the national pledges and emission projections, the EC could at best submit an offer to reduce emissions by 10 percent, which the “rich and green” group believed was inadequate. The compromise proposed by the Danish environment minister, Svend Auken, was to make an official offer of 15 percent reduction by 2010, but only sharing out 10 percent among the Member States beforehand. The residual 5 percent would be shared out after the conclusion of the Kyoto Protocol. In all likelihood, this would not be necessary since the EC offer was conditional on similar undertakings by other Annex I parties. And there were no indications that others were willing to match the 15 percent bid.

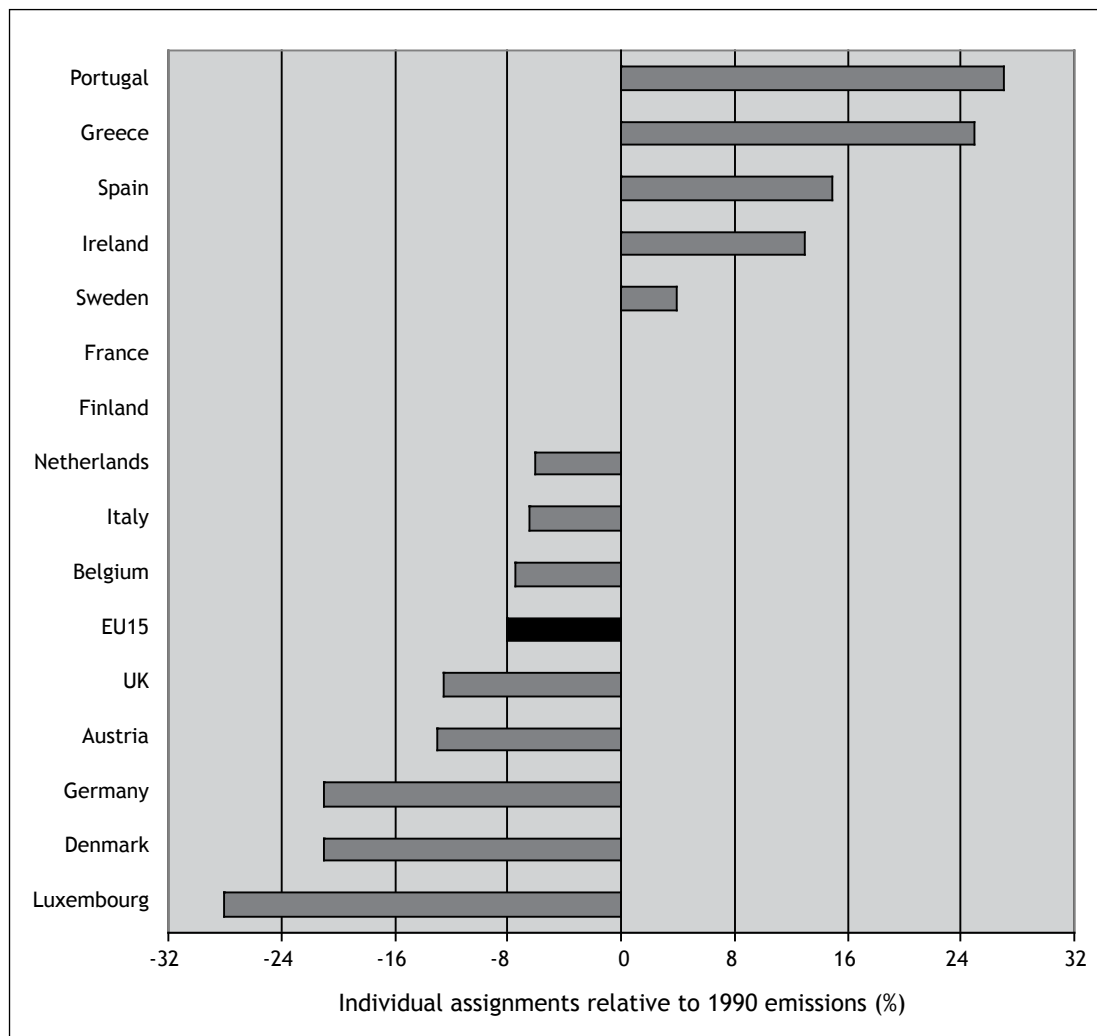
3.5. The Burden Sharing Agreement

As anticipated, no other Annex I party was willing to go to 15 percent, and the EC retreated to a final offer of 8 percent in the Kyoto Protocol; still being 1 percentage point higher than the commitment undertaken by the second most ambitious offer by the United States. The commitments of the other parties ranged from minus 6 percent for Japan up to plus 10 percent for Australia and Iceland. If fully implemented, the collective emissions of the Annex I parties would fall by 5.2 percent by 2008-2012 relative to the 1990 baseline.

The EC thus faced an international obligation to reduce emissions by 8 percent relative to 1990 levels by 2008-2012. The Kyoto Protocol was also signed by the 15 Member States, each making a *notional* commitment to reduce emissions by 8 percent. However, the EC had made it clear that it intended to exercise the right under Article 4 (“the bubble provision”), which allows parties with a regional emission cap to redistribute the individual assignments between themselves as

they see fit. The individual commitments were therefore provisional pending the conclusion of the internal burden sharing agreement.

The final burden sharing agreement was negotiated behind closed doors in the Council in 1998. Since there are no public records of the deliberations, we have no information of what considerations went into the final deal. The outcome suggests that per capita income was an important criterion, but also some notion of “comparability of efforts” (the Triptique approach). The individual assignments in the final deal ranged from minus 28 percent for Luxembourg to plus 27 percent for Portugal.³⁹ While the less developed Member States of the EC were given a much lighter load than Annex I parties outside the EC, they were forced to concede some grounds relative to the national plans. For example, Portugal had to back from the self-imposed target of max 40 percent emission growth (See Table 1) to max 27 percent.

Figure 2. The Burden Sharing Agreement Attached to the Kyoto Protocol

3.6. Postscript (The Kyoto Protocol)

The Kyoto Protocol came into effect in February 2005 after a considerable struggle. It had to be ratified by 55 parties to enter into force, accounting for at least 55 percent of the total greenhouse gas emissions of the Annex I parties.⁴⁰ By March 2001, 33 parties had completed the ratification, but only *one* Annex I party with *binding* obligations.⁴¹ The ratifications were held up by the hesitation of the United States. President Bill Clinton and Vice-President Al Gore strongly endorsed the Protocol but could not get it through the Senate. The *Byrd-Hagel Resolution*⁴² adopted with a resounding 95-0 vote, reflected a bipartisan concern that a treaty exempting developing countries would threaten US jobs and have little impact on global emissions because of the anticipated relocation of energy-intensive industries to countries without binding

obligations ("carbon leakage").⁴³ On 16 March 2001, the newly elected President Bush decided to withdraw from the Protocol.⁴⁴ Australia also decided to back down after the US decision.

The abdication of the US and Australia put the other Annex I parties in a precarious situation - the US alone making up 36 percent of the Annex I emissions and Australia 2.1 percent. The Protocol would fall if the participation dropped below the 55 percent threshold. Some adjustments had to be made in order to keep the alliance together, including a decision to allow a greater share of national obligations to be satisfied through climate-related investments in developing countries under the CDM.⁴⁵ The rules for reforestation and afforestation emission credits ("carbon sinks") were also clarified, if not watered out.⁴⁶ What

finally tipped the balance was a side-agreement between the EC and Russia, whereby the EC agreed to support Russia's bid to become a member of the World Trade Organization (WTO) in exchange for Russia's ratification of the

Kyoto Protocol.⁴⁷ The Kyoto Protocol entered into force on 16 February 2005, covering but a third of the global emissions of greenhouse gases after the abdication of the United States and Australia.

4. FROM TARGETS TO ACTIONS

4.1. The failed Proposal for a Carbon Tax and the eventual Adoption of a common Framework for the Taxation of Energy Products and Electricity

After the target had been set by the Council in 1990 (stabilization of CO₂ emissions at 1990 levels by 2000), the Commission began the search for suitable policy instruments that could be implemented at the Community level. The first choice fell on a tax on CO₂ emissions and fossil energy (carbon tax).⁴⁸ Since taxes were (and still are) a *national competence*, the Commission proposed a "harmonized introduction" of a carbon tax on fossil fuel intended for heating, transportation and generation of electricity. The tax rate was proposed to be ECU 2.81 per tonne of carbon dioxide plus ECU 0.21 per gigajoule of energy content.⁴⁹

The reception in the Community was, at best, mixed. Apart from the reluctance to surrender sovereignty in the tax area, the sticking point was the impact on energy-intensive industries. In the explanatory memorandum, the Commission acknowledged that:

In using taxation as an instrument for combating the greenhouse effect, the Community nevertheless has to contend with specific constraints, namely the problems of competitiveness that can arise where the additional cost incurred by Community operators employing energy-intensive processes leaves them vulnerable, on their markets both within the Community and outside, to competitors operating from countries that do not levy equivalent taxes. Care must be taken here to ensure that the introduction of the CO₂/energy tax does not have an adverse effect on growth, investment and employment. Steps must also be taken to avert the risks of European industries being tempted

*to relocate to third countries where environmental standards are less stringent than in the Community.*⁵⁰

The Commission accordingly proposed that the introduction of the carbon tax was conditional on similar measures being introduced by other OECD countries.⁵¹ The proposal also included special safeguards for energy-intensive industries that made it possible for the Member States, after authorization from the Commission, to adjust the tax rates in the event of an import surge from countries without similar carbon taxes.

Following the deadlock in the Council on the 1992 proposals, the Commission submitted an amended proposal in 1995 with further flexibilities, which was again rejected by the member states.⁵² The third proposal submitted in 1997 included minimum taxes like the two dismissed proposals before it.⁵³ However, it was cast in a different way as a means for improving the functioning of the Single Market. As stressed in bold letters in the explanatory memorandum, "It does not introduce a new tax, but aims to establish a new Community framework for the taxation of energy products which makes it possible to restructure national tax systems and to better attain national objectives of employment, environment, transport and energy policy, while respecting a key Community achievement: the Single Market". This argument struck a better note, although it still took six years to finalize the agreement. The Council Directive 2003/96/EC, as amended by the co-legislators, was adopted in October 2003 and entered into force on 1 January 2004.⁵⁴ The key

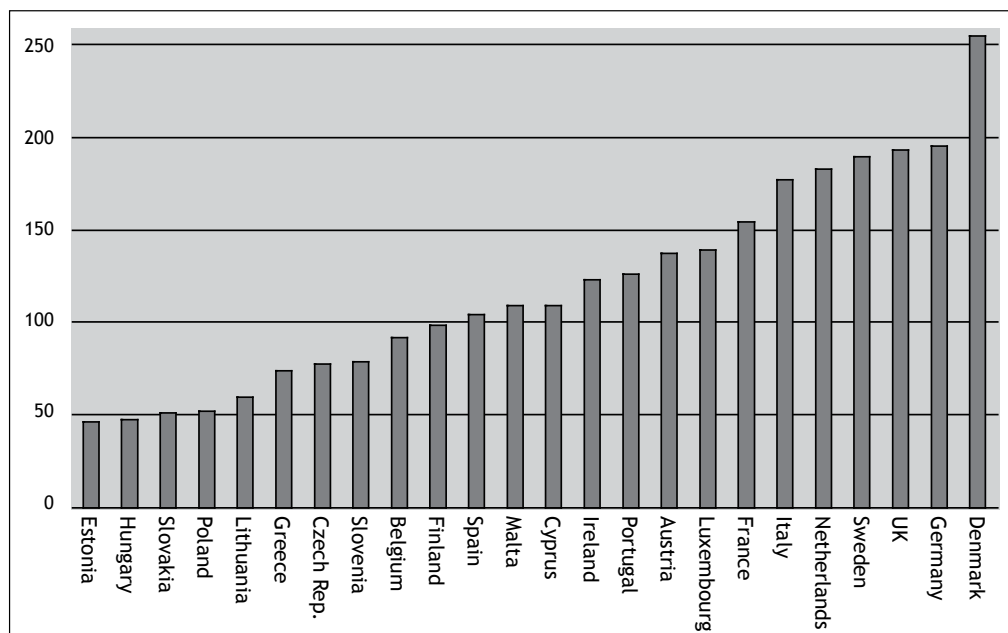
element is minimum taxes on energy products with the possibility to impose lower rates on *business use* than on *non-business* use. Whereas the Member States are given large flexibility to decide their own tax rates, they are required to inform the Commission on the rates they apply, especially those regarding tax exemptions, tax reductions, tax differentiation and tax refunds which might constitute *state aid* and distort the competition in the internal market.

The latest compilation of the applied tax rates (as of January 2009) shows that there are still large differences between the Member States.⁵⁵ For example, the excise taxes on unleaded petrol vary from 0.3 Euro/litre in Cyprus to 0.7 Euro/litre in the Netherlands.⁵⁶ Another example is the excise taxes on coal and coke for heating (business use) that varies from 0.15 Euro/gigajoule in Estonia, Lithuania and Romania (the minimum rate) to 10.7 Euro in Sweden. The tax compilation also shows that business rates are regularly lower than non-business rates. For example, the excise tax on electricity for businesses in northern Sweden (where most energy-intensive industries are located) pay only the minimum rate of 0.50 Euro/MWh compared to the 28.99 Euro/MWh tax rate applied to household electricity. Degressive tax rates are another means of giving a break to energy-intensive industries. A

case in point is the Netherlands which imposes a tax of 108 Euro/MWh for the first 10 units, falling in increments to 0.5 Euro/MWh for units above 10000 MWh a year; thus benefitting large, industrial users of electricity.

Thus, in spite of the minimum tax directive, the Community is a long way from a uniform application, both across Member States and sectors of the economy. The *implicit tax rate on energy* in 2006, calculated by EUROSTAT as the ratio of energy tax revenues to final energy consumption in tonnes of oil equivalent, ranged from €50 in Estonia, Hungary, Slovakia and Poland to €250 in Denmark, i.e., a factor of 5 between the lowest and highest tax jurisdiction. (See Figure 3). That being said, the minimum tax directive has led to some convergence, even if new Member States (acceding in 2004 and 2007) and old Member States in the lower income bracket have chosen rates *at or close to* the minimum level to remain attractive for business investments. The coefficient of variation has fallen from 61.2 percent in 2000 to 48.7 percent in 2006. The results of the tax reforms are thus at best mixed, which is not surprising given the differences in energy composition (the new Member States rely heavily on coal, as do some of the old) and the fact that fiscal measures and energy policy are a national competence.

Figure 3. Implicit Tax rate on Energy in 2006
(Ratio of Energy Tax Revenues to Final Energy Consumption)



4.2. The Birth of the Emission Trading System

While a carbon/energy tax was the first choice of the Commission, the uncertain prospect that it would be accepted by all Member States forced the Commission to consider other options to meet the Kyoto obligations. Inspiration was found in the US emission trading system on sulphur dioxide (SO₂) established in 1990. In March 2000 the Commission issued a Green Paper⁵⁷ outlining a prospective cap-and-trade system for greenhouse gases. In order to avoid the debacle

with the carbon/energy tax, a consultative group was established (the European Climate Change Programme) with national experts and representatives from industry and civil society to deliberate the issue.⁵⁸ This turned out to be a winning concept.

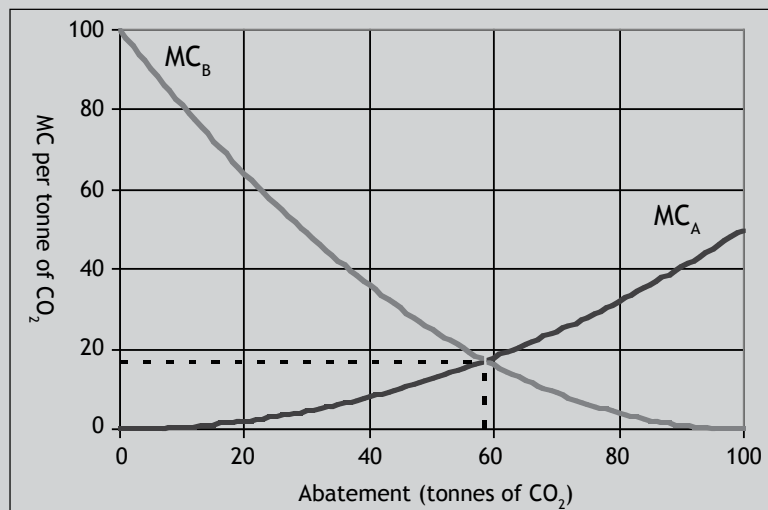
In the final report the consultative group recommended that emission trading start as soon as practicable, even before the 2008-

Box 2. The Principles of the ETS

The ETS is a cap-and-trade system with an overall emission bound ("cap") and free trade of emission allowances between the covered installations. Provided that the aggregate cap is less than what the covered installations need, there will be a shortage in the market and hence an incentive to invest in cleaner technologies. The difference between a cap-and-trade system and direct regulation is that the market decides *where* to abate in a cap-and-trade system. Firms that face high costs to reduce emissions may buy unused allowances from firms with lower marginal abatement costs. In equilibrium, each firm will abate up to the point where the marginal abatement costs equal the market price of the allowances.

The basic principle is illustrated below for a stylized example with two firms and a cap that creates a shortage of 100 tonnes of CO₂ at given technologies and demand for the industry's output. The marginal abatement cost is rising for both firms but, by assumption, at a slower rate for firm A (measured rightward from 0) than for firm B (measured leftward from 100). In equilibrium, A abates 58 tonnes and B 42 tonnes. The marginal abatement cost (= market price for allowances) is 17 Euro per tonne of CO₂.

ETS With Two Installations



The direction of the carbon trade is determined by the marginal abatement costs and the initial allocation of emissions rights. For example, if the allocation is such that both installations are 50 tonnes short of their needs at the outset, A will abate 58 tonnes and sell the 8 tonnes surplus to B (who abates 42 tonnes). The initial distribution does not affect the efficiency of the carbon market ($MC_A = MC_B$). However, it does affect the *distribution of the proceeds*. Firms will always prefer to have more allowances than less, both as a precaution for unexpected internal needs and to capitalize on the market value of the surplus. This means that firms have an incentive to overstate their needs to the issuing authority, a problem that is avoided if the allowances are auctioned instead of allocated for free.

2012 commitment period of the Kyoto Protocol in order to gain experience.⁵⁹ The report stressed that emission trading would reduce the overall costs of compliance with the Kyoto commitments, both to Member States and to European businesses, compared to other alternatives. At the same time, the report advocated that the Member States should be allowed to choose their own methods of allocation, including free allowances to covered installations based on past emissions (grandfathering), but that the system should gradually move towards auctioning over the longer-term. The trading system should be designed with a view to extending it to as many sectors, installations and greenhouse gases as practical, keeping in mind that the system must be simple, measurable and verifiable. In the initial pilot phase, however, the trading system should focus on CO₂ emissions from large point sources.

