POST 2012 CLIMATE CHANGE AGREEMENT

Malvina Tema
Magda Suchon
Christa Biervliet
Nika Jeiranashvili
Peter Pie
Rachminawati

Masters, Hague University, The Netherlands and Portsmouth University, UK

Abstract

Addressing climate change requires a thorough and sincere communication not only as to the scale of the challenge the world faces but also as to the international cooperation possibilities and countries willingness to commit to the challenge. Taking the lead in this group, European Union has acknowledged the fact that climate change is a serious social, political and economic challenge. Following the indications provided by the scientific rationale as to the urgent action that is required, European Community has involved itself in fight against the phenomena by engaging in working on a feasible solution to this problem. European Commission in particular has been taking upon its shoulders much of the workload in this field and has proved its dedication especially by involving stakeholders in constant dialogue on the subject. Sharing the ambitions of the European Commission in creating a cleaner world, the major goal of this paper is to provide the Commission with a series of recommendations from a development/political, environmental and economic perspective to ensure that the ambitions become a reality, and therefore a success.

Accordingly, this paper provides an overview of sectoral and general approaches' effectiveness in terms of their economic and environmental as well as compliance prospects. Conclusion wraps up the paper providing a number of recommendations stemming mainly from stakeholders input's analysis.

Keywords: European commission, climate change, environmental policy, stakeholders, sectoral approaches

Abbreviations
APPE  Association of Petrochemicals Producers in Europe
CAN-E Climate Action Network Europe
CCAP  Centre for Clean Air Policy
CCS  Carbon Capture and Geological Storage
CDM  Clean Development Mechanism
CE  Non-profit environmental consultancy
CO2  Carbon Dioxide
DG  Director General (Environment)
EAA  The European Aluminium Association
EC  European Commission
ECF  European Climate Foundation
ECJ  European Court of Justice
EP  European Parliament
ETS  Emission Trading Scheme
EU  European Union
EUROFER European Confederation of Iron and Steel Industries
EurActiv Online platform for Brussels and national professionals in EU policies
GHG Green House Gases
GNP Gross National Product
ICAO International Civil Aviation Organization
IPCC Intergovernmental Panel on Climate Change
JI Joint Implementation
MAELP Master of European Law and Policy
NGOs Non Governmental Organization
ODA Overseas Development Assistance
TEA Teachers Experiencing Antarctica and the Arctic
UNFCCC United Nations Framework Convention on Climate Change

Introduction

It has been widely recognized by the main actors involved in addressing climate change that the effective and economically efficient long term policy framework needs to be designed with cooperation of the majority of global actors in order to succeed the Kyoto Protocol. Addressing climate change requires a thorough and sincere communication not only as to the scale of the challenge the world faces but also as to the international cooperation possibilities and countries willingness to commit to the challenge. Taking the lead in this group, European Union has acknowledged the fact that climate change is a serious social, political and economic challenge. Following the indications provided by the scientific rationale as to the urgent action that is required, European Community has involved itself in fight against the phenomena by engaging in working on a feasible solution to this problem.

European Commission in particular has been taking upon its shoulders much of the workload in this field and has proved its dedication especially by involving stakeholders in constant dialogue on the subject. Sharing the ambitions of the European Commission in creating a cleaner world, the major goal of this project is to provide the Commission with a series of recommendations from a development/political, environmental and economic perspective to ensure that the ambitions become a reality, and therefore a success. Consequently, the objective of this paper is to:

provide an outline of the communication of the European Commission : “Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Limiting global climate change to 2 degrees Celsius - The way ahead for 2020 and beyond”,

define general and sectoral approaches which could effectively contribute to global emissions reduction,

illustrate sources of financing emission reductions and

provide strong arguments and advice for countries to comply with their commitments.

For many actors involved in the global climate policy process assessment of environmental policies starts from the perspective of potential environmental outcomes. This approach, however, is limited in a sense that it does not take into account such important factors as, for instance, economic aspects or the extent to which certain strategies are likely to be complied with. Keeping in mind all that, this paper has been structured in a way that allows for an overview of all the aspects related to the main environmental strategies appraisal. Accordingly, this paper provides an overview of sectoral and general approaches' effectiveness in terms of their economic and environmental as well as compliance prospects.