On the basis of these recommendations, the Commission submitted a proposal to the Council and the European Parliament in October 2001 that was approved, with amendments, two years later.⁶⁰ The Emission Trading Scheme was launched on 1 January 2005. It covers some eleven thousand installations, accounting for about half of the CO₂ emissions in the Community, including electrical utilities that combust fossil fuel, oil refineries, coke ovens, iron and steel plants, and factories making cement, glass, lime, brick, ceramics, pulp and paper.

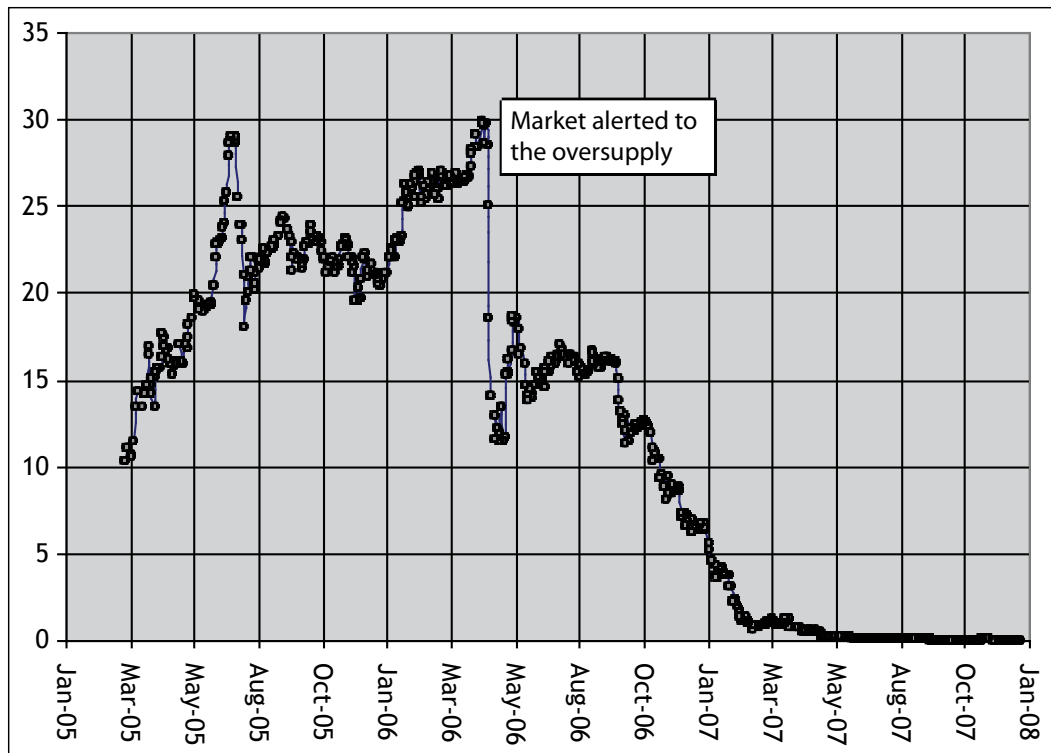
In order to get the ball rolling, the terms of the pilot phase (2005-2007) were lenient on the industry. Emission allowances were distributed free of charge and there were no fixed caps on the number of allowances that the Member States could issue. However, the allocation had to be approved by the Commission and follow certain criteria:⁶¹ For example, it should take into account the potential for emission reductions and it should not punish installations that had already undertaken clean investments, nor should it favour individual sectors or installations.

The criteria were designed to help the Member States to allocate the allowances efficiently and

to avoid distortions in the internal market.⁶² In essence, the Member States should allocate their national emission budget so as to minimize the cost of achieving the national emission target. That is the allocations should, to the extent possible, replicate the result that would have been achieved with a uniform carbon tax (that the Member States had rejected). However, the last "criterion" implicitly acknowledges that such an allocation may not be feasible in a competitive world economy with different national obligations under the Kyoto Protocol. To ensure that the deviations were not arbitrary, the Member States were asked to submit "information on the manner in which the existence of competition from countries or entities outside the Union will be taken into account."

In practice, the decentralized allocation did not work well. Empirical studies suggest that the ETS was *over-allocated* with 3 percent of allowances unused at the end of the 2005-2007 trading period.⁶³ The carbon market also suffered from lack of accurate information on supply and demand. Prices were volatile with a sharp drop in April 2006 when the verified emissions for 2005 were published (suggesting that the market was oversupplied). The market prices converged to zero in 2007 since unused allowances could not be carried forward to future trading periods. (Figure 4).

According to Nuehoff (2008), the main reason for the over-allocation was that *allowances were allocated for free*, which created incentives for firms to overstate their needs in order to capitalize on the market value of the excessive units. Furthermore, governments had limited and inaccurate information on both baseline emissions and abatement opportunities. The incentives to invest in clean technologies were consequently weak, particular since it was not clear whether clean investments would reduce the allocation in future periods (penalizing installations that behaved in the desired way). In fact, verified emissions of the installations covered from the outset went up by an average of 0.24 percent between 2005 and 2007 according to data from the Community Independent Transaction Log (CITL).⁶⁴

Figure 4. The First Trading Period of the ETS (2005–2007)

Source: European Energy Exchange

The second and *current* trading period overlaps with the commitment period for the Kyoto Protocol (2008-2012). This time around, the Commission had learned the game and rejected the “inflated” National Allocation Plans (NAPs). This was not very popular, and the “short-changed” Member States threatened to take the Commission to the Court of Justice to have the decisions annulled. When the dust settled, the Commission had managed to revise the NAPs

downward by 10.3 percent, resulting in a 5.7 percent reduction of the allowances compared with the verified emissions for 2005.⁶⁵ The shortage created by the Commission’s firm hand re-established a positive price in the carbon market in 2008. The allowances of one tonne of CO₂ equivalents traded in the range of 15 to 25 Euros in the first three quarters of 2008, with a sharp drop in the last quarter when the European and global economy went into recession.

4.3. The Result so Far

The overall result of the climate policy to the end of 2008 is mixed in spite of the ETS and the minimum energy taxes introduced across the Community in 2004. The March 2009 projections of the European Environmental Agency (EEA) suggest that total emissions of EU15 will fall short of the 8 percent Kyoto target unless additional policy measures are taken in the near future.⁶⁶ The result up to 2006 is a 2.7 percent reduction against the 1990 level, which means that two-thirds of the distance is yet to be covered.⁶⁷

Notwithstanding, the EEA is confident that the EU15 will reach or even overreach the Kyoto

target by a combination of additional measures at home and JI and CDM projects abroad. If *all* projects on the drawing board are implemented on schedule, the EEA estimates that EU15 emissions will be 11.3 percent lower by 2012 than the 1990 base-year. The Commission is equally confident that the Kyoto target will be met with a comfortable margin.⁶⁸

However, the challenge should not be underestimated. As shown in Figure 6 (on the following page), many Member States are far behind schedule and will have to multiply their efforts in the coming years, or alternatively,

renegotiate their individual assignments in a new burden-sharing agreement.⁶⁹ For example; Spain, Luxembourg and Austria will have to cut their emissions by more than 25 percent in the coming years to reach their

national assignments. So far, only Greece (which received a lenient deal in the 1998 Burden Sharing Agreement), UK, France and Sweden have achieved or over-achieved their individual assignments.

Figure 5. Emissions of GHGs in EU15 1990–2006 and Projections up to 2012

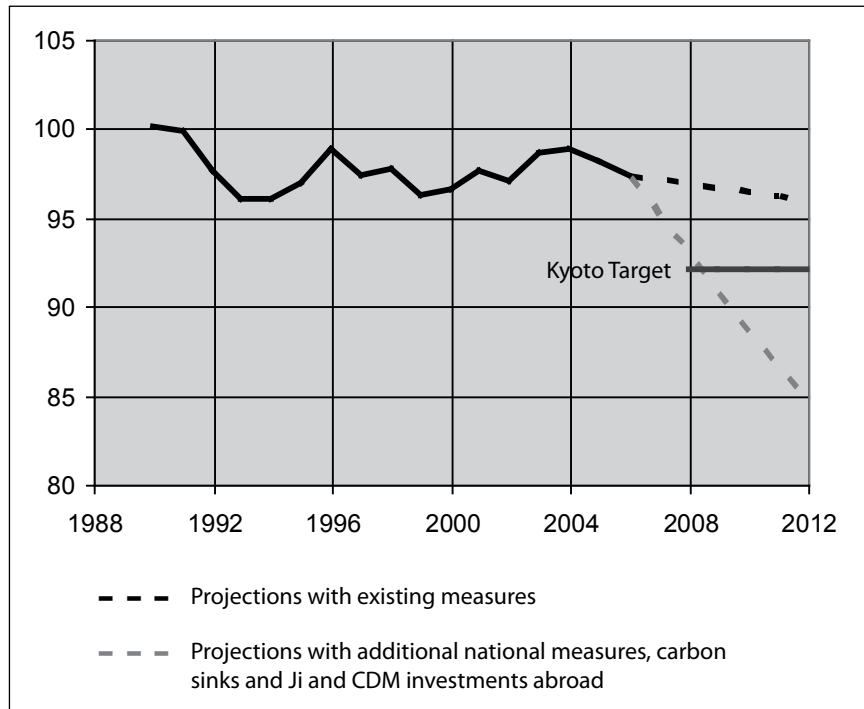
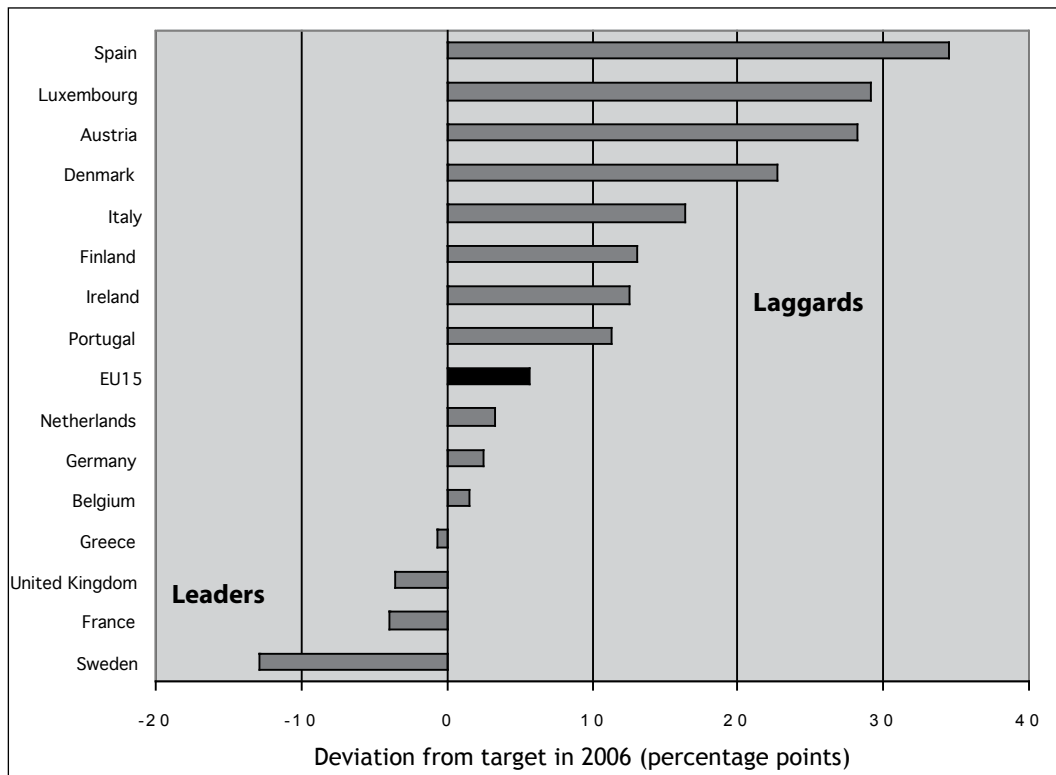


Figure 6. Deviation from Target in 2006



As far as the twelve “new” Member States are concerned, they are all committed to reducing emissions by 6-8 percent under the Kyoto Protocol, besides Cyprus and Malta which were treated as developing countries with no quantitative obligations. As of 2006,

all but Slovenia have reached their individual assignments due to the restructuring and modernization of their industrial base by means of foreign investments. By contrast, the emissions of Malta and Cyprus have risen by 45 and 66 percent, respectively.

4.4. CONCLUSIONS

In conclusion, it has been far easier to set ambitious targets than to implement them on the ground. One reason is that fiscal measures and energy policy is a national competence under the Treaty. Each Member State can and occasionally does block decisions in the Council or insists on amendments that effectively water-down the proposals. This was the fate of the carbon tax. Another reason is the decentralized implementation, illustrated by the over-allocation of the ETS in the first trading period. Notwithstanding,

the EEA and the Commission are confident that the Kyoto target will be reached by means of further national measures, carbon sinks and emission credits earned under the JI and CDM provisions. Moreover, although emissions have fallen only marginally in absolute terms, they have fallen significantly relative to the size of the EU economy. This shows that it is possible to combine economic growth with stable emissions. The challenge for the future is to show that it is possible to combine economic growth along with falling emissions.

5. SETTING THE TARGET FOR THE POST-2012 PERIOD

5.1. Initial Consultations with the Stakeholders

The preparation for the post-2012 climate policy began in the fall of 2004 with a web-based forum and stakeholders’ conference organized by the Commission. The web-based forum attracted some 160 submissions, divided among industry (74), NGOs (32), academia/think tanks (21), public authorities (17) and private submissions (17).⁷⁰ The starting point was a short background paper by the Commission outlining the rationale for the 2°C target, the cost of action and inaction (direct abatement costs and competitiveness effects versus the costs of climate change and adaptation), available policy instruments (energy taxes, ETS, investments in energy efficiency renewable energy, etc.), and the challenge of getting all emitters to participate in the global efforts, including economically more advanced developing countries.⁷¹ The next paragraphs summarize the views of different stakeholders.⁷²

The submissions of *climate scientists* accepted the 2°C target but argued that it would require substantially more abatement than previously thought. The latest evidence suggests that a *no regret* scenario (avoiding threshold effects that

would accelerate the climate change) would require stabilization of the atmospheric GHGs at around 380 ppm rather than 550 ppm, i.e., stabilization at the present level.⁷³ The first priority should be to secure a comprehensive global climate agreement, re-engaging the US as well as more-advanced developing countries. The EU should not close the door to any energy and abatement options, including nuclear and carbon sequestration and storage. They are all needed to bring emissions down to sustainable levels. The scientific community further stressed the need to remove energy subsidies and regulatory barriers to innovation, as well as the benefits of integrating the European electrical market.

As for *environmental NGOs*, they concurred with the scientific community that the EU had underestimated the abatement requirement. They stressed that the EU should *lead by example* by forceful actions at home, aiming for a 30-40 percent reduction by 2020 and 80 percent by 2050. The US would have to be reengaged in the climate talks, even if that required some

concessions; e.g. a change in the base year. The participation of developing countries should be based on the UNFCCC principle of “common but differentiated responsibilities and respective capabilities”. The need for financial and technological support was stressed. As far as the instruments were concerned, the NGOs stressed measures to improve energy efficiency and shift from fossil to renewable energies. The nuclear option was ruled out. Some NGOs were also sceptical to carbon sequestration and storage, which was an unproven technology.

The *industry* also supported the 2°C target but warned against *unilateral* actions of the EU that would erode the competitiveness of the European industry at little gain to the climate since emission-intensive industries would move to countries with less ambitious policies. The climate policies of the EU must be *coordinated* with competing nations. As far as the policy instruments were concerned, it was widely held that emission reductions should be *market-orientated* and that the *flexibility mechanisms* of the Kyoto Protocol must be fully exploited. The industry also emphasized the importance of long planning horizons (10-20 years) and predictable rules.

Benchmarking, rather than emissions caps, was favoured by some sectors. Furthermore, all technologies should be considered and their adoption should come from the bottom-up rather than being imposed on the industry from above. It was also stressed that *all* sectors should be included in the emission reduction strategy. However, cumulative burdens must be avoided for processing industries at the end of the supply chain, which would otherwise pay twice by higher prices on electricity and other inputs in addition to its own abatement costs. The transportation sector also stressed that the targets must be “realistic”. Aviation, maritime and road haulage have few options other than fossil fuel in the short- to medium-run and new technologies can only be introduced gradually as the old equipment wears out.

The submissions of *public authorities*, including at the regional and local level, did not show much commonality. There was general agreement on the need for a multilateral approach that includes both the big emitters, but also developing countries, although it was recognized that different types of participation are appropriate for different countries, particularly those at different stages of development.

5.2. Winning the Battle against Global Climate Change

On the basis of the 2004 consultations, the Commission began to outline the elements of the post-2012 climate strategy. In February 2005, the Commission submitted a Communication to the Council and the European Parliament, entitled *Winning the Battle Against Global Climate Change*.⁷⁴ It conceded the point made by the scientific and NGO communities that further actions would be needed to reach the 2°C target than previously thought.⁷⁵ However, with a 14 percent share of global emissions, the EU could only do so much alone. The first priority was to seek a comprehensive international agreement on the basis of the UNFCCC principle of common but differentiated responsibilities and respective capabilities.⁷⁶ As far as the internal policies were concerned, the Communication stressed the importance of *internalizing* the cost of carbon and raising the awareness of the public: “The more prices truly reflect external costs and the

more demand reflects better consumer climate awareness, the more investments in climate friendly technology will increase. Establishing a market value for greenhouse gases, for instance, through emissions trading or taxation, will provide a financial incentive curbing demand, promoting the widespread use of such technologies, and encourage further technological development.” The first priority was to phase out the remaining subsidies to fossil fuels, amounting to €23.9 billion according to the EEA. The Commission also noted the abnormality of excluding aviation and shipping from taxation.⁷⁷

Responding to this Communication, *the Council*⁷⁸ underlined the importance of immediate and effective implementation of already agreed upon policies and measures, the need to foster increased public awareness, the need for better focused research and the promotion of stronger

co-operation with developing countries. The Council also stressed that the EU's future climate change strategy should strive at the widest possible cooperation from all countries; include all important greenhouse gases, sectors and mitigation options; drive technological innovation; employ an optimal mix of push and pull policies, in particular in the transport and energy sector; promote the transfer of technologies to appropriate markets; provide for the continued use of market-based and flexible instruments; and support the adaptation to unavoidable climate change in all countries, particularly in the most vulnerable developing countries. The Council also expressed the desire of the EU, "to explore with other Parties possible strategies for achieving necessary emission reductions and believes that, in this context, reduction pathways by the group of developed countries in the order of 15-30% by 2020 and 60-80% by 2050 compared to the baseline envisaged in the Kyoto Protocol should be considered." These targets were reiterated a week later by the *European Council* at the heads of state level.⁷⁹

The Resolution of the *European Parliament*⁸⁰ called on the EU to develop a strategy to make Europe the most energy efficient economy in the world, by setting targets for annual reductions in energy intensity in the order of 2.5-3 percent. The Commission was asked to propose legislation to abolish subsidies on fossil fuel and instead put in place a positive incentive structure for the enhanced use of energy-efficient, low-carbon and carbon-free technologies. The Parliament further called for a policy to reduce emissions from transport, including mandatory limits for CO₂ emissions for new vehicles in the order of 80-100 gm/km. It also called for a proposal to shift a large proportion of road haulage traffic to less polluting modes of transport (train and ships) and consider including the aviation sector in the ETS. The Parliament also stressed that *grandfathering* of emission rights in the ETS should be revisited because of its shortcomings, and alternatives such as *benchmarking* and *auctioning* should be explored.

With regard to developing countries' participation in the future climate regime, the Parliament expressed that the EU should clearly recognize

that the priority for these countries is poverty alleviation and development. At the same time, the Parliament noted that the UN Millennium Development Goals will never be met if environment issues, such as climate change, are not properly addressed.

The Parliament also called on the Commission to investigate the possibility of using *border adjustment measures* to mitigate the "carbon leakage" problems in a future climate agreement with differentiated commitments. The Parliament further called on the Commission and the Member States to consider sectoral agreements with countries without binding emission reduction commitments as a supplement to binding emission targets for industrialised countries. It also requested the Commission to explore the possibility of linking the EU emission trading scheme with those of developing countries in order to create a global carbon market.⁸¹

Having heard the opinions of the co-legislators, *the Commission* established five working groups with Member State experts, representatives of relevant business sectors, NGOs, academic experts and Commission staff to explore various options. They included a working group to review the policies implemented so far, a group to explore geological carbon capture and storage, a group to assess the incorporation of aviation in the EU emissions trading scheme, a group to prepare the review of the Community strategy to reduce CO₂ emissions from light-duty vehicles and a group to identify the EU's role in adapting policies. The working groups reported their findings in mid 2006.⁸²

As a final political check, the Commission issued two linked documents outlining the post-2012 energy and climate policy: The first was issued by the Directorate-General for Energy and Transport - *An Energy Policy for Europe*⁸³ - and the other by the Directorate-General for the Environment - *Limiting Global Climate Change to 2 degrees Celsius: The way ahead for 2020 and beyond*.⁸⁴ The strategy was debated by the Transport, Telecommunications and Energy Council,⁸⁵ the Environment Council⁸⁵ and the European Parliament.⁸⁶

5.3. The March 2007 Conclusions of the European Council

After three years of preliminary debate, the target for the post-2012 strategy could finally be adopted by the *European Council* in March 2007.⁸⁷ The Council's conclusions underlined the leading role of the EU in international climate protection. It stressed that international collective action will be critical in driving an effective, efficient and equitable response on the scale required to face the challenges of climate change. To this end, negotiations on a global and comprehensive post-2012 agreement should be completed by 2009.

The European Council endorsed the elements identified by the Council for Environment, which would include inter alia the development of a shared vision to reach the ultimate objective of the UNFCCC; the strengthening and extension of global carbon markets; the development, deployment and transfer of the necessary technology to reduce emissions; appropriate adaptation measures to deal with the effects of climate change; action on deforestation; and addressing emissions from international aviation and maritime transportation. All countries should be invited to contribute to the efforts under this framework according to their differentiated responsibilities and respective capabilities.

The European Council stressed that absolute emission reduction commitments are the backbone of a global carbon market. Developed countries should continue to take the lead by committing to collectively reducing their emissions of greenhouse gases in the order of 30 percent by 2020 compared to 1990. They should do so also with a view of collectively reducing their emissions by 60 percent to 80 percent by 2050 compared to 1990.

5.4. Let the Game Begin

The political decision to move ahead did not mean that the negotiations were over but, rather, had entered the most intense and difficult phase of transposing broad principles into binding legal obligations; determining the burdens for different sectors and Member States. In the next two sections, we shall review the process leading up to the two central pillars

As for the EU, the European Council made an autonomous commitment to achieve at least a 20 percent reduction of greenhouse gas emissions by 2020 compared to 1990. The target should be raised to 30 percent "provided that other developed countries commit themselves to comparable emission reductions and economically more advanced developing countries to contributing adequately according to their responsibilities and respective capabilities." The European Council also endorsed the objective outlined in the Communication "An Energy Policy for Europe" to transform Europe into a highly energy-efficient and low greenhouse-gas-emitting economy.

As far as the internal burden-sharing was concerned, the European Council decided that a differentiated approach to the contributions of the individual Member States was needed, reflecting fairness and transparency, as well as taking into account national circumstances and the relevant base years for the first commitment period of the Kyoto Protocol. It recognised that the implementation of these targets will be based on Community policies and on an agreed internal burden-sharing. The Commission was invited, in close cooperation with the Member States, to start a technical analysis of criteria, including socio-economic parameters and other relevant and comparable parameters. The European Council called on the Commission to elaborate the necessary legislative acts of the climate and energy package with a view to finalize the agreement by the end of 2008.

of the energy and climate package adopted in December 2008: (i) the proposal for amending the EU Emissions Trading Directive, and (ii) the proposal relating to the sharing of efforts to meet the Community's greenhouse gas reduction commitment in sectors not covered by the ETS (such as agriculture, road haulage, heating, services, and small industrial installations).⁸⁹

6. THE POLITICAL-ECONOMY OF THE ETS REFORMS⁹⁰

6.1. Initial consultations

The proposals for the ETS reforms were developed by the Commission in dialogue with the European Climate Change Program's (ECCP) working group on emissions trading, which met between March and June 2007.⁹¹ The most controversial issue was the issue of moving from free allocation of allowances to auctioning. According to a survey commissioned by the DG Environment, some 80 percent of the companies and 88 percent of the industry associations were against auctioning, whereas environmental NGOs, government bodies and market

intermediaries were generally in favour.⁹² (Table 2). The stakeholders also disagreed on what the auction revenue should be used for. The majority of companies and industry associations were of the opinion that the revenue should be returned to industries (compensatory lower business taxes), while NGOs favoured earmarking for special purposes, such as promotion of carbon-friendly technologies and assistance to developing countries. Government bodies were split between climate earmarking and general government use.

Table 2. Excerpts from stakeholders survey (%)

| Question: Should the ETS Directive allow more auctioning beyond 2012? | | | | | |
|---|-----------|-----------------------|------|-------------------|-----------------------|
| | Companies | Industry Associations | NGOs | Government Bodies | Market intermediaries |
| No | 80 | 88 | 4 | 11 | 18 |
| Yes | 12 | 8 | 85 | 73 | 76 |
| Indifferent | 8 | 4 | 11 | 16 | 6 |
| Question: What should be done with the money raised through the auctions? | | | | | |
| Distributed within affected industries | 56 | 52 | 12 | 12 | 0 |
| Earmarked for special purpose | 29 | 27 | 72 | 41 | 40 |
| Used in general state budget | 0 | 0 | 8 | 12 | 20 |
| Other | 15 | 21 | 8 | 35 | 40 |

Source: Figure 3-6 and 3-7, Survey EU ETS Review, November 2005

The opposition to auctioning was particularly strong among energy-intensive industries, which were concerned with the competitive disadvantages it would create vis-à-vis competing firms from developing countries without similar measures, especially if they

were not compensated by lower taxes. They also pointed to the risk of industry relocation to developing countries, which would run contrary to the climate objective. Box 3 provides some illustrative quotations from the free text answers of the survey.

Box 3. Excerpts from the Free Text Answers – EU ETS Survey**Aluminium**

“Aluminium production is intimately linked with Energy (Electricity) costs. The ETS is having a strong impact on electricity prices and is therefore impacting all industry decisions. As aluminium is traded as a global commodity, cost increases in Europe can not be passed on to customers. This will result in changes in sourcing - delocalisation from Europe to other areas.” (p. 23)

“Auctioning cannot be used when different sectors have such different economics (possibility of passing on costs to customers) and cost of abatement.” (p. 49)

Cement

“It is essential to widen the scope of the EU-ETS and extend it to the worldwide scene. If this is not done, the European effort to reduce CO₂ emissions will lead to relocation elsewhere, which is, of course, no solution for the global emission reduction.” (p. 7)

“The biggest problem for the Cement producers is the cumulative burden of all different instruments. ETS-industries should not be double jeopardized (ETS and energy tax).” (p. 11)

“At current and expected CO₂ prices, 10 percent or more auctioning will inevitably lead to the closure of cement production in Europe and relocation to outside the EU, entailing additional CO₂ emissions from transport and thus only a negative environmental effect.” (p 49)

Chemicals

“It is essential to expand the EU-ETS worldwide. If this will not succeed, the European efforts reducing CO₂-emissions will lead to broad relocations.” (p. 7)

“We think that the allocation according to a benchmarking system is the only useful way. The companies’ ‘best of class’ must not be charged with a reduction target. This way is the one which is compatible with the Lisbon strategy on growth and employment.” (p. 28)

“Auctioning is a tax on industry. Revenues must be recycled to those industries; otherwise they will relocate outside the EU.” (p 50).

Pulp and Paper

“Indirect effect of the EU ETS on power prices and hence on competitiveness is the main concern of the European pulp and paper industry.” (p. 8)

“Auctioning will increase the cost for all the covered sectors thus again decreasing the competitiveness of EU based industry.” (p 51).

“Harmonisation between Member states is necessary because the ETS has an impact of the competitiveness of one paper mill compared to another country. However the biggest harmonisation problem is the one between the EU and the third countries.” (p. 59)

Steel

“An auction raises grave concerns as regards the competitiveness of the iron and steel industry both within and beyond the EU. Due to the competitive nature of the sector, the EU steel sector does not have the luxury of sectors such as energy generation who are able to pass the cost burden of purchasing allowances down the line to their consumers. To exclude the iron and steel industry from Europe by Auctioning of Allocations will mean that production will not cease, it will just move outside of Europe into countries with less regulation and with less environmental protection. (p. 53)

“The question about the cost increase in average production is meaningless. The decision will be made on marginal production. The tendency will be to try and replace the least profitable products with imports. (p. 133)”

A study commissioned by DG Environment provided some support for the concerns of the energy-intensive industry.⁹³ The scenario was a market price of allowances in the order of €20 per tonne of CO₂. This would have a direct impact on industries covered by the ETS and an indirect impact on all industries due to the expected price increase of electricity of about €10/MWh. The estimated impact varied both within and between sectors depending on the industrial process and ability to pass on the costs to the customers. For example, the production costs for integrated steel mills using coke to furnace the process from iron ore to steel (BOFs) would rise by an estimated 17.3 percent; of which only 1.1 percent could be passed on to

customers because of the market situation for flat steel products. By contrast, the production costs of mini-mills that produce long steel products from scrapped metal using an Electric Arc Furnace (EAF) would increase by a modest 2.9 percent; of which 1.9 percent could be recouped through higher prices. The worst hit sector would be cement production, with an estimated cost increase of 36.5 percent; of which 0 to 5.5 percent could be recouped by higher prices for end users. The competitiveness of the pulp and paper industry would also fall, especially for companies using mechanical and thermo-mechanical processes that use a great deal of electricity. Also, the aluminium sector would be indirectly harmed by higher prices on electricity.

Table 3. Estimated Cost Increase (%) of a Market Price of 20 Euro Per Tonne of CO₂

| | Direct effect (allowances) | Indirect effect (electricity) | Total effect | Estimated Price offset (%) | |
|--------------------------|-------------------------------|----------------------------------|--------------|-------------------------------|-----|
| Aluminium | | | | | |
| Primary production | 0.0 | 11.4 | 11.4 | | 0.0 |
| Secondary production | 0.0 | 0.5 | 0.5 | | 0.0 |
| Cement | | | | | |
| Dry process | 34.4 | 2.1 | 36.5 | 0 - | 5.5 |
| Pulp & paper | | | | | |
| Chemical pulp for market | 0.5 | 0.5 | 1.0 | | 0.5 |
| Paper from chemical pulp | 1.1 | 1.0 | 2.1 | 0 - | 0.4 |
| Chemical P&P | 1.4 | 1.0 | 2.4 | 0 - | 0.5 |
| Mechanical P&P | 1.4 | 4.1 | 5.5 | 0 - | 1.1 |
| Thermo-mechanical P&P | 1.4 | 6.1 | 7.5 | 0 - | 1.5 |
| Recovered fibre P&P | 1.6 | 1.8 | 3.4 | 0 - | 0.7 |
| Refining | | | | | |
| Average process | 19.0 | 1.5 | 20.5 | 5 - | 15 |
| Steel | | | | | |
| BOF (mainly flat) | 15.3 | 2.0 | 17.3 | | 1.1 |
| EAF (mainly long) | 0.4 | 2.5 | 2.9 | | 1.9 |

Source: EU ETS REVIEW, Report on International Competitiveness, December 2006.

6.2. Proposed Amendments of the ETS Directive

The proposal submitted to the Council and the European Parliament in January 2008 included a number of reforms to the ETS Directive:⁹⁴

First, the coverage of the ETS would be extended both in terms of greenhouse gases and sectors - including production of petrochemicals, aluminium, ferrous and non-ferrous metals - with the possibility to exclude small combustion

installations that would have difficulties to cope with the administrative burden.⁹⁵ Also, aviation would be included in the ETS, while other transportation modes (road haulage and maritime shipping) would remain outside pending a comprehensive cost-benefit analysis.

Second, referring to the uneven standards applied by the Member States on monitoring,

reporting and verification of GHG emissions, the Commission proposed that the procedures should be harmonized (to be elaborated in a separate Regulation). The Commission also proposed that the penalties for non-compliance would be inflation-indexed in order to maintain the real value of the deterrent effect.

Third, referring to the excessive allocation of allowances of some Member States and some sectors in the pilot phase of the ETS (2005-2007) and the recurrent problems in the second trading period (2008-2012), where the Commission was forced to scale-down the inflated NAPs by some 10 percent to make headway towards the Kyoto commitments, the Commission proposed an *EU-wide cap* for the third trading period (2013-2020) with linear annual reductions to reach the target of approximately 21 percent lower emissions by 2020, compared to the reported emissions for 2005.

Fourth, on the issue of auctioning, the Commission took the middle way between different interests. In the explanatory memorandum, the Commission argued that auctioning was the most efficient way of allocating allowances and consistent with the polluters-pay-principle endorsed in Article 174(2) of the Treaty. However, the risk of carbon leakage must also be factored in. Thus, the Commission proposed a differentiated approach. For the *power sector*, there would be no free allowances since it was not exposed to international competition, and hence could pass on the full costs to the customers. For non-energy-intensive *industrial sectors*, a gradual transition was deemed appropriate, starting with free allocation at a level of 80% of their share in the total quantity of allowances to be issued, decreasing by equal amounts each year, arriving at zero free allocation by 2020. For *energy-intensive industries*, the Commission would evaluate the situation by June 2010 in the light of the outcome of the Copenhagen negotiations. Energy-intensive industries which were determined to be exposed to a significant risk of carbon leakage could receive *up to 100%* of allowances free of charge. The Commission also opened an alternative solution with a “carbon equalisation system”, without giving any details.⁹⁶

Fifth, in light of the different approaches used by the Member States, the Commission opened for harmonized rules for the allocation of the transitional free allowances. The rules would be drawn up by June 2011 and will “ensure that allocation takes place in a manner that gives incentives for greenhouse gas and energy efficient techniques and for reductions in emissions, by taking account of the most efficient techniques, substitutes, alternative production processes, use of biomass and greenhouse gas capture and storage, and shall not give incentives to increase emissions.”

Sixth, the Commission proposed that each Member State would auction its own batch of allowances, but that the auctions would be open to firms from all Member States. As for the distribution of the auctioning rights, the Commission proposed that 90 percent would be distributed between the Member States according to the relative share of verified emissions for 2005. The remaining 10 percent would be redistributed for reasons of “solidarity and growth” from Member States with a per capita income 20 percent above the EU average to the others, where Member States with the lowest per capita income would receive the highest shares. For the Member States in the lowest deciles of the income distribution, this would add more than 50 percent to their basic allocation and thus be a sizable transfer of revenue.⁹⁷

Seventh, on the issue of earmarking, the Commission proposed that 20 percent of the revenue of the basic auction rights and 100 percent of the redistributed auction rights should be earmarked to reduce greenhouse gas emissions, to adapt to the impacts of climate change, to fund research and development for reducing emissions and adapting, to develop renewable energies to meet the EU’s commitment to using 20 percent renewable energies by 2020, for the capture and geological storage of greenhouse gases, to contribute to the Global Energy Efficiency and Renewable Energy Fund, for measures to avoid deforestation and facilitate adaptation in developing countries, and for addressing social aspects such as possible increases in electricity prices in lower and middle incomes.⁹⁸

Eight, until a new international climate agreement was signed, the Community would continue to recognize CDM credits from projects that were authorized up to the end of 2012, as well as new projects in Least Developed Countries authorized from 2013 onward.

Ninth, the proposal is open for a linking of the EU ETS with similar cap-and-trade systems in other countries as a step towards a global carbon market.

Tenth, upon the conclusion by the Community of an international agreement on climate change leading to mandatory reductions of greenhouse gas emissions exceeding the minimum reduction level, 20 percent, endorsed by the European Council, the appropriate adjustments would have to be made, including an increase in the linear reduction factor of the ETS and recognition of emission credits earned in developing countries which have signed the international agreement.

Before reviewing the responses to this proposal, it is necessary to clarify two issues: (a) the linkage between the ETS proposal and the effort-sharing agreement on sectors not covered by the ETS and (b) the choice of 2005 as

the new base year. Recall that the 20 percent target endorsed by the European Council in March 2007 referred to the overall reduction of greenhouse gases relative to the 1990 level (the base year of the Kyoto commitments). It did not specify that the sectors covered by the ETS should reduce emissions by 21 percent by 2020, relative to the verified emissions for 2005, whereas other sectors should reduce emissions by 10 percent, nor that the base year should be moved from 1990 to 2005.

The Commission defended these proposals on economic and practical grounds. The reason for setting a lower target for non-ETS abatement was that it was more costly to reduce emissions in these sectors. The ETS and non-ETS assignments were chosen with a view to equalize the *marginal* abatement costs, thereby minimizing the *overall* cost for the Community.⁹⁹ As for the base year, it was shifted forward to 2005 since it was the first year of *verified* emissions (implying that the 1990 data used as a baseline for the Kyoto commitments were not reliable). The forward shift had no implications for the ambition level. The package was calibrated so as to achieve a 20 percent reduction by 2020 relative to the estimated emissions for 1990 (as reported to the UNFCCC).