Conclusion wraps up the paper providing a number of recommendations stemming mainly from stakeholders input's analysis.

Chapter two serves as a general introduction of the project. It describes the situation after Kyoto Protocol and current trends of the European Union environmental policy. It outlines the main points of the European Commission’s climate change strategy as presented
in the Commission’s Communication “Limiting Global Climate Change to 2 degrees Celsius: The way ahead 2020 and beyond”. Chapter two describes also the stakeholders involved in the negotiation process and discusses the EU energy perspective.

Chapter three focuses on general and sectoral approaches of the climate change strategy. It analyses the advantages, as well as, disadvantages of both approaches and discusses the ones that have the potential of contributing effectively to a potential strategy. Furthermore, chapter three analyses methods of implementing the effective approaches to the EU policy.

Chapter four discusses the financial part of the climate change strategy. It analyses the costs of the climate change, explores different financial methods, and gives recommendations regarding cost allocation.

Chapter five deals with commitments of states and stakeholders at both EU and global level. It discusses the financial, political, and environmental perspectives and analyses the important sectors such as: aviation, industry and transport. Furthermore, chapter five deals with the role of trade unions and other stakeholders in making states comply with their commitments.

Chapter six presents the conclusions of our research and gives the Commission recommendations to improve the climate change strategy. Following solutions are being presented: alteration of the EU ETS; incorporation of the aviation sector in EU ETS; changing the focus of EU policy towards consumers, incorporation of the sectoral approach in a European agreement; sequential decision-making; and embrace of the opportunities stemming from innovation.

Chapter 2. Evaluation of the Commission Communication in the context of the EU action on climate change

Introduction

European Union proudly figures at the top of the list of global actors with the most advanced environmental policies. EU environmental action has begun with the summit held in 1972, in Stockholm leading to several environmental action programs that actually continue till the present day (Greenwood, 2003, p.186). It is not easy to summarize all the attempts that have been made in the field of environmental protection since that time. Certain key contributions to the current shape of the EU environmental policy, however, are worth mentioning:

Single European market as a formal recognition of environmental policy
Establishment of the precautionary principle
Co-decision to apply to most areas of environmental policy
Court of justice ground-breaking ruling in Danish Bottle Case where measures mainly intended to protect the environment were allowed even though they amounted to a trade barrier

Environmental Fifth Program focused on sustainable development (Greenwood, 2003, pp.186-187)

The new millennium brings new fervor on the part of the European Union. The European Commission launches the first European Climate Change Programme. In 2005, EU’s greenhouse gas Emission Trading Scheme and second European Climate Change Program are being initiated. In the meantime, global action is being undertaken as well. The Kyoto Protocol enters into force and the UNFCCC conference in Bali takes place initiating negotiations on potential post-Kyoto framework.

The European Commission remains to be particularly involved in the subject matter. As the EU struggles to keep up with the current commitments, the European Commission
begins preparations for a new environmental set of policies designed for the year 2012 and beyond (Europarl, 2004, para.2). It perceives the EU as a global leader in addressing this issue. The Commission is aware of the fact that 2012 marks the year in which the Kyoto targets expire. Therefore, it is necessary for the international community to develop a new global agreement, including non-industrialised nations, to commit to an effective and lasting emissions reduction strategy. A new impulse must be given in order to achieve the 2°C temperature reduction, since the initial agreement of 5.2% below 1990 levels by 2012 could never achieve this goal. As a part of its plan, the Commission initiates communication which is to contribute to the ongoing debate on a future strategy for combating climate change. (European Commission, 2007, para3). This dialogue can be perceived as a "key climate change-related element of the Commission's integrated energy and climate change strategy".