6.3. Response of the Stakeholders

Neither the environmental nor the industrial sides were satisfied with the proposed ETS reforms. The *Climate Action Network Europe*, *World Wildlife Fund*, *Greenpeace* and *Friends of the Earth Europe* issued a joint position paper with the message that the package was insufficient and full of loopholes.¹⁰⁰ Their demands were the following:

- an overall 30 percent domestic reduction target compared to 1990 emission levels
- full auctioning of the allowances from 2013 without exceptions
- earmarking of all the revenue to climate projects, of which 50 percent should be used for mitigation and adaptation in developing countries
- external reduction credits should only be eligible for projects that satisfy strict environmental, social and additional criteria,

such as the *CDM Gold Standard* developed and supported by NGOs.

As for the industry, they were particularly dissatisfied with the proposal that auction would be the basic principle of allocation. In an advertisement in the *European Voice*¹⁰¹ (17-23 January 2008), reproduced below, they “deplore the fact that reasonable arguments put forward by industry over the past months have not been taken into consideration at all in the draft revision of the ETS Directive; as a result, the envisaged measures will cripple European industry through direct and indirect costs. They do not make environmental sense because of maximisation of carbon leakage and they will destroy jobs in Europe instead of boosting the development of promising solutions for a successful low carbon and energy efficient strategy.”

As will be seen, both sides would score some points in the final amendments of the proposal.

Climate change:

Disproportionate Measures Incompatible with Competitive European Industry.

The Undersigned Call upon European Decision-Makers to Maintain a Strong and Competitive Industry in the Battle against Climate Change.

The undersigned support the Commission's objective to act as a leader in worldwide efforts to address the climate change issue and take appropriate initiatives to achieve an international agreement on this global challenge. Despite the relative minor impact of any policy limited to the European area on world climate trends, we support the ambition of the Commission to take early action and show the way forward.

Europe needs its Industry to Fight Climate Change

Success can only come from solutions that industry is best placed to bring. A healthy and competitive European manufacturing industry is, in turn, a condition to develop the innovations and technologies needed to achieve a low carbon and energy efficient economy.

We deplore the fact that reasonable arguments put forward by industry over the past months have not been taken into consideration at all in the draft revision of the ETS Directive; as a result, the envisaged measures will cripple European industry through direct and indirect costs. They do not make environmental sense because of maximization of carbon leakage and they will destroy jobs in Europe instead of boosting the development of promising solutions for a successful low carbon and energy efficient strategy. Furthermore, they might reduce security of supply in vital basic industries such as oil refining.

We therefore urge the Commission to adopt a strategy that sends a clear signal to our industries, which allows a predictable and favourable investment and innovation climate and guarantees a sustainable competitive position for our sectors. The prime condition for this is free allocation of CO₂ certificates to our industries, in particular energy intensive industries, as long as there is no international agreement ensuring that the developing economies with which we compete commit to targets equivalent to ours.

Industry needs Europe's Support to Provide Solutions

The competitive framework for our industries cannot be left to depend on the hypothetical conclusions of future studies and negotiations. This is not tolerable for investment decisions and it is not acceptable that policy-makers treat the competitiveness of industry as a second order priority.

European citizens need a low carbon strategy that delivers success, not a carbon ideology that damages Europe's competitiveness! It is time to remind European decision-makers that a competitive European industry is essential to the economy, to growth, jobs and to solutions to the climate change challenge.

We solemnly call on the Commission to reconsider its position and to better balance its proposal to the Council and the European Parliament!

ACEA • The European Car Manufacturers Association • Ivan Hodac, Secretary General
 CEFIC • European Chemical Industry Council • Alain Perroy, Director General
 CEMBUREAU • European Cement Association • Jean-Marie Chandelle, Chief Executive
 CEPI • Confederation of European Paper Industries • Teresa Presas, Managing Director
 CIAA • Confederation of the Food and Drink Industry of the EU • Mella Frewen, Director General
 EURATEX • The European Apparel and Textile Organisation • William Lakin, Director General
 EUROFER • European Confederation of Iron and Steel Industries • Gordon Moffat, Director General
 EUROMETAUX • European Association of Metals • Guy Thiran, Secretary General
 EUROPIA • European Petroleum Industry Association • Isabelle Muller, Secretary General
 ORGALIME • The European Engineering Industries Association • Adrian Harris, Secretary General
 BUSINESSEUROPE • The Confederation of European Business • Philippe de Buck, Secretary General

6.4. The debate in the Council

The proposed ETS reforms and other elements of the climate and renewable energy package were discussed four times in the Environment Council during 2008. The first debate in March took place on the basis of a questionnaire

issued by the presidency. The twelve written responses that were made public, summarized in Box 4¹⁰² give a unique insight into the debate in the Council, which is otherwise held behind closed doors.¹⁰³

Box 4. Excerpts from the Deliberations in the Council

Bulgaria reserved itself against the “mechanical” separation of ETS and non-ETS mitigation. With the current proposal, ETS sectors would have to reduce emissions by 21 percent compared to the verified emissions for 2005, whilst non-ETS sectors would have to reduce emissions by 10 percent. This allocation did not take into account that the relative shares differed between the Member States. A common target for the whole economy would be fairer and more efficient. Moreover, the base year should be 1990 as under the Kyoto commitments and not 2005 as proposed by the Commission. The forward shift disadvantaged Member States that were ahead of their Kyoto commitments, which would receive fewer free allowances and auction rights than otherwise.

Estonia stressed that national targets for GHGs should take into account also energy security aspects. Moreover, a limited amount of free quota should be given to electricity producers on the same grounds as in industry with a high carbon-leakage risk. Estonia also objected to the decision to move the base year forward to 2005 (on the same grounds as Bulgaria).

Finland welcomed the harmonization of the rules that would reduce the competitive distortions in the internal market. At the same time, each sector’s position and participation in international competition must be taken into account. Analysis of and decisions on allocation methods and special treatment of energy-intensive industries that are at risk of carbon leakage must be made urgently. Moreover, electricity produced within an industrial process (cogeneration) should be seen as part of the industrial activity and not be subject to 100 auctioning. Finland further stressed that Member States must be granted enough flexibility for implementing the emissions targets, including through credits earned under the CDM. Finland also opposed earmarking of revenues from auctioning on the grounds that it conflicted with its budgetary principles and constitution.

Germany welcomed the proposal of an EU-wide cap and harmonized allocation rules that would reduce the distortions in the internal market. At the same time, the allocation rules disfavoured Member States with a large share of carbon based electricity (as Germany). Germany also disagreed with the redistribution of auction rights on the basis of per capita incomes. Moreover, the problem of carbon leakage in energy-intensive sectors exposed to international competition required urgent attention. Until an international Climate Convention is concluded, there should be no auctioning of emissions certificates for these sectors. Germany further rejected earmarking of the revenue, as that was not compatible with the subsidiary principle and the budget autonomy of the Member States. It also opposed restrictions on emission credits from climate-protection projects in developing countries.

Greece stated the reduction target was challenging and the cost-effectiveness and impacts for every Member State should be carefully evaluated to achieve a fair and efficient result. Greece particularly questioned the obligatory auctioning of allowances for electric power production units, which would increase the end-price of electricity and have a negative impact on the competitiveness of businesses and European products, particularly those of energy-demanding industries. Greece called on the Commission to further analyse the effects on the competitiveness

Box 4. Continued

and the associated danger of carbon leakage. Greece stated that earmarking of revenues from auctioning should incorporate binding rules to safeguard the necessary funds for environmental protection and climate change mitigation within the Community.

Hungary welcomed the reform proposals but disagreed strongly with the change in base year from 1990 to 2005, which “hides the serious differences in the efforts hitherto undertaken by Member States in greenhouse gas emission reductions”. Hungary further disagreed with the high level of auctioning, which forces installations with real variations in economic power to compete against one another. Even though this may *prima facie* appear to be a level playing field, it distorts market conditions in favour of those with more financial muscle. Hungary also stressed the need of a fair effort sharing. Member States should not be burdened beyond their capacities, recalling the Kyoto principle of common but differentiated responsibilities. Hungary strongly supported the redistribution of allowances to Member States with a relative low GDP. As for certified emission reduction (CDM) projects in developing countries, Hungary opposed the increase of the current 3% limit since that would divert new emission reduction investments outside the EU.

Italy stressed the need to increase certainty and transparency regarding the means of setting sector caps at the Community level and the arrangements for the free allocation of allowances. Italy also stressed the need to identify sectors which are at risk of relocation to developing countries.

Latvia stated that it was important to find the correct balance between climate policy, security of energy supplies and competitive targets, while at the same time ensuring economic convergence between the Member States. The redistribution of ETS auction rights towards Member States in the lower income deciles was a step in the right direction, although the redistribution ought to be raised from 10 to 20 percent so as to increase the income available for fulfilling emission reduction targets in non-ETS sectors. There was also a need to identify as soon as possible sectors qualifying for continued free allocation under the carbon leakage provision. Latvia further argued that the bulk of the auction proceeds should be earmarked for mitigating policies, including measures to alleviate the social impact of the expected increase in thermal energy and electricity prices arising from the auctioning of emission allowances.

Lithuania declared that “out of all the legislative proposals contained in the EU Climate Action and Renewable Energy package, Lithuania is most concerned about the amendment of the EU Directive on the greenhouse gas emission allowance trading scheme as there are a number of unanswered questions about the approach of the Commission and the proposed methodology.” Lithuania saw a risk that financially stronger enterprises from more developed economies would buy up the allowances in less developed Member States to the harm of the domestic industry. Lithuania also pointed to its commitments under the accession protocol to the EU to decommission the Ignalina nuclear power plant by 2009. The ensuing shortage of electricity would force up the market price by 2.5 times since the power grids to Europe were behind schedule, putting the domestic electricity-intensive industry in a grave competitive situation. The situation would be worse still if the fossil fuel power plants replacing Ignalina would have to pay for its allowances. The effort-sharing agreement between the Member States must take this kind of national circumstances into account.

Box 4. Continued

Portugal argued that the proposal was a good starting point for negotiations. Relative development and national circumstances should be the main criterion for sharing efforts between Member States. Portugal supported the move of the base year from 1990 to 2005.¹⁰⁴ Portugal also declared its principal support to auctioning, although there was a need to explore more thoroughly the impacts of 100 percent auctioning by 2020, specifically the situation of energy-intensive sectors or sub-sectors exposed to significant risks of carbon leakage.

Slovak Republic declared that it was fully aware of the need to transform the economy into a low-carbon and less energy-intensive one, at the same time as having “some concerns”¹⁰⁵ as to whether, given the time available, they would be able to meet the targets without negative socio-economic impacts. Moreover, Slovakia argued that the targets should be based on 1990 emissions and not 2005. Owing to the significantly high proportion of energy-intensive industries, Slovakia considered it very important that the aspect of economic convergence is reflected and that adequate measures to minimize the risk of carbon leakage for energy intensive industrial sectors are put in place. Slovakia warned against full auctioning in the power sector, which would immediately increase electricity prices, not only for final consumers but also for goods and products from the industrial sectors. The risk of carbon leakage would be further increased with auctioning for industrial sectors, and it was not clear how effectively it could be compensated via the revenues from auctions.

United Kingdom supported greater use of auctioning to ensure that carbon was priced into decisions. However, the UK favoured a system with mandatory minimum rates where Member States have discretion to auction up to 100 percent of the allowances. Furthermore, the UK expressed strong reservations against earmarking of the revenue and the reassignment of auction rights to poorer Member States, arguing that the ETS was not the right mechanism for dealing with solidarity and cohesion within the EU. Funds for that purpose was available over the EU budget, and the UK asked for a review of the 2013-2020 budget to make the necessary funds available in the event that the current funds were insufficient.

Not surprisingly, the Member States spoke in their own interests. For example, Member States that were ahead of their Kyoto commitments questioned the shift in the base year from 1990 to 2005, while Member States that were falling behind either endorsed the proposal or gave their silent consent. The chips also fell very naturally on the issue of reallocation of auction rights to Member States with relatively low per capita GDP, a proposal that was endorsed by the receiving end and viewed with scepticism by others.¹⁰⁶ As for the issue of emission credits earned in developing

countries, Member States at the upper end of the income distribution asked for as liberal rule as possible, while the lower end asked for caps in order to ensure sufficient investments in the Community (read, investments in less developed Member States). The only issue that attracted broader support was where the need to *urgently* identify the sectors exposed to carbon leakage and to clarify the allocation rules that would apply to these sectors and sub-sectors, including through 100 percent free allocation until an international agreement has been finalised.

6.5. The Debate in the European Parliament

The ETS proposal was referred to two committees in the European Parliament: the Committee on Environment, Public Health and Food Safety, and the Committee on Industry, Research and Energy, the former being the

responsible committee and the latter the associate. Three other committees submitted opinions: International Trade, Economic and Monetary Affairs, and Regional Development. Quite naturally, the perspectives differed.

The *Environment, Public Health and Food Safety committee* sought amendments that would raise the ambition level. It introduced, inter alia, an amendment that referred to the UNFCCC conference in Bali, which called for the Annex I parties to reduce greenhouse gas emissions by 25-40 percent by 2020, where the EU will need to reduce greenhouse gas emissions in the “upper end of that range”, thus opening the door to raise the conditional target endorsed by the European Council in March 2007 from 30 to 40 percent. The committee also proposed tougher requirements on the use of emission credits earned in developing countries along the lines requested by environmental NGOs. “CER and ERU projects approved under a future international agreement on climate change should support environmental and social sustainability, demonstrate an environmental benefit, avoid carbon leakage and include a transparent mechanism of validation and verification.”

The *Industry, Research and Energy committee* proposed benchmarking for the allocation of the transitional free allowances (based on Best Available Practices/Technologies). It also opened for continued free allowances in the event of an unbalanced outcome in Copenhagen. The committee further proposed that a larger share of the revenue raised by auctioning should be earmarked to support investments in energy efficiency and climate friendly technologies.

The *International Trade committee* proposed stronger language on carbon leakage, noting that an international climate agreement *per se* would not eliminate the problem since the level of the commitments would vary with the EU in the upper range. It submitted a joint proposal with the *Economic and Monetary Affairs committee* of a new Annex IA setting out *minimum requirements for an international agreement*:

An international agreement including energy-intensive industries exposed to a significant risk of carbon leakage, or a sectored international agreement on such industries, must comply with at least the following criteria in order to provide a level playing field for such industries:

- (i) involve the participation of countries representing a critical mass of at least 85 percent of production
- (ii) contain equivalent CO₂ emission targets
- (iii) include similar emission reductions systems with equivalent effect imposed by all participating countries or from countries with non-equivalent CO₂ emission targets in sectors covered by the EU ETS
- (iv) ensure that competing materials must be subject to equivalent restrictions taking into account life cycles
- (v) provide for an effective international monitoring and verification system.

In the absence of an international or sectored agreement satisfying these conditions, the EU industry is subject to a significant risk of carbon leakage and should get 100 percent free allocation (as opposed to “up to 100 percent” in the original proposal). The *International Trade committee* argued that free allocation would make the inclusion of imports in the ETS redundant (the optional carbon equalization provision in the ETS proposal), thereby avoiding a potential conflict with the WTO rules. It also proposed that no emission reduction credits should be granted to projects outside the EU in sectors exposed to carbon leakage, since that would threaten the competitive position of the energy-intensive industry in Europe that would pay for its own abatement.

The *Economic and Monetary Affairs committee* took the same hard line position on carbon leakage as the International Trade committee, co-sponsoring the minimum participation amendment. In addition, it argued that at least 90 percent of the auction revenue (compared to 20 percent proposed by the Commission) should be earmarked to support the mitigation efforts of the sectors covered by the ETS.

The *Regional Development committee* argued against inclusion of aviation in the ETS, which would have disadvantaged remote regions of the EU, such as Cyprus and Malta. It also

proposed to delete all provisions on earmarking of the auction revenue, which was a matter for national, regional and local governments to decide.

Out of the some 200 proposed amendments, 79 made it into the *Draft European Parliament Legislative Resolution*, issued on 15 October 2008.¹⁰⁷ The *Resolution* reflected the desire to raise the ambition level and also the desire to hold down the costs for the European industry,

6.6. The Final Compromise¹⁰⁸

The last two months of 2008 was devoted to conciliation of the positions of the Council and the European Parliament (co-decision) with the ambition to reach a first reading agreement on the whole climate and renewable energy package by the end of the year. These negotiations were held behind closed doors under the chair of the French presidency of the Council. On 12 December 2008, the *European Council* (heads of state) announced a *political agreement*, just in time before the close of the Poznań conference hosted by the UNFCCC. A week later the package was approved by the *European Parliament* with an overwhelming majority. The main elements of the final ETS comprise, as finally adopted by the Council on 6 April 2009 are outlined below.

Target: as proposed by the Commission, emission allowances allocated in respect of the installations covered by the ETS should be 21 percent below their 2005 emission levels by 2020. Starting in 2013, the Community-wide cap shall decrease in a linear manner (1.74 percent per year) beginning from the mid-point of the allowances issued by the Member States for the period 2008 to 2012.

Auctioning: as proposed by the Commission, *auctioning* should be the basic principle for allocating emission rights; however, the transition period was extended to 2027 rather than to 2020 in the original proposal. Moreover, sectors and sub-sectors that are exposed to a significant risk of carbon leakage will receive 100 percent free allocation up to 2020, compared

inter alia, by proposing 100 percent free allowances for sectors exposed to significant risk of carbon leakage until the conclusion of a new climate agreement. The *Resolution* also called upon the EU to earmark at least 50 percent (as opposed to 20 percent) of the auction revenue to a dedicated international fund to reduce emissions in developing countries, including measures to avoid deforestation. The fund would also support adaptation to inevitable climate change.

to “up to 100 percent” in the original proposal. (The specific provisions for sectors and sub-sectors subject to significant risk of carbon-leakage are elaborated in section 6.7).

Allocation of Auction Rights:

- 88 percent of the allowances to be auctioned are to be distributed amongst Member States in proportion to their verified emissions under the Community scheme for 2005 or the average of the period 2005-2007, whichever one is the highest.
- 10 percent are to be distributed amongst certain Member States for the purpose of solidarity and growth within the Community (Annex IIa).
- 2 percent are to be distributed amongst Member States whose greenhouse gas emissions in 2005 were at least 20 percent below their emissions in their levels in the base year applicable to them under the Kyoto Protocol (Annex IIb).

The distribution of the auction rights differs from the original proposal in that another 2 percent are to be redistributed from Member States with a per capita income of more than 20 percent above the EU average to, in practice, the new Member States (apart from Cyprus and Malta).¹⁰⁹ This compromise accommodates the critique of the new Member States with the forward shift of the base year to 2005, which disadvantaged those that were ahead of their Kyoto assignments, and favoured those that were behind.

Earmarking of the Auction Revenue: the Council accepted the EP's proposal to earmark 50 percent of the proceeds (more than twice of the original proposal) to assist the efforts to reduce greenhouse gas emissions and transform the EU to a low-carbon and highly energy-efficient economy, as well as to support the efforts of developing countries to mitigate and adapt to climate change.

Emission Credits Earned in Developing Countries: the final comprise reinforced the "quality"

requirements on emission reduction credits earned outside the Community at the same time as extending the share of emission reductions that can be made outside the Community. Specifically, once an international agreement on climate change has been reached, additional credits of *up to half* of the additional reduction taking place in the Community scheme may be used, and only *high quality CDM credits* should be accepted in the Community scheme from 2013, once those countries have ratified the international agreement. (Recital 32).

6.7. The Competitiveness and Carbon Leakage Dilemma

Perhaps the hardest nut to crack in the final compromise was the carbon leakage issue. All member states that made their views public in the debate in the Environmental Council asked for urgent identification of sectors and sub-sectors exposed to significant risk of carbon leakage and clarifications of the allocations rules. The *International Trade and Economic and Monetary Affairs* committees in the European Parliament went even further and requested equivalent CO₂ emission targets for at least 85 percent of the global production of the sectors concerned as a condition for a new climate agreement. While a minimum participation clause was not included in the final deal, the language on carbon leakage was strengthened across the board, including the decision to grant 100 percent free allocation to the sectors and sub-sectors concerned up to 2020, to be reviewed in light of the outcome of the Copenhagen meeting.

The exceptional sensitivity of the carbon leakage issue (mentioned 19 times in the Directive) is captured, *inter alia*, in Recital 26 and Article 10a (13) of the amended ETS Directive:

Recital 26

Discussions in the European Council concerning the determination of the sectors or subsectors exposed to a significant risk of carbon leakage are of an exceptional character and in no way affect the procedures for the exercise of the implementing powers conferred on the Commission under Article 202 of the Treaty.

Article 10a (13)

By 31 December 2009 and every five years thereafter, after discussion in the European Council, the Commission shall determine a list of the sectors or sub-sectors referred to in paragraph 12 on the basis of the criteria referred to in paragraphs 14 to 17.

Every year the Commission may, at its own initiative or at the request of a member state, add a sector or sub-sector to the list referred to in the first subparagraph if it can be demonstrated, in an analytical report, that this sector or sub-sector satisfies the criteria in paragraphs 14 to 17, following a change that has a substantial impact on the sector's or sub-sector's activities.

For the purpose of implementing this Article, the Commission shall consult the member states, the sectors or sub-sectors concerned and other relevant stakeholders.

These provisions deviate from the standard *comitology* procedures where implementation decisions are delegated to the Commission in consultations with the member states.¹¹⁰ In this case, the member states insisted on a *direct* role in the identification process. What is even more exceptional is the involvement of the *heads-of-state* in the European Council, a body that does not deal with "technical" decisions under normal circumstances.¹¹¹ Moreover, the list will not be finalized once and for all but be subject to regular revisions, including on the request of a member state. The Commission is also obliged to consult

the industry and other stakeholders. We can thus expect intensive lobbying for inclusion on the list (sectors eligible to free allowances) both from the member states and the industry.

So what sectors are we talking about? The ETS Directive does not define which sectors will receive free allocation of emissions rights but rather the criteria that will be used for inclusion. The criteria include thresholds for the direct and indirect additional costs induced by the implementation of the ETS Directive and thresholds for the intensity of import and export competition. The assessment should also factor in the extent to which it is possible for the sector or sub-sector concerned to pass on the direct cost of the required allowances

and the indirect costs from higher electricity prices without significant loss of market share to less carbon-efficient installations outside the Community.¹¹² The methodology proposed by the Commission is outlined a “non-paper”, which also includes a list of sectors that has already been analyzed or announced their intention to provide information.¹¹³ The tentative list is attached below. It includes energy-intensive industries as expected, but also other industries have announced their interest to be considered for inclusion on the list, such as manufacturing of man-made fibres and textiles, two sectors that are renowned for their appetite for protection. Documents related to the ongoing identification process can be downloaded from DG Environment’s homepage.¹¹⁴

Table 4. Tentative List of Sectors and Status of the Information Provided

| Sectors currently being analysed | Sectors that have provided Information | Sectors that have announced that they will provide information |
|----------------------------------|--|--|
| Aluminium | Ceramics | Man-made fibres |
| Steel and Iron | Chemicals | Starch |
| Cement | Pulp and paper | Boards |
| | Magnesite and graphite | Manganese |
| | Potassium | Nickel |
| | Refineries | Expanded clay |
| | Zinc | Textiles |
| | Tyres | |
| | Copper | |
| | Glass | |
| | Aviation | |

Source: Commission services paper on Energy Intensive Industries exposed to significant risk of carbon leakage

The final compromise also maintained the option of introducing a *carbon equalization system* in the event of an unbalanced outcome in Copenhagen.

Recital 25

Energy-intensive industries which are determined to be exposed to a significant risk of carbon leakage could receive a higher amount of free allocation or an effective carbon equalisation system [underline added] could be introduced with a view to putting installations from the Community

which are at significant risk of carbon leakage and those from third countries on a comparable footing. Such a system could apply requirements to importers that would be no less favourable than those applicable to installations within the Community, for example by requiring the surrender of allowances. Any action taken would need to be in conformity with the principles of the UNFCCC, in particular the principle of common but differentiated responsibilities and respective capabilities, taking into account the particular situation of Least

Developed Countries (LDCs). It would also need to be in conformity with the international obligations of the Community, including the obligations under the WTO agreement.

Article 10b

By 30 June 2010, the Commission shall, in the light of the outcome of the international negotiations and the extent to which these lead to global greenhouse gas emission reductions, and after consulting with all relevant social partners, submit to the European Parliament and to the Council an analytical report assessing the situation with regard to energy-intensive sectors or sub-sectors that have been determined to be exposed to significant risks of carbon leakage. This shall be accompanied by any appropriate proposals, which may include:

(b) inclusion in the Community scheme of importers of products which are produced by the sectors or sub-sectors determined in accordance with Article 10a.

This option was raised by the European Parliament in the 2005 Resolution, requesting the Commission to investigate the possibility of using border adjustment measures to mitigate the carbon leakage problems in a future climate agreement with differentiated commitments.¹¹⁵ It was later picked up by the French Prime Minister Dominique de Villepin at the UN Climate Change Conference in Nairobi in November 2006, where he announced his support for border tax adjustments on import of industrial products from countries that refuse to commit themselves to the post-Kyoto protocol.¹¹⁶ Also the French president Nicolas Sarkozy supported this idea. In a letter to Jose Manuel Barroso, he warned: "If large economies of the world do not engage in binding commitments to reduce emissions, European industry will have incentives to relocate to such countries. ... The introduction of a parallel mechanism for border compensation against imports from countries that refuse to commit to binding reductions therefore appears essential, whether in the form of a tax adjustment or an obligation to buy permits by importers. This mechanism is in any case necessary in order to induce those countries to agree on such a commitment."¹¹⁷

The issue divided the Commission, at least initially. The Commissioner for Enterprise and Industry Günter Verheugen backed de Villepin's proposal. In a letter to the President Barroso he said that if Europe remained alone in cutting emissions, there was a risk that companies could shift their production where standards are more lax. He said that border tax adjustments for developed countries that have yet to implement the Kyoto treaty could balance out such effects.¹¹⁸ The Trade Commissioner, Peter Mandelson, took the opposite view. He dismissed Villepin's position as "highly problematic under current WTO rules and almost impossible to implement in practice".¹¹⁹ He also stressed that such a policy would "not be good for politics" and highlighted Europe's "historical environmental debt".¹²⁰ The Commission eventually decided to keep this option in the bottom drawer in wait for the outcome of the Copenhagen meeting. As explained by Barroso when introducing the energy and climate package to the European Parliament in January 2008:

We all know that there are sectors where the cost of cutting emissions could have a real impact on their competitiveness against companies in countries which do nothing. There is no point in Europe being tough if it just means production shifting to countries allowing a free-for-all on emissions. An international agreement is the best way to tackle this - but we also need to give legal certainty to companies that we will take the action needed. So energy intensive industries would have ETS allowances free of charge. And if our expectations about an international agreement are not met, we will look at other options such as requiring importers to obtain allowances alongside European competitors, as long as such a system is compatible with WTO requirements.¹²¹

The wait-and-see approach is supported by a majority of the member states.¹²² The first priority is to reach a comprehensive international agreement with meaningful commitments both from developed and economically more advanced developing countries. Only if this fails, the EU may reach for the bottom drawer (carbon equalization system).

6.8. Concluding remarks

Industries covered by the EU Emission Trading Scheme will have to reduce emissions by 21 percent by 2020, relative to the 2005 level. This is a significant undertaking that will involve considerable costs, especially for energy intensive sectors and sub-sectors, such as aluminium, cement, iron and steel, glass, industrial chemicals, pulp and paper and refineries. In the debate over the ETS reforms, the critique from the industry was not so much over the target itself, although the industry questioned the value of unilateral commitments of the EU, as over the proposed move to full auctioning of emission rights; which in their view would undermine the ¹²³competitiveness of the European industry at little gain to the climate since energy-intensive industries would move or expand abroad. By contrast, environmental NGOs pushed for full auctioning from day one, without exceptions. The NGOs argued, as did the Commission, that auctioning was the most efficient way of allocating emission rights and consistent with the polluter pays principle. Moreover, they favoured auctioning since that would generate large sums both for domestic and international mitigation and adaptation efforts. The compromise struck a balance between these conflicting views. The industry's demand was accommodated by an extension of the transition period to full auctioning from 2020 to 2027 for "normal" industries, whilst energy-intensive industries would receive free allocation up to 2020. The NGOs' demand was accommodated by raising the share of the revenue earmarked for mitigation and adaptation from 20 to 50 percent.

It is also worth noting that neither the industry nor environmental NGOs asked for a carbon equalisation system, at least not as their first choice. Nor did this option have strong support from the member states, apart from France. It was nevertheless maintained on the book, presumably to keep up the pressure on third parties to deliver in Copenhagen. Moreover, if Copenhagen fails completely, pressure will rise within the EU to back down from the 20 percent unilateral commitment. A carbon equalization system may then come in handy as a way of

reassuring industries of a levelled carbon field, if only on the EU home market.¹²⁴

Apart from competitiveness concerns and carbon leakage, the main issue was the distribution of burdens among the member states. For reasons that remain unclear, the Commission did not opt for the standard approach of supporting the mitigation efforts of the less developed member states through the Cohesion fund, which was favoured by the UK amongst others. The solution was instead to reallocate 12 percent of the auction rights from member states in the upper income bracket to member states in the lower income bracket. This amounts to a considerable transfer of income. The whole carbon market will be worth about 0.5 percent of the EU GDP by 2020, according to estimates of the Commission, and the revenue accruing to the less developed member states may *exceed one percent*, including revenue from reallocated auction rights. For example, Bulgaria, Rumania and the Baltic States will receive about 50 percent more auction rights than their basic allocation (the current needs of their domestic industry). Such *extra-budgetary* transfers would be difficult to get through the normal budget procedures of the EU, which is probably the reason for redistributing the auction rights (and associated revenues).

As a final comment, in the ongoing preparation for the Copenhagen summit, the G77 group has proposed that the industrialized countries should contribute between 0.5 and 1 percent of GDP to the international mitigation and adaptation funds.¹²⁵ Coincidentally, this equals the revenue estimates for the ETS by 2020. However, although the ETS will raise revenue worth about 0.5 percent of the EU GDP, it would be wrong to *assume* that it is just a matter of re-distribution from internal to external use. If the EU concedes, it will have to find *new money* for the support of the less developed member states, which in all likelihood would otherwise hold back their support for an international assistance package. That is, the financing of the adaptation and mitigation actions of developing countries would have to be taken from another account (See section 8.4).

7. POLITICAL-ECONOMY OF THE NON-ETS EFFORT-SHARING AGREEMENT¹²⁶

7.1. The Proposal¹²⁷

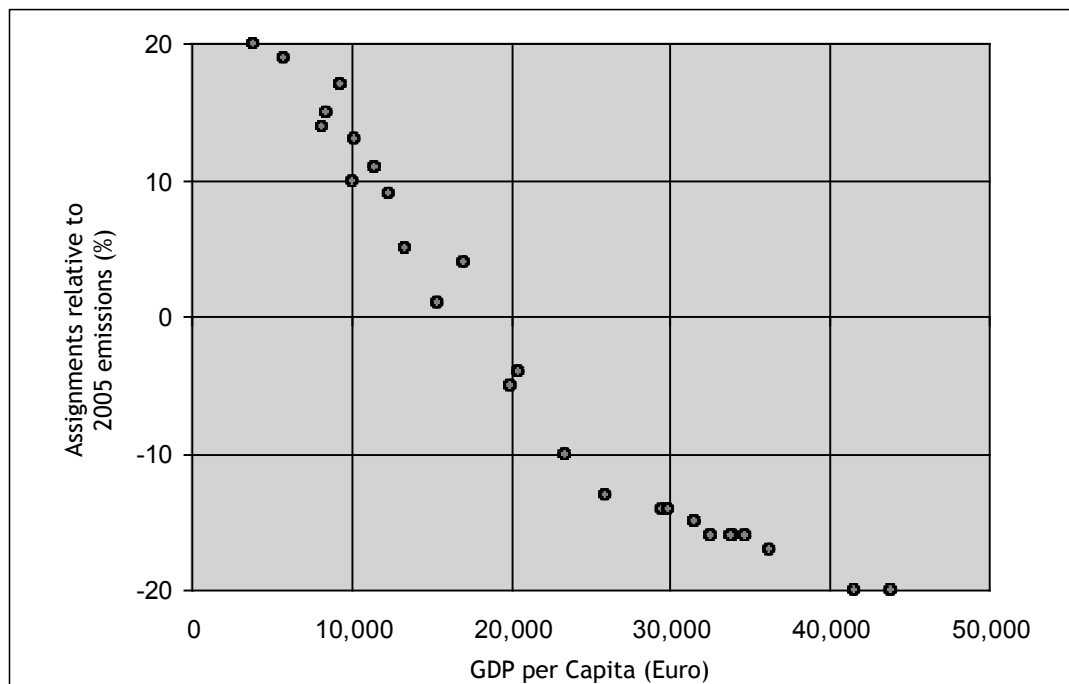
Since the ETS covers less than half of the greenhouse gas emissions, an EU framework was also needed for the remaining emissions - covering areas like residential heating, transport, agriculture, waste and industrial plants falling under the threshold for inclusion in the ETS. The Commission proposed that the target for the non-ETS sectors would be a 10 percent reduction in emissions from 2005 levels, with different targets for each Member State. This would partly be achieved through common EU measures, like tougher standards on CO₂ emissions from cars and fuel, and EU-wide rules to promote energy efficiency. Otherwise the Member States were free to determine where to concentrate their own efforts. Member States would also have access to CDM credits covering up to one-third of their individual assignments.

The proposed assignments across the Member States were based on *the principle of solidarity* and the need for sustainable economic growth

across the Community. In practice, the assignments were distributed according to a non-linear formula on the basis of *per capita incomes* with an upward cap of 20 percent and a downward cap of 20 percent. (Figure 7, note that Luxembourg at €75,000 per person is outside the figure for presentational reasons).¹²⁸ The cut-off point between those that have to reduce emissions and those that are allowed to grow emissions are at about €17,000 in per capita income. According to the Commission, the proposal would impose about-equal burdens in terms of reducing emissions relative to the business-as-usual scenario.¹²⁹

The Directive provides that each Member State shall ensure that the greenhouse gas emissions in 2013 from non-ETS sources do not exceed the average annual greenhouse gas emissions during the years 2008, 2009 and 2010, and that the emissions thereafter should be limited in a linear manner with the possibility to carry forward 2 percent between consecutive years.

Figure 7. The Effort-Sharing Agreement (Non-ETS Abatement)



7.2. The Debate in the Council

The effort-sharing proposal was debated in the Council in 2008, alongside the other elements of the climate and energy package. Unfortunately, there is a paucity of information on how the proposal was received since the proceedings were held behind closed doors. However, a summary was issued by the presidency after the first debate in the Council, which outlined “major outstanding issues”.¹³⁰ In summary, there were divergent views of whether the target should be uniform or per capita based, whether the base year should be 1990 or 2005, whether the division between ETS and non-ETS abatement was appropriate, and over the flexibility to meet national assignments through the CDM mechanism. (See Box 5 for details).

While the identities of the different perspectives were not disclosed, an educated guess is that the less-developed Member States preferred a per capita approach while the more-developed Member States preferred a uniform approach. Vice-versa, the more-developed Member States preferred further flexibility with regard to the use of the CDM mechanism, while the less-developed Member States preferred less CDM flexibility in order to increase the attractiveness of making investments within the Community under the JI window. Likewise, the national positions of the distribution of the burdens between the ETS and non-ETS sectors were presumably predicated on the national shares of the two sectors.

Box 5. Outstanding Issues Debated in the Council

Scope (Article 1)

The Commission proposal on effort sharing aims to reduce emissions in sectors not covered by the emissions trading Directive. Delegations would like to make clear in the text what these sectors are. Some delegations would like to explicitly refer to emissions from international maritime transport, while others would like to include emissions and removals from land use, agriculture and forestry.

Reference year (Article 3, paragraph 1 and Annex)

A majority of delegations can support the Commission proposal to use 2005 data to calculate the overall aggregate reduction targets per Member State. However, a group of delegations would like to recalculate those targets on the basis of 1990 data, arguing that the choice of 2005 as the reference year hides the differences in the efforts undertaken by Member States in greenhouse gas emission reductions until 2005, which in their view are not taken into account. A group of delegations proposes an economy-wide flat rate target of -18 percent relative to the respective Kyoto Protocol targets for all Member States.

Intermediate targets (Article 3)

While welcoming in principle the Commission proposal for an annual reduction of the non ETS emissions in a linear manner, several delegations pointed out some difficulties related to this linear reduction: a) it is extremely difficult to control very different/diverse sectors in order to have a linear reduction annually; b) it can work as a perverse incentive for Member States to increase emissions if the starting point is 2008-2010; c) the level of flexibility is not sufficient to take into account potentially difficult years with respect to both climatic and economic conditions. Moreover, some delegations consider the nature of the intermediate targets should be indicative and that the obligation to comply with these intermediate targets can be counter-productive for Member States in their efforts to cost-effectively meet the 2020 target.