There are several crucial points of the Commission’s climate change strategy included in the above mentioned communication:

The group of developed countries should cut their emissions to an average of 30% below 1990 levels by 2020 under a new global climate change agreement

Developing countries – with the exception of the least developed countries - should slow the rate of growth of their emissions as soon as possible and then start reducing emissions in absolute terms from 2020 onwards. A major effort will also be needed to halt emissions resulting from deforestation.

The EU should continue to take the lead by committing autonomously to reduce its own emissions by at least 20% below 1990 levels by 2020. This figure should be increased to 30% as part of a satisfactory global agreement.

To control climate change effectively it will also be essential to halt tropical deforestation completely within the next two decades and then reverse it through afforestation or reforestation schemes.

By offering a 30% emissions reduction in the context of a satisfactory global agreement, and by committing autonomously to a cut of at least 20%, the EU would provide a clear basis for public and private investment in a low-carbon EU economy.

**Stakeholders**

It comes as no surprise that interest groups are one of the major actors in this Commission’s consultation – “Towards a comprehensive and ambitious post-2012 climate change agreement”. EU citizens, scholars, industry, trade unions, consumer representatives, NGOs as well as registered representatives from the European Commission’s voluntary Register can be mentioned as examples. There are currently 354 interest representatives registered in the field of environment in the European Commission: professional consultants and law firms involved in lobbying EU institutions, NGOs, academic organizations and associations etc. The range of views of these groups represent facilitates recognition of main problems regarding implementation of existing EU proposals and undertaken actions. Recommendations provided by these groups have the potential of playing an important role in upcoming international negotiations on further action to combat climate change after 2012, when the Kyoto Protocol targets expire (Communication - Limiting Global Climate Change to 2 degrees Celsius, The way ahead for 2020 and beyond). Several stakeholders have been selected from among the interest groups to contribute to this research as it is believed that they represent a considerable cross-section of views on the subject (as the research unfolds, their opinions help to build conclusions on the appropriate approach towards climate change).

**EU energy perspective**

According to the Commission's findings, the measures foreseen in the Strategic EU Energy Review or EU Emission Trading scheme will facilitate delivery of a significant share
of the EU expected reductions. How could these reductions be achieved in particular, though? Industries that are covered by the EU ETS, for instance, have to lower their emissions significantly by means of emission trading. The system is to stimulate industries to reduce their CO2 emissions in order to stay under the quota, provided by the European Commission. If a company has surpassed the quota it can buy ‘emission rights’ from cleaner companies which did not surpass their quota. In this way ‘clean’ companies are to be rewarded for their environmental policy, while polluting companies are to be penalized. As an outcome of this EU policy, industries should be encouraged to implement innovation as well as triggered to work together to acquire more energy efficient ways of production. Furthermore, the Communication and the energy package demonstrate that tackling climate change and energy policies go hand in hand. Integrating these policies is essential for reducing the EU's greenhouse gas emissions and makes the European economy more competitive. By building a low-carbon economy Europe will reduce its dependence on energy imports and continue to lead in low-carbon technologies such as renewable energy sources, energy efficiency and insulation, thereby stimulating EU growth and employment.

Chapter 3. General Sectoral approaches

**Favoured approaches for the climate change strategy establishment process**

When in the 1980s the climate change issue was brought to the international community’s attention for the first time, the appropriate approach towards this problem had to be decided on. Two options were considered, namely, the sectoral approach and the comprehensive approach. Tracking policies adopted by the United Nations Framework Convention on Climate Change (UNFCCC) as well as those agreed on in the Kyoto Protocol, one comes to conclusion that initially countries opted for the latter by choosing “economy-wide emission targets covering major GHGs, rather than separate protocols on energy, transportation, forestry and so forth (in Bodansky, 2007, p.1).

Both the UNFCCC and the Ad Hoc Working Group established by parties to Kyoto have recently shifted away from this initial approach. Consequently, they placed sectoral approaches in the climate change strategy planned for the post 2012 period (Bodansky, 2007, p.1). It has been acknowledged that sectoral agreements have the following advantages over the comprehensive ones (Bodansky, 2007, p.5):

They offer practical solutions for developing countries since they allow them to commit to the sector “where emission trends are well understood and can be forecast” (in Bodansky, 2007, p.1) as well as indicate corresponding climate change priorities as, for instance, air quality and, therefore, expand the scope of the state’s commitment to climate change. They are relatively easy to reach “among a smaller number of parties, with greater commonality of interests” (Bodansky, 2007, p.5).

They allow countries to target sectors in which actions are most critical or sectors in which progress can be easily achieved in contrast to the comprehensive approach, sectoral approach has the potential of resolving some of the problems related to competitiveness since particular sectors cannot be given “competitive advantage vis-à-vis their foreign counterparts” (in Bodansky, 2007, p.5).

**Approaches effectively contributing to global emission reductions**

Many actors involved in environmental policy issues advocate sectoral approach to post-2012 climate policy as the one that should be adopted by the European Union. In the recent publication, the Center for Clean Air Policy has argued that under sector-based approach developing countries "would pledge to achieve a voluntary sector GHG intensity target (e.g. GHG/ton of steel) and would receive technology incentives from developed
countries in exchange” (in EurActiv, 2007, para.2). Major heavy and energy industries that were to be covered, for instance, electricity, steel, cement, oil refining, metals, were to contribute to emission reductions at a global level. Furthermore, the CCAP has indicated particular advantages for European industries by noticing that “the system would address concerns about competition by encouraging the participation of all the major operators in a sector in both developed and developing countries” (in EurActiv, 2007, para.5).

According to the results of the research, sector-based approach is predicted to resolve "the continuing arguments in the European Union's Emissions Trading System over the fairness of individual Member State allowance allocations to individual companies as a result of the different implementation of sector targets between countries" (in Centre for Clean Air Policy, 2006, p.6). Most importantly, however, the report has gathered support from many developed and developing countries.

The sectoral approach, however, stands partly in opposition towards the European Commission’s stance on the issue. The Commission favours an “inclusive approach where all industrial sectors are covered under a single CO2 emissions trading scheme” (in EurActiv, 2007, para.8). The Emissions Trading Scheme which forms the basis of European Union Strategy on cutting greenhouse gas emissions is built on the principles included in the Clean Development Mechanism (CDM), Joint Implementation (JI) and international emissions trading (European Commission, 2007, p.5). Currently, the Clean Development Mechanism awards certified emission reduction units solely on a project basis. Some scholars have put forward a proposal to redesign the mechanism to allow states to:

“Establish sectoral baselines and to grant emission reduction credits for emission reductions relative to these sectoral baselines. In essence, a sectoral crediting mechanism would serve as a sectoral no-lose target: if emissions in the sector exceeded the baseline, there would be no legal consequences; but if emissions were below the baseline, then the state would receive emission reduction credits that could be traded internationally” (in Bodansky, 2007, p.4)

In light of the above, it seems promising that the Commission has recognized sectoral approach as a solution that developing countries can undertake in order to reduce their emissions. Generally, the Commission recommends:

"...the introduction of sector-wide company-level emissions trading in sectors where the capacity exists to monitor emissions and ensure compliance, particularly for energy-intensive sectors such as power generation, aluminium, iron, steel, cement, refineries and pulp and paper, most of which are exposed to international competition. Such schemes would be either global or national; if national schemes in developing countries should be linked with schemes in developed countries, with targets for each sector covered being gradually strengthened until they were similar to those set in developed countries. This would also limit the transfer of high-emission installations from countries where they are subject to reduction commitments to countries where they are not." (Commission, 2007, p.6)