Box 5. Continued**Cross-cutting issues (between EU ETS review and Effort-sharing)**

The Commission proposal includes an adjustment clause enabling the EU to move from the independent 20 percent commitment to a more ambitious target to which a future international agreement will commit the Community. Generally, Member States would have liked the impact assessment to be as thorough for the more ambitious emission reduction commitment to be taken on in the framework of an international agreement as it is for the 20 percent commitment. There are concerns that the quasi-automatic adjustment to be done through comitology once the international agreement is in place does not sufficiently take into account cost-efficiency issues, in particular as regards the ETS/non-ETS split, nor that it adequately takes into account the Kyoto Protocol achievements since 1990.

Flexibility

The majority view is that Member States need more flexibility than is currently allowed in the ETS and effort sharing proposals in order to meet their commitments in a cost-efficient way. This additional flexibility could take several forms, inter alia allowing a greater use of credits from project-based mechanisms in ETS and non ETS sectors; allowing trade between Member States within the non trading sectors as well as between ETS and non ETS, allowing a wider margin for manoeuvre on banking and borrowing in the non trading sectors.

7.3. The Debate in the European Parliament

The effort-sharing proposal on non-ETS abatement was assigned to the Committee on Environment, Public Health and Food Safety (responsible) and the Committee on Industry, Research and Energy (associated). Three other committees issued opinions, including Economic and Monetary Affairs, Employment and Social Affairs and Regional Development. The following highlight these different positions.

The responsible *Committee on Environment, Public Health and Food Safety* argued that the general ambition level was too low. The Rapporteur proposed that the effort-sharing decision and other elements of the climate and energy package would be based on the conditional 30 percent target endorsed by the European Council. As described in the *explanatory statement*, “this would direct the planning and implementation measures in the EU Member countries to the 30 percent reduction from the beginning. It would not be difficult to relax this target later if the post-2012 climate agreement would not be in time. But, if Member States prepare themselves and plan measures based on an overall reduction of just 20 percent, it will

be much more difficult to tighten the measures later.” The Rapporteur of *Committee on Industry, Research and Energy* explained in the “short justification” that he did not intend to table any amendments on either the target or distribution between the Member States, both of which were the results of “long negotiations between the Member States”. Instead, the amendments asked for more flexibility in implementing the decision, including the possibility to transfer allowances from the ETS pillar to the non-ETS pillar as well as between Member States. The *Committee on Economic and Monetary Affairs* asked for biannual monitoring reports to ensure that the Member States did not implement their obligations in a way that would distort the competition in the internal market. It also asked for a compliance mechanism modelled after the ETS Directive. The *Committee on Employment and Social Affairs* was primarily concerned with the implications for workers and households. It proposed that structural funds from the European Social Fund and, where appropriate, the European Globalisation Adjustment Fund should be made available to facilitate the adjustments and restructuring in the labour market.

7.4. The Final Compromise

The final compromise accommodated most of the demands that were raised during the debate in the Council and the European Parliament. The effort-sharing formula *per se* was untouched but with the additional flexibility that a Member State may transfer up to 5 percent of its annual emission allocation for a given year to other Member States, including, via auctioning, use of market intermediaries acting on an agency basis, or by way of a bilateral arrangement.¹³¹ This amendment effectively opens up a new “informal” government-to-government carbon market alongside the ETS. The market potential is huge, considering that some Member States may increase emissions by up to 20 percent by 2020, while others will have to cut emissions by up to 20 percent, compared to 2005 levels. Properly executed, this will even out the marginal abatement costs across the EU for non-ETS emissions.

However, the final compromise did not include the possibility to transfer unused allowances from the ETS pillar to the non-ETS pillar, and vice-versa. We have no information on what grounds this proposal was denied, but it means that there will be two market prices for carbon in the EU (one price for ETS emissions and another price for non-ETS emissions), which is not efficient.

The final compromise also provided some additional flexibility with respect to the share

of the annual emission budget that can be carried forward between consecutive years (5 percent as opposed to 2 percent in the original proposal). Moreover, Member States are allowed to count afforestation and reforestation credits towards their national obligations, under certain conditions.¹³² Member States with an emissions reduction target or an increased target of at most 5 percent are also allowed to use 1 percent *additional* CDM credits from projects in Least Developed Countries and Small Island Development States.¹³³ This amendment was not only a response to the demands for more “flexibility”, but also a response to the observations that very little CDM investments were made in Africa and other LDCs. By reserving a share for them, the hope was that they would get a stake in the efforts to combat climate change.

Another new element of the final compromise was the introduction of sanctions.¹³⁴ Excessive emission units will be deducted in the following year with a penalty factor of 1.08. In other words, the interest rate to “borrow” from future allocations is 8 percent. Member States in breach will also lose their right to transfer unused allowances and CDM credits to other Member States. They must also submit a “corrective action plan” to the Commission, explaining how and when they will get their act together. The reporting and verification mechanisms were also elaborated in the final compromise.

7.5. Concluding Remarks

About half of the Community’s abatement of greenhouse gases until 2020 will have to be done outside the ETS system. How this is to be achieved is largely up to each member state to decide. The individual assignments range from minus 20 percent to plus 20 percent and are based on a per capita income criterion. The cut-off point between those that have to reduce emissions and those that are allowed to grow emissions are at about €17,000 in per capita income. If this threshold were to be applied at the international level, there wouldn’t be many countries that would have to cut emissions in absolute terms; only relative to the business-as-usual scenario. For example, the BRICs countries fall far below this threshold.¹³⁵

The non-ETS Directive allows the member states to transfer up to 5 percent of their allocation of emission rights, including via *auctioning* or by way of bilateral arrangements.¹³⁶ This opens for a government-to-government carbon market alongside the ETS. Properly executed, this will even out the marginal abatement costs across the EU for non-ETS emissions. However, since transfers are not allowed between the ETS and non-ETS markets, the EU may find itself in a situation with two carbon prices. This is not efficient and at odds with the ambition to create a global carbon market with a unified price of CO₂ emissions in the world (and other GHGs).

8. THE POLITICAL–ECONOMY OF THE COPENHAGEN MANDATE

8.1. The Negotiation Mandate

The energy and climate package adopted in December 2008 is the basis on which the EU will negotiate in Copenhagen. The EU delegation will be led by the Presidency of the Council (Sweden) and the Commission. The 27 Member States will also send national delegations to Copenhagen, being parties in their own right to the UNFCCC and the Kyoto Protocol. However, they will not negotiate independently. Everything will be orchestrated by the EU delegation. If demands are posed on the EU that go beyond the agreed mandate, the EU delegation will have to seek consensus from the 27 Member State delegations and representatives of the European Parliament, which will also be present. Parallel consultations will also be held with representatives of the European industry and Civil Society, which will do their utmost to induce desirable movements and block undesirable. The EU will, in all likelihood, spend as much time negotiating with each other than with others; if not more. It will therefore not be easy for others to move this huge negotiation machinery outside the original mandate.

The EU has made an autonomous (unilateral) commitment to achieve at least 20 percent reduction of greenhouse gas emissions by 2020

compared to 1990. The effective commitment is 12 percent additional reduction, since the EU is already committed under the Kyoto Protocol to reduced emissions by 8 percent by 2008-2012. About *a third* of the new commitment can be achieved by CDM and JI projects outside the EU. The EU has also announced that it is ready to go to 30 percent, provided that other developed countries commit themselves to comparable emission reductions and economically more advanced developing countries to contributing adequately according to their responsibilities and respective capabilities. What EU expects of others to reach for the higher target was outlined in the Council Conclusions of March 2009.¹³⁷ In a nutshell, other industrialized countries must make comparable undertakings to those of the EU whereas economically more advanced developing countries are expected “to achieve a substantial and quantifiable deviation below the currently predicted emissions growth rate”. In other words, the economically more advanced developing countries - which is the “short-hand” for the BICs (Russia is an Annex I party) plus South Africa and some other major emitters - are expected to curb their emission growth with the aim of stabilization in the near future.

Box 6. What the EU Expects of Others to Reach the Conditional 30 Percent Target

Annex I parties and non-Annex I parties that are at levels of development and GDP/capita to those of the group of developed countries (Recital 11-12)

Annex I parties and non-Annex I parties that are at levels of development and GDP/capita comparable to those of the group of developed countries (Recital 11-12). The Copenhagen agreement should contain binding quantified emission limitation or reduction commitments for at least all Parties listed in Annex I to the UNFCCC and all current EU Member States, EU candidate countries and potential candidate countries that are not included in Annex I to the UNFCCC; CALLS UPON other non Annex I Parties that are at levels of development and GDP/capita comparable to those of the group of developed countries, notably OECD Member countries and candidates for Membership thereof, to consider making similar commitments commensurate with their responsibilities, capabilities and national circumstances; PROPOSES that the Copenhagen agreement include an appropriate level of ambition of measurable, reportable and verifiable mitigation commitments and actions by Parties.

STRESSES that the overall target for developed countries must be distributed in a manner that is fair and ensures the comparability of efforts; CONSIDERS that the distribution of the overall target for developed countries should be guided by considerations of capability and responsibility,

Box 6. Continued

making use of a balanced combination of criteria, such as:

- the capability to pay for domestic emission reductions and to purchase emission reduction credits from developing countries
- the GHG emission reduction potential
- domestic early action to reduce GHG emissions
- population trends and total GHG emissions.

Developing countries (Recital 15-16)

CONSCIOUS that greenhouse gas emissions from developing countries as a group are projected to increase in the medium term in line with their growing population and development; UNDERLINES that opportunities exist for them to follow a low greenhouse-gas-development pathway building on national development strategies and plans; STRESSES that the latest scientific research indicates that achievement of the necessary global emissions trajectory to keep the 2°C objective within reach will require developing countries as a group, in particular the most advanced among them, to achieve a substantial and quantifiable deviation below the currently predicted emissions growth rate, and further NOTES that recent analysis indicates that such deviation will need to be of the order of 15 to 30 percent below business as usual by 2020, respecting the principle of common but differentiated responsibilities and respective capabilities.

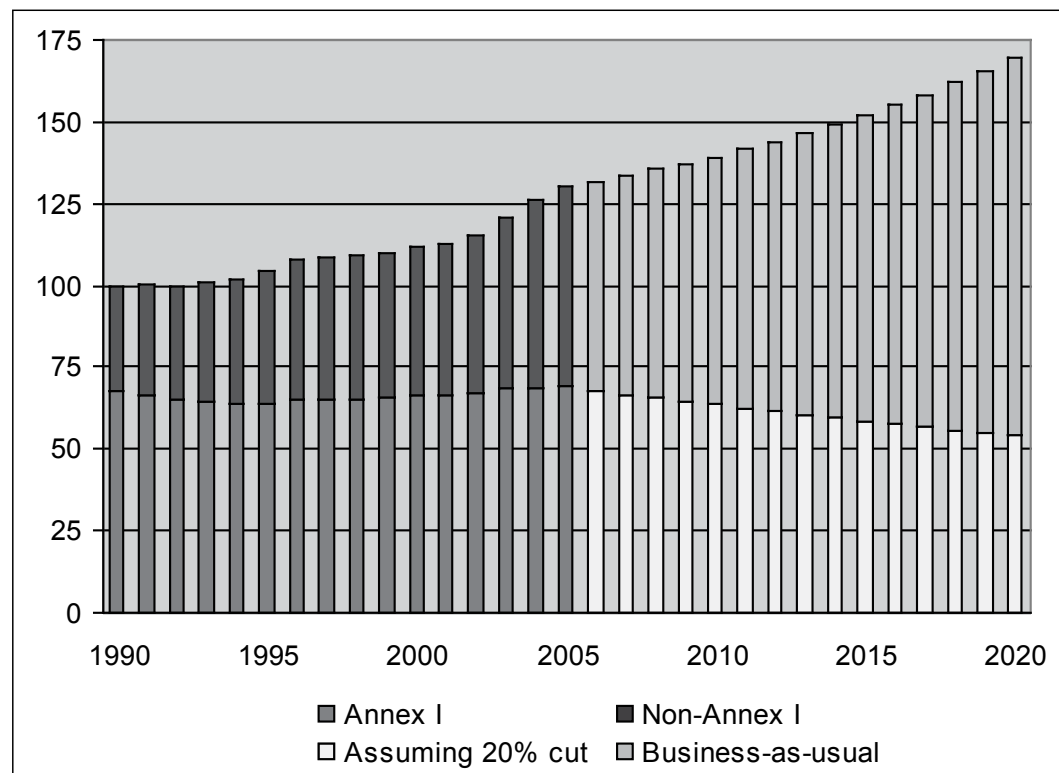
CONSIDERS that, in accordance with this principle, developing countries should commit to integrate low-carbon development strategies and plans covering all key emitting sectors into national and sector strategies and plans and to update them as soon as possible and by no later than 2012 so as to be consistent with the achievement of the 2°C objective; PROPOSES that those strategies and plans should differentiate between those actions which can be undertaken autonomously and those which require support, particularly those which will result in positive incremental costs that cannot readily be borne by the country itself, and further CONSIDERS that low-carbon development strategies and plans for the least developed countries should be supported financially and technically.

8.2. Why a Conditional Offer?

Why did the EU make a conditional 20/30 bid instead of an unconditional 30 percent bid, as advocated by climate scientists, environmental NGOs and the EP Committee on Environment, amongst others? There were two considerations behind this strategy.

The *first* and obvious consideration is that the EU, with a 13.8 percent share of global emissions, cannot halt and reverse climate change on its own. Even if the EU would cut emissions by 30 percent by 2020 and 60-80 percent by 2050, global emissions would continue to rise unless other parties do their share. In fact, even if *all* Annex I parties join forces with the EU, global emissions will rise unless the emissions of developing countries are

simultaneously curbed, if not in absolute terms relative to the business-as-usual scenario. This is shown in Figure 8 for the example of CO₂ emissions, which is based on the assumption that Annex I emissions will be 20 percent lower by 2020 relative to the 1990 level, whilst emissions of non-Annex I parties continue to rise at the 10 year trend (1995-2005). Under this scenario, global CO₂ emissions will be 70 percent higher by 2020 than 1990. The major result of one-sided commitments is a shift in the global emission patterns, with non-Annex I emissions making up two-thirds of the total by 2020. The “inconvenient truth” is that climate change can only be addressed by a collective effort of the entire world, in accordance with the UNFCCC principle of common but

Figure 8. Emissions of Carbon Dioxide 1990–2005 and Projections to 2020

Source: Own projections based on data from the Climate Analysis Indicators Tool (CAIT) developed by the World Resources Institute.

differentiated responsibilities. Viewed from this perspective, it wouldn't make sense for the EU to offer 30 percent unilaterally. The EU needs some bargain chips at the table in order to lure other parties to make ambitious offers. If others do more, the EU will do more, and we will all be better off.¹³⁸

Secondly, and equally important, it was not possible, politically, to offer 30 percent unconditionally. Even the 20 percent target was the result of difficult compromising. The energy-intensive industry had to be "bought off" with assurances of longer transition periods and free emission allowances; less-developed Member States with generous allocations of emission allowances (non-ETS) and auction rights (ETS); and developed Member States with flexible rules on CDM credits. This grand bargain would have crumbled if the unilateral target had been set higher. The industry also played the carbon leakage card very successfully, arguing that unilateral actions would do little for the climate because of the relocation effects. This argument has a plausible ring for many policymakers

even if the empirical evidence to date is rather weak.¹³⁹ Few politicians are ready to sacrifice, or be *viewed* to sacrifice, the industrial basis for nothing. As put by the President of the Commission, José Manuel Barroso, "There is no point in Europe being tough [on itself] if it just means production shifting to countries allowing a free-for-all on emissions."¹⁴⁰

The intertwined competitiveness and carbon-leakage concerns thus had a clear chilling effect on the ambition level. It was not possible to go any further *unconditionally*. The case will be very different if the Copenhagen conference leads to an ambitious global climate agenda with fair contributions from everyone. Indeed, the main concern of the European industry was not higher abatement costs *per se* but higher *relative* costs *vis-à-vis* foreign competitors. If everyone carries "comparable burdens", the target could in principle be anything. The punch line is that the conditional 30 percent target is a *political equilibrium* if, and only if, all parties carry their weight in Copenhagen. This proposition is elaborated further in Annex I.

8.3. International Climate Finance

The EU will also bring a promise of financial support to Copenhagen to allow developing countries to undertake ambitious commitments. There is no decision yet just *how* much support the EU will offer, but the contours and conditions are now beginning to emerge.

On 13 September 2009, the Commission presented a blueprint for a Copenhagen deal on international climate finance.¹⁴¹ The Commission estimates that the finance requirements for adaptation and mitigation actions in developing countries would be in the order of €100 billion per year by 2020, depending on the undertakings made by developing countries in Copenhagen. Domestic finance (public and private) in developing countries, the global carbon market and complementary international public financial flows should all play a role in meeting these requirements. Domestic private and public finance could deliver between 20-40 percent, the carbon market up to around 40 percent, and international public finance could contribute to cover the remainder. The more ambitious the overall agreement is in terms of mitigation, the more it will require financial support from developed countries to the developing world. At the same time, more ambitious and widespread cap and trade systems will also generate more resources for mitigation activities in developing countries.

Based on the Commission's estimate, international public funding in the range of €22-50

billion per year should be made available in 2020. The Commission proposes that the public funding contributions, including from economically more-advanced developing countries, should be shared out on the basis of (1) *ability to pay* and (2) *responsibility for emissions*. Depending on the weight given to the two criteria, the Commission estimates that EU's share will be between 10 and 30 percent of the public funding, or €2-15 billion per year in 2020.¹⁴² As far as eligibility is concerned, the proposal includes an implicit *conditionality*. All countries that intend to draw on the funds should present a long-term low-carbon national growth strategy by 2011. The idea is that the international finance will tie into these national strategies. The funding should reward performance and be verifiable.

The blueprint was forwarded to the Council and the European Parliament for review. Apart from the total contribution of the EU, the Member States will have to agree on a formula for the *internal* burden sharing. The preferred option of the Commission is to finance the undertaking over the common EU budget. Alternatively, burdens should be shared out following the same principles as the international level, i.e., based on the ability to pay and responsibility for emissions. The final proposal, as amended by the Council and the European Parliament, should be ready before or at the Copenhagen summit.

9. LESSONS FOR COPENHAGEN

As has hopefully been made clear in this paper, the EU has struggled for many years to get an ambitious and coherent climate strategy in place. There are now 27 Member States around the table with different national interests and engagements in the climate change issue, each having a veto power over critical aspects of the strategy (fiscal measures and energy policy). It has taken considerable leadership by the Commission and some driving Member States to get the energy and climate package together, including the conditional 20/30 offer for Copenhagen. Although the analogy of the “microcosm” of climate change negotiations is not perfect, the *internal* climate change negotiations may give some insights on what may be required in Copenhagen to conclude a comprehensive international climate agreement.

The internal recipe includes four ingredients: (a) strong leadership, (b) a burden/effort sharing formula with differentiated obligations; (c) financial support to the less-developed Member States to ease the transition to a low-carbon development path; and (d) provisions reducing the competitiveness and climate leakage concerns. To these one could add (e) pressure from the international community. The EU has always been able to deliver in the end, but it has usually been a race against the clock to meet the deadlines for international climate conferences and/or negotiations.

Not surprisingly, these are the same ingredients discussed at the preparatory UNFCCC working groups for Copenhagen.¹⁴³ The question is what additional insights the internal negotiations in the EU can give for Copenhagen? We will look in turn at the four ingredients of the internal recipe for clues.

The first ingredient of *strong leadership* cannot be over-emphasized. This has been provided in the EU by the Commission and some climate-conscious Member States in northern Europe, with support also from green members of the European Parliament. The first stabilization target adopted by the Council in October 1990

was made possible by the pledges of a handful of Member States, particularly Denmark and Germany (and to a lesser extent the Netherlands) that had adopted far-reaching national plans to reduce CO₂ emissions unilaterally by 20/25 percent by 2000/2005. The green camp in the Council added 3 new Members with the accession of Austria, Finland and Sweden in 1995. The tripartite alliance between the Commission, green members of the Council and the Parliament has, against all odds, been able to overcome the internal resistance. Without this leadership, the EU would still have been at square one.

At the international level, the process is primarily driven by the parties. The secretariat of the UNFCCC does not have the executive powers of the European Commission, although it provides invaluable intellectual leadership together with the IPCC. The political leadership must instead come from the parties themselves. In the absence of the US during the Bush administration, the EU has been forced to take on this difficult task. (Leaders are assumed to *lead by example*, forcing them to take on a disproportionate burden). Other leaders will now have to step forward. Many are hoping for the Obama administration to pick up the gauntlet. So far they have been preoccupied with domestic issues such as sorting out the financial crises and getting a health bill through Congress. China is another candidate that has recently shown signs to shoulder more responsibility, as has Japan. But more parties will have to step forward to give the process a genuine multi-polar motion. It would be particularly valuable if more developing countries would carry their weight (India?) in order to break the unfortunate “North-South” divide. The EU example clearly shows that progress can only be made by a multi-polar effort that can speak both for and to different constituents.

This takes us to the second and closely related ingredient, *the burden/effort sharing formula*. Given the institutional and treaty constraints, with veto power for the Member States on key

elements of the climate strategy, the leaders have been forced to take on a disproportionate share of the burdens to make any headway. They have not, however, accepted that the less-developed Member States should get a “free-ride”. The responsibility for addressing climate change is common, albeit differentiated. The difficulty has been to translate this principle into individual responsibilities. The concept of “comparability of efforts” was introduced in the negotiations on the Kyoto Protocol commitments. Although the “Triptique Approach” was not accepted *in verbatim*, the 1998 burden sharing agreement reflected some adjustments along these lines. Member States that were not in a position to reduce emissions in absolute terms had to agree to a cap on their emission growth. This is about where the world at large is today, and the compromise in Copenhagen would probably have to involve the same kind of compromise.

The third ingredient in the internal recipe is *financial support* of the less-developed Member States to ease the transition to a low-carbon development path. The financing issue was solved in an ingenious way in the EU through redistribution of auction rights under the EU ETS. Specifically, 12 percent of the auction rights will be distributed to the Member States in the lower income brackets. Some Member States will receive more than 50 percent more auction rights than their basic allocation. The additional revenue may be worth 0.5 percent of GDP by 2020, depending on the market price of the allowances. The income transfer is earmarked for climate investments. The financing issue would somehow have to be solved also at the global level. One could, for instance, imagine that a share of the revenue from a future global carbon market could be set aside for mitigation and adaptation actions in developing countries, as within the EU, but such a market is long way off. In the meantime, the EU has proposed a formula for sharing the financing burden based on (a) ability to pay and (b) responsibility for emissions. It remains to be seen if such a formula, or a version thereof, will be accepted in Copenhagen.

The fourth ingredient in the internal recipe are provisions that reduce the competitiveness and climate leakage concerns. This is bound to be a controversial issue in Copenhagen (and in the WTO) but it must be faced. Competitiveness and carbon leakage concerns have been a restraining factor for the climate policy of the EU from the early days in the 1990s. In the absence of such concerns, the EU would have moved both faster and more forcefully. (It was also the reason why the US backed down from the Kyoto protocol). Repeating the comment of the President of the Commission, José Manuel Barroso, “There is no point in Europe being tough [on itself] if it just means production shifting to countries allowing a free-for-all on emissions.”¹⁴⁴ For its part, the EU decided to leave the option of a “carbon equalisation system” in the bottom drawer awaiting the outcome of Copenhagen. But it came at the cost of having to concede free allowances to sectors and sub-sectors exposed to a significant risk of carbon leakage. The forgone auction revenue would have gone a long way towards financing the EU’s contribution to international climate finance.

In the best of all possible worlds, it is hoped that Copenhagen will be a success, with all parties making meaningful commitments in accordance with the principle of common but differentiated responsibilities. Auctions could then be phased in at a faster rate in the EU and other countries considering domestic cap-and-trade systems. Share of the revenue could be used to finance mitigation and adaptation actions in developing countries, which would reduce the cost for developing countries to undertake ambitious commitments in the first place. And there would be no need to reach for the bottom drawer (border tax adjustments), with all the tensions it would create for the global trade system.

While I am unable to give more precise recommendations for Copenhagen, I hope this paper has contributed not only to the understanding of the climate policies of the European Union, and the restrictions imposed by the Treaty and internal decision-making rules, but also provide some important insights on the “microcosmic” level for Copenhagen.

ANNEX I – THE ENDOGENOUS LINK BETWEEN DOMESTIC ABATEMENT EFFORTS AND CARBON LEAKAGE (“AMBITION–LEAKAGE”)

This annex elaborates on the proposition made in Section 8.2 that carbon-leakage reduces the optimal level of the domestic abatement efforts, referred to as “ambition-leakage”, and the corollary that the ambition level can be raised if the carbon leakage dilemma can be brought under control, preferably by an ambitious outcome in Copenhagen, alternatively by a carbon equalization system.

While the empirical literature argues about the exact magnitude of the carbon leakage effect, everyone agrees that it will increase with the level of abatement, taking the abatements of competing nations as given. The reason is that the marginal abatement cost increases, and most likely at an ever increasing rate, with the abatement efforts. The first units are cheap to abate because of off-the-shelf technologies. The investments may even pay for themselves if the technologies save energy. However, it will take more and more sophisticated and expensive technologies to reduce CO₂ or other GHG emissions at the margin.

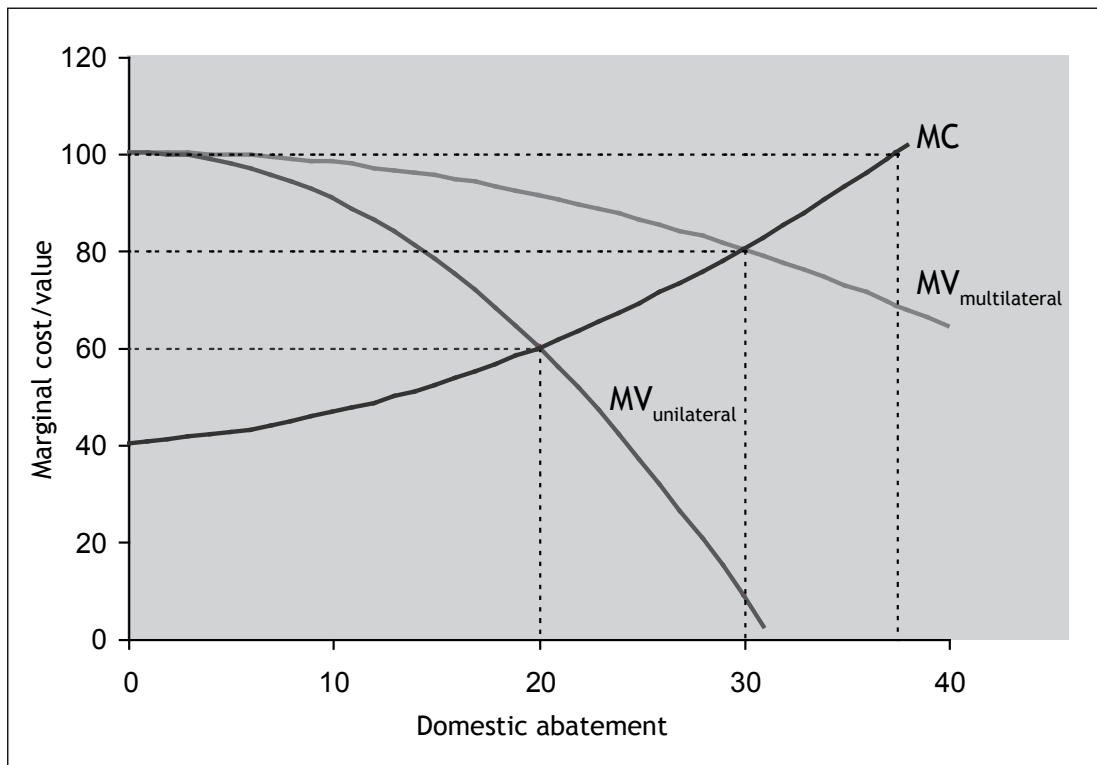
The marginal abatement costs thus increase with the abatement (ambition) level, most likely at an increasing rate. Somewhere along this marginal abatement function, industries will start to lose market shares to foreign competitors operating under more lenient emission standards. Domestic firms may even consider relocation if the cost advantages abroad are sufficiently attractive. Either way, domestic abatement efforts will be partly undone by increased emissions abroad, the “carbon-leakage” effect. When an activity is “taxed”, one should normally expect that the activity level falls, in this case the domestic abatement efforts.

To fix ideas, consider the extreme case of 100 percent carbon leakage. No matter how much is spent on domestic abatement, global emissions will stay the same. The incentives to abate

become nil, assuming that policy-makers look at the *end* result. Of course, this assumption can be questioned. Countries may take responsibility for their own emissions to get a cleaner conscience, even if the efforts are for naught because of carbon leakage. However, given the weight of carbon leakage in the public debate, not least in the EU, it is reasonable to assume that governments are also concerned about end results. Costly gestures that are empty will not win elections. The aim of the domestic abatement is to avoid damaging the climate, with the resulting costs, and this can only be achieved if domestic abatement is not undone by increasing emissions elsewhere.

We are now ready to “prove” the proposition that carbon leakage reduces the optimal level of abatement, assuming that policy-makers behave like the text book, by abating up to the point where the marginal abatement cost equals the marginal value (damage avoided).

Consider the figure on the opposite page. As shown, the marginal abatement cost (MC) starts at €40 million for the 1st unit of abatement, rising to €46 million for the 10th unit, €60 million for the 20th unit, €80 million for the 30th unit. (The numbers are made up). Assume that the carbon leakage is negligible for the first unit of abatement and that the marginal value of the actions (climate damage avoided) is €100 million. Obviously, the marginal value is higher than the marginal cost. The first abatement investment was worthwhile for society, if not for the industry/households that had to carry the costs. When society reaches for additional and more costly abatement opportunities, moving to the right in the figure, carbon leakage will start to set in, reducing the *net returns* on investments. This is represented in the figure by a falling marginal value function, denoted $MV_{unilateral}$. (The other marginal function, denoted $MV_{multilateral}$, represents a multilateral scenario that we shall come back to). The

Figure 9: The Economics of the Conditional 20/30 Bid

reason why the marginal value function falls is that global emissions do not fall at the same rate as domestic emissions. The function is assumed to fall at an increasing rate because the translation between domestic abatement and global abatement becomes smaller and smaller, the more costly abatement technologies that have to be used.

The optimal abatement level is where the marginal abatement cost MC crosses the marginal value function $MV_{unilateral}$. It makes no sense to go any further, since marginal costs would be higher than the marginal value (damage avoided). The optimal abatement level “happens” to be 20 units, which we may think of as 20 percent below 1990 levels. This equilibrium depicts the *unilateral* undertaking by the EU for Copenhagen.

Assuming that the carbon leakage can be reduced by a comprehensive international climate agreement, where all industrialized countries and economically more advanced developing countries undertake some meaningful commitments, this would reduce the carbon leakage dilemma

for the EU since it is driven by *relative* abatement (production) costs. If the cost increases for all firms in the world, albeit not equally, the carbon leakage would fall for each level of undertaking by the EU. The Copenhagen scenario is represented by a shift upward of the marginal value function from $MV_{unilateral}$ to $MV_{multilateral}$. As a consequence, it is optimal for the EU to raise its own ambition level from 20 to 30 units (percent below the 1990 level). The reason is that the net-of-carbon-leakage returns of EU’s climate investments go up. A 20/30 percent condition is thus a rational strategy. The unilateral 20 percent offer is optimal if the EU acts alone, and the 30 percent offer is optimal if all countries act in unison.

The more general conclusion is that carbon leakage leads to “ambition leakage”, by reducing the returns on climate investments. The returns can either be raised by concerted abatement efforts of the entire world, leaving relative production costs unchanged, or by unilateral carbon equalisation systems that impose the same burdens on imports as on domestic firms.

ENDNOTES

- 1 Quoted from the Explanatory Statement attached by Rapporteur Avril Doyle, Committee on the Environment, Public Health and Food Safety (ENVI), to the Draft European Parliament Legislative Resolution regarding the proposal for a Directive amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading system of the Community (A6-0406/2008, 15 October 2008, p. 69).

<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A6-2008-0406+0+DOC+PDF+V0//EN&language=EN>.
- 2 The classical analysis of the “the tragedy of the commons” is due to Garrett Hardin in an article in “Science” in 1968. The article describes a dilemma in which multiple individuals acting independently in their own self-interest can ultimately destroy a shared limited resource even when it is clear that this is not in anyone’s long term interest. Hardin phrased the dilemma in a metaphor showing herders sharing a common parcel of land on which they are all entitled to let their animals graze. In his analysis, it is in each herder’s interest to put as many animals as possible onto the land. The herder receives all of the benefits from the additional animals, while the damage to the commons is shared by the entire group. If all herders make this individually rational decision, the land is overgrazed and all herders suffer. Transposed to the climate change context, the commons is the atmosphere, herder nations acting in their own self-interests and animal production and consumption activities that emit carbon dioxide and other greenhouse gases, including deforestation and other land-use change that diminish the natural “carbon sinks”.
- 3 BRUSSELS EUROPEAN COUNCIL, 8/9 MARCH 2007, PRESIDENCY CONCLUSIONS, paragraph 30-31, downloadable at: http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ec/93135.pdf.
- 4 COM(2009) 475/3, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Stepping up international climate finance: A European blueprint for the Copenhagen deal. http://ec.europa.eu/environment/climat/pdf/future_action/com_2009_475.pdf.
- 5 http://en.wikipedia.org/wiki/List_of_countries_by_carbon_dioxide_emissions.
- 6 Ibid.
- 7 I stress *in theory* because the political pressure on the Member States that drag their feet is difficult to withstand.
- 8 Article 2: “It shall be the aim of the Community, by establishing a Common Market and progressively approximating the economic policies of Member States, to promote throughout the Community a harmonious development of economic activities, a continuous and balanced expansion, an increased stability, an accelerated raising of the standard of living and closer relations between its Member States.”
- 9 See Vogler (2004) for a detailed account of the origins of the common environmental policy.
- 10 OJ L 76, 6.4.1970, p. 1.
- 11 OJ C 009, 15/03/1973.

- 12 Case 22/70, Commission v. Council (Re European Road Transport Agreement (ERTA)).
- 13 The "subsidiarity principle" is now encompassed in a general clause, Article 5 of the Treaty, applicable to all areas of mixed competence. It reads: "In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community. Any action by the Community shall not go beyond what is necessary to achieve the objectives of this Treaty."
- 14 Article 130s.
- 15 Article 130r, indent 5.
- 16 Under article 208 of the Treaty, "the Council may request the Commission to undertake any studies the Council considers desirable for the attainment of the common objectives, and to submit to it any appropriate proposals." The European Parliament has similar *de facto* powers.
- 17 The difference between "Green Papers" and "White Papers" is that the former is more open-ended while the latter may include sharp proposals.
- 18 These assemblies are financed over the EU-budget and are an integral part of the decision-making structure, albeit without voting power. The ESC is composed of representatives from various socio-economic groups, including industry and labor interests. The CoR is an assembly for regional and local interests.
- 19 The Council is composed of ministers from each member state with power to commit the government. The Council meets in nine configurations depending on the subject. Overreaching policy decisions are taken at the heads-of-state level in the European Council. The presidency of the Council is held for six months by each Member State on a rotational basis. The presidency chairs the meetings and is responsible for mediating the positions of the Member states with assistance from the Council Secretariat and the Commission and its Services. Decisions are taken by a qualified majority vote, unless otherwise indicated in the Treaty. The number of votes cast by each Member State depends on the population size with some overweight for the smallest and some underweight for the largest members.
- 20 The Member States with the largest population have 27-29 votes, medium-sized States 7-14 votes and small States 3-4 votes. A *qualified majority* is attained if:
- (1) a majority of member states approve;
 - (2) a minimum of 255 votes is cast in favor of the proposal, out of a total of 345 votes ($\approx 73.9\%$); and
 - (3) the majority represents at least 62 percent of the total population of the EU.
- 21 80/27/EEC: Council Decision of 18 December 1979 adopting a multiannual research programme of the European Economic Community in the field of climatology:
- <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31980D0027:EN:HTML>.
- 22 Resolution on measures to counteract the rising concentration of carbon dioxide in the atmosphere (the "greenhouse" effect), Official Journal C 255 , 13/10/1986 P. 0272.

- 23 COUNCIL RESOLUTION of 21 June 1989 on the greenhouse effect and the Community (89/C 183/03): [http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31989Y0720\(01\):EN:HTML](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31989Y0720(01):EN:HTML).
- 24 The IPCC was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to provide a comprehensive and objective assessment of scientific, technical and socio-economic information that could lead to a better understanding of human-induced climate change, its potential impacts, and the options for adaptation and mitigation. The IPCC is open to all Members of the United Nations and the WMO. The IPCC's work was awarded the Nobel Prize in 2007 (shared with Al Gore) "for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change".
- 25 http://www.europarl.europa.eu/summits/dublin/du2_en.pdf.
- 26 See Skjærseth (1994) for details.
- 27 Brussels, 9 November 1990 (9612/90), Draft Minutes of the 1326th meeting of the Council (Joint Energy/Environment Council), held in Luxembourg on Monday 29 October 1990, paragraph 6.
- 28 Ibid., paragraph 8.
- 29 Skjærseth (1994), p. 27.
- 30 Article 2.
- 31 Article 3(1).
- 32 http://unfccc.int/files/na/application/pdf/unfccc_ratification_20090826.pdf.
- 33 <http://unfccc.int/resource/docs/cop1/07a01.pdf#page=4>.
- 34 Communication on Community strategy on climate change. Council conclusions, 25-26 June 1996. http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/envir/011a0006.htm.
- 35 IPCC Second Assessment Synthesis of Scientific-Technical Information relevant to interpreting Article 2 of the UN Framework Convention on Climate Change, recital 4.10.
- 36 This section draws primarily on Ringius (1999).
- 37 "Triptique" is an object of art composed of three parts.
- 38 The labels of the groups are those used by Ringius (1999).
- 39 Council Decision 2002/358/EC of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfilment of commitments there under (L 130/1). <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:130:0001:0020:EN:PDF>.