Mainstreaming

Several scholars such as Richard Klein (2008) refer to mainstreaming as a useful tool to address climate change to ensure continuous feasibility and sustainability of sectoral and development investments. And see it as an effective mechanism for using financial and human resources more efficiently than managing climate policies separately from sectoral ones (Klein p.3). According to Klein, mainstreaming under the traditional understanding of adaptation is quite simple, but it is important to realize that adaptation can be only partly effective if it does not address non-climate factors, suit local conditions, and consider relevant social and environmental processes (p.4).
In his presentation on the stakeholders’ conference Klein emphasized the importance of the aid from the developed countries. He highlighted the article 4 of UNFCCC: “the developed country Parties ... shall ... assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects” (UNFCCC, article 4.4). Klein recommended the developed countries to give an additional funding to the developing ones, beyond what they already plan to provide as ODA. But he also suggested that there should be a clear understanding of how ODA and additional funds can match together. Klein also discussed two ways of adaptation: stand-alone and mainstreamed one. Although he highlighted the effectiveness of mainstreaming in adaptation and development, Klein suggested that the choice between these two should be an outcome of a national planning process (pp. 8-14).

Adaptation requires a lot of funding, but there is still no consensus between the stakeholders of the Commission’s communication whether to significantly increase the funding or stick to the practical restraints. It is clear though, that the additional funds are needed, and innovative fund raising instruments should contribute to that. Adaptation tax can be one of such instruments, but it is important for the states to increase it beyond the CDM tax, and apply the principle of ‘polluter pays’. And to further enhance the financing, it is important for the states to improve the role of the private sector, especially for risk sharing and financing new technologies.

Chapter 4 Financing emissions reductions
The cost of climate change

What seems to be a characteristic feature of the global climate change dilemma is the uncertainty connected with estimating not so much its benefits as primarily its costs. This uncertainty contributes effectively to decision-makers being hesitant towards any investment-related decisions. When it comes to financial issues, decision makers, even though already aware of the dangers of climate change lurking on the horizon, cannot turn a blind eye on such problems as, for instance, the higher energy expenditure associated with compliance to existing emission reduction programs. These costs would “reduce world energy demand, depressing oil and coal prices. Countries without emissions commitments would consume more fossil fuels, offsetting some of the emissions reductions by countries with commitments” (in Aldy et al, 2003, p.4). On the other hand, however, one cannot forget that delaying the action in the field will make any future actions even more costly.

Financing methods

When globally financing any future programs, it is imperative that an analysis of possible international distributions of the benefits and costs is being made for the purpose of identifying reasonable climate strategies. Certain criteria emerge from this type of assessment:

Criterion of responsibility – the nations that pollute the most should take on the biggest burden for fighting climate change. In this way “the polluter pays”.

Criterion of ability to pay – the lead to tackle climate change should be taken by the wealthier nations.

Criterion of the distribution of benefits – the nations which will benefit most from the actions that are taken should take a greater share of the burden. (Aldy et al., 2003, p.6)

Finally, it is important to note that not only mitigation but also adaptation is expected to constitute an economic burden on those committed to emissions reduction. "Since future climate change is unavoidable, given the accumulation of greenhouse gases in the atmosphere that has already occurred and their relatively gradual decay rates, individuals, institutions, and ecosystems will need to adapt" (Aldy et al, 2003, p.7).
What can be assumed logical is that financing is one of the main components of ensuring global efforts. Thus it is important for it to be based on a clear mutual understanding of policy aims and requirements. It is true that the EU underlines a global responsibility in sharing the costs for actions which are in Europe’s best interest, but it is also important to realize that sharing costs will considerably assist developing countries. Due to its high significance, there should be clear criteria for using common resources, so that the Commission has to make sure that the funds are well-organized, since it will have a huge effect on the overall commitments (Pietras, p.5).

Private and public sectors have to play a significant role in financing climate action, especially in terms of inducing and facilitating the process. International governance should be improved in order to increase the efficiency, and the pre-existing financial instruments that address climate change should be used effectively; for this, the Commission has to make a clear task and labour division (Pietras, p.6).

Currently there are several proposals concerning the mobilization of additional resources, such as: a top-up of the global 0,7% of GDP figure, budgetary contributions on the basis of certain criteria, auctioning of allowances at the global level, part of ETS auctioning revenues, and global carbon tax proposals. It is important for the Commission to work on these proposals, but at the same time on governance in developing countries, financial institutions and instruments (Pietras, p.6).