- 40 The purpose of the threshold was to put pressure on the parties to ratify the protocol. By conditioning the entry into force on a minimum participation, the prospective parties would have to account for the possibility that their individual decision was the *tipping point*. Even if their own contribution was costly, they may rather make that sacrifice than having no agreement at all. It also provided an escape door for the parties that ratified the protocol early on. They would not have to stand by their commitment if other parties escaped their responsibilities. The reason for putting the threshold at 55 percent rather than 100 percent, which would maximize the pressure to participate, was that 100 percent participation was not deemed to be *feasible*. A 100 percent target would also not be *credible* in the renegotiation-proof sense. That is, faced with *fait accompli*, the best option for the “coalition of the willing” would be to proceed alone after a rebalancing of the agreement (as happened after the US withdrawal from the Kyoto Protocol). For a formal analysis of minimum participation clauses, see Barrett (2003), ch. 7, Carraro, Marchiori and Orefice (2008) and Asheim and Holtsmark (2008).
- 41 Barrett (2003), p. 370. The first Annex I country to ratify the Kyoto protocol was Romania on 19 March 2001. The EU and the individual Member States ratified on 31 May 2002. For the current status of ratification, see <http://maindb.unfccc.int/public/country.pl?group=kyoto>.
- 42 Senate resolution 98, 105th CONGRESS, 1st Session, Sponsored by Senator Robert Byrd (D-WV) and Senator Chuck Hagel (R-NE).
- 43 The debate in the Senate clarified that the Senators were not insisting on equal commitments for developing countries but some meaningful actions to curb emission growth with technological and financial assistance from developed countries. See Harris (1999) for an account of the debate leading up to the Byrd-Hagel Resolution.
- 44 <http://www.lib.umich.edu/govdocs/text/kyoto.txt>.
- 45 Decision 15/CP.7, *Principles, nature and scope of the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol*, provides that “the use of the [flexibility] mechanisms shall be supplemental to domestic action and that domestic action shall thus constitute a significant element of the effort made by each Party included in Annex I to meet its quantified emission limitation and reduction commitments under Article 3, paragraph 1.
- 46 Decision 11/CP.7.
- 47 http://web.fu-berlin.de/ffu/akumwelt/bc2004/download/kotov_f.pdf.
- 48 COM(92) 226 final, Brussels, 30 June 1992, Proposal for a Council Directive introducing a tax on carbon dioxide emissions and energy.
- 49 The European Currency Unit (ECU) was a basket of the currencies used as the unit of account of the European Community before being replaced by the euro on January 1, 1999, at parity. The main currencies in the basket were D-mark, French Franc and British Pounds.
- 50 Explanatory Memorandum attached to COM(92) 226 final, section 2.
- 51 *Ibid.*, Article 1.2.
- 52 COM(95) 127.
- 53 COM(97) 30, Council Directive Restructuring the Community Framework for the Taxation of Energy Products.
- 54 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:283:0051:0070:EN:PDF>.

- 55 The taxes rates on energy products applied on 1 January 2009 can be downloaded at: http://ec.europa.eu/taxation_customs/resources/documents/taxation/excise_duties/energy_products/rates/excise_duties-part_II_energy_products-en.pdf.
- 56 The minimum tax rate is €359 per 1000 liters. The applied rate in Cyprus is lower than the minimum because of a temporary exemption (COUNCIL DIRECTIVE 2004/75/EC of 29 April 2004).
- 57 COM(2000) 87 final, Brussels, 8.3.2000.
- 58 See the Brochure on the *European Climate Change Programme*, downloadable at: http://ec.europa.eu/environment/climat/pdf/eu_climate_change_progr.pdf.
- 59 European Commission, Directorate-General Environment, Final Report: ECCP Working Group 1 "Flexible Mechanisms", Brussels, 2 May 2001. (http://ec.europa.eu/environment/climat/pdf/final_report.pdf).
- 60 Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.
- 61 Annex III, Criteria for National Allocation Plans referred to in Articles 9, 22 and 30.
- 62 Malueg and Yates (2009) has demonstrated in a theoretical model that decentralized allocation may be *as*, if not *more* efficient than centralized allocation, provided that the Member States are better informed about local abatement opportunities than the Commission.
- 63 Ellerman and Buchner (2008).
- 64 Own calculations based on CITL data up to 16 March 2009.
- 65 Nuehoff (2008), pp. 32-33.
- 66 http://themes.eea.europa.eu/IMS/IMS/ISpecs/ISpecification20040909113419IAssessment1220277858018/view_content.
- 67 The result looks much better once the growth of the economy has been accounted for. The EU15 economy grew by 40 percent from 1990 to 2006, which means that the carbon intensity per unit of output (GDP) has fallen substantially, however, this is of little comfort for the climate objective that depends on global emissions and not emission per unit of GDP.
- 68 COM(2008) 651 final/2, Brussels 19.11.2008, Progress Towards Achieving the Kyoto Objectives.
- 69 As will be seen in section 6, the Commission accommodated the laggards by changing the base year of the post-2012 ETS from 1990 to 2005, thereby "rewarding" non-performance. The change in base year was criticised by Member States that were ahead of their assignments.
- 70 The submissions are available at http://circa.europa.eu/Public/irc/env/action_climat/library.
- 71 Commission (2004), *Action on Climate Change Post 2012: A Stakeholder Consultation on the EU's Contribution to Shaping the Future Global Climate Change Regime*, available at: http://ec.europa.eu/environment/climat/pdf/background_paper.pdf.
- 72 The text is based on the summary of the Commission, downloadable at: http://ec.europa.eu/environment/climat/future_act_sum.htm.

73 ppm (parts per million by volume) is a measure of greenhouse gas concentration in the atmosphere. According to the EEA, the concentration in 2007 of the six greenhouse gases (GHG) included in the Kyoto Protocol has reached 436 ppm CO₂-equivalent, which is an increase of 158 ppm compared to the pre-industrial level. Considering all GHGs (incl. ozone and various cooling aerosols), the concentration is 396 ppm CO₂-equivalents, which is 115 ppm higher than in pre-industrial times.

http://themes.eea.europa.eu/IMS/ISpecs/ISpecification20041007131717/IAssessment1234255180259/view_content.

74 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0035:FIN:EN:PDF>.

75 Ibid, p. 1: "Recent research indicates that a level of 550 ppmv (CO₂ equivalents) offers at most a one in six chance of respecting the 2 °C target, [...], consequently, limiting the temperature rise to 2 °C would very probably require greenhouse gas concentrations to be stabilised at much lower levels".

76 Ibid, p. 4-5.

77 Ibid, p. 6.

78 COUNCIL OF THE EUROPEAN UNION, Brussels, 11 March 2005, 7242/05.

79 Presidency Conclusions - Brussels, 22 and 23 March 2005, 7619/1/05 REV 1 16.

80 EP: non-legislative resolution, T6-0433/2005, downloadable at: http://ec.europa.eu/environment/climat/pdf/ep_resolution_clim_change.pdf.

81 See recitals 36-37 of the resolution.

82 The submissions by various stakeholders and final reports of the working groups can be reviewed at the following homepage: http://circa.europa.eu/Public/irc/env/eccp_2/home.

83 http://ec.europa.eu/energy/energy_policy/doc/01_energy_policy_for_europe_en.pdf.

84 http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0002en01.pdf.

85 http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/trans/92802.pdf.

86 <http://register.consilium.europa.eu/pdf/en/07/st06/st06621.en07.pdf>.

87 <http://www.europarl.europa.eu/oeil/FindByProcnum.do?lang=en&procnum=RSP/2006/2680>.

88 BRUSSELS EUROPEAN COUNCIL, 8/9 MARCH 2007, PRESIDENCY CONCLUSIONS, downloadable at: http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ec/93135.pdf.

89 The energy and climate package also includes a Directive setting legally binding targets for renewable energies (20 % by 2020); a Directive on geological storage of CO₂ and a Directive on binding emissions targets for the new car fleet.

90 The paper trail of the legislative process from proposal to adoption can be downloaded either at the *Legislative Observatory* of the European Parliament or the *Prelex* of the Commission. The web address to the former is attached below, which includes a link to the corresponding Prelex page: <http://www.europarl.europa.eu/oeil/file.jsp?id=5588462¬iceType=null&language=en>.

- 91 The reports and outcome of the discussions are available at: http://ec.europa.eu/environment/climat/emission/review_en.htm.
- 92 McKinsey/Ecofys, Review of EU Emission Trading Scheme, Survey highlights, November 2005. http://ec.europa.eu/environment/climat/pdf/highlights_ets_en.pdf.
- 93 EU ETS REVIEW, Report on International Competitiveness, downloadable at: <http://ec.europa.eu/environment/climat/emission/pdf/etsreview/061222compreport.pdf>.
- 94 http://ec.europa.eu/environment/climat/emission/pdf/com_2008_16_en.pdf.
- 95 The Member States that made use of this provision would have to demonstrate that they imposed “equivalent measures” on the excluded installations, such as emission standards or taxes. The Commission would have to approve the exclusions through a semi-automatic procedure. Specifically, if following a period of three months from the date of notification for the public to comment, the Commission does not object within a further period of six months, the notification shall be considered to be granted.
- 96 A “carbon equalization system” could either refer to tax on the carbon content of imports (“Border Tax Adjustment”) or a requirement to buy corresponding allowances in the ETS, which the Commission would seem to have in mind. Both options could in principle level the competitive playing field between imports and domestic production in the EU market.
- 97 The increase of allowances resulting from the reallocation provision is detailed in Annex IIa of the proposal: Latvia (56%), Bulgaria (53%), Romania (53%), Lithuania (46%), Estonia (42%), Slovakia (41%), Poland (39%), Czech (Republic (31%), Hungary (28%), Malta (23%), Cyprus (20%), Slovenia (20%), Greece (17%), Portugal (16%), Spain (13%), Belgium (10%), Luxembourg (10%), Sweden (10%) and Italy (2%).
- 98 Note that the Commission did not take the industry’s view that the revenue should be redistributed to the affected industries, at least not explicitly. However, since the lion’s share of the revenue was not earmarked, the Member States could in principle use this share to compensate the industry with lower business taxes. However, being a national competence, this was left to the individual Member States to decide.
- 99 See the *Impact Assessment* attached to the proposal, downloadable at: <http://www.europarl.europa.eu/document/activities/cont/200806/20080610ATT31249/20080610ATT31249EN.pdf>.
- 100 http://www.climnet.org/EUenergy/ET/270208NGOETS_briefing.pdf.
- 101 European Voice is a weekly newspaper owned by The Economist group that covers EU affairs. It is a natural outlet for advertising campaigns since it is read by most decision-makers in Brussels.
- 102 <http://register.consilium.europa.eu/pdf/en/08/st07/st07025.en08.pdf>.
<http://register.consilium.europa.eu/pdf/en/08/st07/st07025-ad01.en08.pdf>.
- 103 Each Member State decides for itself whether to make its submissions/statements in the Council public. The tradition of secrecy makes it very difficult to find out what was being said and by whom. The only information that is made available to the public on a routine basis is a non-telling press release that identifies the issues under debate.

- 104 Portugal did not explain why. An “educated guess” would be that it was lagging behind in its Kyoto commitments (see Figure 7), and therefore would receive more allowances and auction rights as a result of the forward move to the base year.
- 105 EU speak for *GRAVE CONCERNS*.
- 106 According to the estimates of the Commission, the revenue raised by the auctions would be worth some € 30 billion by 2020, corresponding to 0.5 percent of the GDP of the Community. For the receiving end of the reallocation, the share would in some cases exceed 1 percent of GDP, and hence be a sizable transfer of revenue.
- 107 <http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&mode=XML&reference=A6-2008-0406&language=EN>.
- 108 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0063:0087:EN:PDF>.
- 109 The 2 percent quota is divided as follows: Romania (29%), Poland (27%), Bulgaria (15%), Lithuania (7%), Estonia (6%), Hungary (5%), Czech Republic (4%), Latvia (4%) and Slovakia (3%).
- 110 http://europa.eu/scadplus/glossary/comitology_en.htm.
- 111 The normal role of the European Council is to lay down the broad policies of the union.
- 112 For details, see Article 10a, paragraphs 14 to 17.
- 113 http://www.euractiv.com/29/images/Comm%20paper%20carbon%20leakage%20180908_tcm29-175576.doc.
- 114 http://ec.europa.eu/environment/climat/emission/carbon_en.htm.
- 115 EP: non-legislative resolution, T6-0433/2005, downloadable at: http://ec.europa.eu/environment/climat/pdf/ep_resolution_clim_change.pdf.
- 116 Bridges Weekly Trade News Digest • Volume 10 • Number 39 • 22nd November 2006., downloadable at: <http://ictsd.net/i/news/bridgesweekly/7809/>.
- 117 Cited by Frankel (2008), page 56.
- 118 EurActive.com, 18 December 2006, “Mandelson rejects CO2 border tax”, downloadable at: <http://www.euractiv.com/en/sustainability/mandelson-rejects-co2-border-tax/article-160543>.
- 119 Readers interested in the WTO aspects are referred to Pauwelyn (2007), Ismer and Neuhoﬀ (2007), Bhagwati and Mavroidis (2007) and Jegou and Sabelström (2008).
- 120 Ibid.
- 121 The speech by Barroso can be downloaded at: <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/08/34&format=HTML&aged=0&language=EN&guiLanguage=en>.
- 122 See EurActive.com, 28 July 2009, “Carbon tariffs falling out of favour as trade war looms”, downloadable at: <http://www.euractiv.com/en/climate-change/carbon-tariffs-falling-favour-trade-war-looms/article-184449>.
- 123 Ibid.

- 124 To level the carbon field also on the international market, EU would have to exempt production for exports from the requirement to surrender emission allowances.
- 125 http://209.85.229.132/search?q=cache:iGO3sD_iaVgJ:www.twinside.org.sg/title2/climate/news/Bonn03/TWN.Bonn.update10.doc+G77+climate+change+0.5+percent+of+GDP&cd=1&hl=sv&ct=clnk&gl=se.
- 126 The paper trail of the legislative process from the proposal to the adoption with amendments can be downloaded at the Legislative Observatory of the European Parliament:

[Legislative Observatory: Procedure file, legislative dossier - European Parliament, COD/2008/0014](#).
- 127 http://ec.europa.eu/environment/climat/pdf/draft_proposal_effort_sharing.pdf.
- 128 Bulgaria (20%), Romania (19%), Latvia (17%), Lithuania (15%), Poland (14%), Slovakia (13%), Estonia (11%), Hungary (10%), Czech Republic (9%), Malta (5%), Slovenia (4%), Portugal (1%), Greece (-4%), Cyprus (-5%), Spain (-10%), Italy (-13%), Germany (-14%), France (-14%), Belgium (-15%), Austria (-16%), United Kingdom (-16%), Finland (-16%), Netherlands (-16%), Sweden (-17%), Denmark (-20%), Ireland (-20%), Luxembourg (-20%).
- 129 While the proposal does not make a reference to the “Triptique approach”, there are clear similarities. First, the non-ETS sector corresponds roughly to the “light domestic sector” in the Triptique approach. Secondly, the national targets are in both cases based on per capita emissions, leading to a convergence of per capita emissions over time (which was the express objective of the Triptique approach).
- 130 <http://register.consilium.europa.eu/pdf/en/08/st09/st09648.en08.pdf>.
- 131 Recital 10 and Article 2 (4-5).
- 132 Article 5(1(d)).
- 133 Article 5.5. The Member states that may benefit from the additional LDC and SIE credits are listed in Annex III of the effort-sharing agreement.
- 134 Article 7.
- 135 Brasil, Russia, India and China.
- 136 Recital 10 and Article 2 (4-5).
- 137 Council of the European Union, 3 March 2009 (7128/09): <http://register.consilium.europa.eu/pdf/en/09/st07/st07128.en09.pdf>.
- 138 The conditional 20/30 offer is a variant of the minimum participation clause used in the Kyoto Protocol , but with a more positive spin. Instead of pulling back all the chips from the table if the participation falls below a certain threshold, EU will throw in 10 additional chips if all parties participate “according to their responsibilities and respective capabilities”. The hope is that this “bonus” will make other parties more forthcoming.
- 139 Reinaud (2008), IEA (2008).

140 Ibid.

141 COM(2009) 475/3, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Stepping up international climate finance: A European blueprint for the Copenhagen deal. http://ec.europa.eu/environment/climat/pdf/future_action/com_2009_475.pdf.

142 The proposal is silent on whether the responsibility coefficient should be based on *current* or *accumulated* emissions. However, given the estimated 10 to 30 percent range of EU's contribution, it would seem to be based on current emissions (13-14 percent share of *current* emissions, compared to an *accumulated* share of approximately 25 percent).

143 The UNFCCC also struggles with the illusive issue of *technology transfer*, which has not been an issue in the EU, presumably because the EU is a common market with unrestricted flows of technologies and investments between the Member States. The focus has instead been on *funding research and commercialization* of green technologies. The EU will for instance fund 12 demonstration plants for carbon sequestration and storage of CO₂. The issue of making technologies available at concessional terms has not been on the agenda.

144 Ibid.

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Through research and analysis and policy dialogues, the *Global Platform* advances the analytical capacity of stakeholders, supports their interaction with policy makers, and builds effective cross-disciplinary understanding so that solutions can be built and agreed by the international community in the climate change and trade policy processes. Through these actions, it aims at creating policy coherence.

Activities undertaken under the *Global Platform* are clustered in seven key areas:

- generative dialogue between **trade policy and climate change** communities;
- enabling a scale up of innovation, diffusion, and **technology** transfer through trade policy;
- accelerating trade of **climate-friendly goods and services**;
- ensuring incorporation of **agriculture** and **biofuels** in sustainable strategies;
- defining policy tools and mechanisms to make **adaptation** possible;
- addressing **carbon leakage and competitiveness** through equitable policies; and
- dealing with de-carbonization of **transportation and bunker fuels**.

For further information, visit <http://ictsd.org/climate-change/>.

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Founded in 1996, the International Centre for Trade and Sustainable Development (ICTSD) is an independent non-profit and non-governmental organization based in Geneva. By empowering stakeholders in trade policy through information, networking, dialogue, well-targeted research and capacity building, the centre aims to influence the international trade system such that it advances the goal of sustainable development.