While having discussed several ways to finance emissions reductions the cost of the allowances is an important factor. According to the POLES calculations, the global carbon price per ton of CO2 will reach 37 Euros by 2020 and 64 Euros by 2030. Due to investments in low carbon technologies, the costs are estimated to decrease around 0.5 % of global annual GDP up to 2030. Reduction targets are supposed to increase up to 30 % in 2020 and 50 % in 2030, and the scholars assume that this would generate carbon trading, achieving cost-effective emission reductions on a global scale. Moreover, reaching the targets of the developed countries in relation to trading, is supposed to reduce the global cost by three quarters (Commission Staff working document, ch.6).

The low costs as a result of additional investments in low carbon technologies should not be confused with the impact on economic development. Scholars used the GEM E3 model for the entire economy to assess the impact on economic development, and calculated that the world’s GDP will almost double in 25 years in case if the emissions profile is well-matched with the 2°C objective. According to the Commission, national GDP will differ according to the reduction commitments, but the GDP change for the EU in annual terms is predicted to be larger than the global one around -0.19% by 2020, and -0.24% in 2030 (Commission Staff working document, ch.6.2.4-6.2.5).

Cost allocation

Having discussed several financing methods, a conclusion has to be made in relation to what the best way is of financing emissions reduction. The trading scheme of the European Commission is a fair way of distributing the costs of exhausting GHG. In respect of the three criteria mentioned above, we believe that they are equally important. Of course it seems more than fair that the polluter pays. Heavy polluting industries should pay more than other industries. Additionally countries with a higher GDP should take up the lead to combat climate change. But it is also necessary to search for new ways to reduce emissions. In this regard one should not forget that innovation might play a very important role in the future. So in addition to “punishing” heavy polluters with fines, industries that put much effort in innovation and reduce their emissions through it, should be rewarded.

What one also should not forget is the impact of deforestation and degradation on climate change. While creating a market for carbon trading and stimulating innovation, we
should not underestimate the impact of deforestation and degradation. According to mongabay.com deforestation and degradation accounts to approximately a fifth of global anthropogenic GHG (mongabay.com, 2008). Deforestation is currently not included in the EU ETS. To stimulate the fight against deforestation the European Commission should push for a Global Forest Carbon Mechanism. In the absence of such an agreement the European Commission proposed to allocate a share of the incomes from the auctioning of carbon emission permits for forest conservation. A 5% percent share could generate about €2.5 billion annually (mongabay.com, 2008) and this can be invested in forest conservation in developing countries where deforestation and degradation is taking place on a large scale.

Chapter 5, Commitment to Climate Change

Past experiences
The Kyoto Protocol’s major feature is that it sets binding targets for 37 industrialised countries and the European Community for reducing greenhouse gas (GHG) emissions. Although the United Nations Framework Convention on Climate Change encourages participation, the Kyoto Protocol commits its participants to take action. In order to ensure its integrity, the Kyoto Protocol introduced a so-called compliance committee to enforce compliance with commitments under the protocol. Initially, there were a number of points of controversy surrounding the Kyoto Protocol:
No penalties for non-compliance / Withdraw
"Emissions reduction” not clearly defined
Methods for the actual use of Kyoto Mechanisms need finalisation
Exclusion of developing countries (India and China)

Costs and economic implications
Getting the reluctant supporters (Australia, Russia, USA and Canada) on board
The majority of these have been addressed and interesting proposals have been put forward. In the spirit of support for commitment to the terms of the Kyoto Protocol, the below views towards global commitment from financial, political and environmental perspectives should provide additional feedback for a successful climate change exercise.

Global commitment
Financial and Political Perspective
Beyond doubt, efficient as well as cost-effective climate change agreement has the potential of securing involvement of global actors, "with each and every country mitigating its emissions to the point where its own marginal abatement costs equalled the sum of marginal benefits globally" (in Aldy et al., 2003, p.6). According to Aldy, professor at the Department of Economics of Harvard University:
"Each country can do better by mitigating only up to the point where its own marginal benefit equals its marginal cost. As long as global marginal benefits exceed every nation’s own marginal benefits, countries will either want to avoid participating or avoid complying fully, if they do participate. Successful international cooperation must change these incentives" (in Aldy et al., 2003, p.6).

Full participation as well as compliance is essential but not sufficient conditions for an efficient and cost-effective environmental policy. Possibly, an international agreement's conditions might be watered down to such an extent that most countries agree to comply and participate, and nevertheless, such and agreement does not achieve any significant objectives. The idea is, however, that such a treaty should not only make countries comply and contribute actively but also implement the dynamically effective degree of climate mitigation.
Here's where the political obstacles occur. The constraint of sovereignty, for instance, can make this ultimate goal unachievable (Barrett, 2003).

Two solutions have been suggested as an answer to this problem. A “narrow-but-deep” agreement presents an alternative by achieving considerable per-actor mitigation, however, attracting rather little participation. Another approach, so called “broad-but-shallow” agreement, is on the other hand expected to achieve relatively little per-actor mitigation, though it is expected to attract more participation among countries involved. In terms of satisfying both benefit and cost requirements, the latter agreement is anticipated to be a better solution. According to Barrett, "since marginal emissions control costs increase steeply, a broad-but-shallow policy would result in lower overall costs. Moreover, a broad-but-shallow policy could mitigate emissions leakage" (in Barrett, 2002).

While evaluating possibilities of ensuring countries compliance from the environmental perspective itself, one should have a look at correlations existing between countries willingness to comply and possibilities of actions being successful. As it has been mentioned above, benefits and costs of climate change policies are characterized by high degree of unpredictability. It sounds more than logical, therefore, that the risks of unnecessary or hasty action in the field are being measured up to the risks of failure to take any action that consequently turns out necessary (Goulder, 2000). Several studies have recently indicated that a so-called sequential decision-making approach to environmental policies diminishes uncertainties stemming from vague scientific information provided at certain point and allows for policy alteration as well as avoidance of such results as policy measure turning out inadequate. Contrary to rigid policy measures, sequential decision making approach allows new information to bring potentially beneficial hints with regards to policy mechanisms being implemented (Arrow et al., 1996). As countries are obviously hesitant to risk funding inflexible environmental policies due to financial risks involved, a global agreement based on policies that are to adapt to upcoming information might increase their willingness to comply.

Stakeholders recommendations concerning possibilities of compliance within potential environmental agreement

Interest groups are one of the major actors in the Commission’s consultation – “Towards a comprehensive and ambitious post-2012 climate change agreement”; their recommendations will play a big role for a progress in the international negotiations on further action to combat climate change after 2012, when the Kyoto Protocol targets expire (Communication - Limiting Global Climate Change to 2 degrees Celsius, The way ahead for 2020 and beyond).

The interest groups of the Communication include: EU citizens, scholars, industry, trade unions, consumer representatives, and NGOs and other organizations. They can express their views on the different building blocks of the Bali Road Map that would enable the world to limit global warming to no more than 2°C above pre-industrial temperatures (Environment Consultations). The interest groups also include the registered representatives from the European Commission’s voluntary Register. There are currently 354 interest representatives registered in the field of environment at the European Commission. These are: professional consultancies and law firms involved in lobbying EU institutions, NGOs, academic organizations and associations, representatives of religions, churches and communities of conviction, association of public authorities, and similar organizations (Register of Interest Representatives).

**Industry**

As a major contributor to climate change and towards combating climate change, industry can and must play a major role. Pollution caused by heavy industries is a principle negative factor in the climate change process. Inclusion of industry in the EU ETS is perhaps
one of the most important steps to combat climate change. Many MS, however, have taken a
tough stance on the issue in the negotiation process. The economy seems to play an important
role in the whole process of coming to a common environmental policy. Some Eastern
European countries fear that the proposed carbon dioxide curbs will stunt economic growth.
They also fear that electricity costs will rise dramatically as power generators are forced to
pay for all their CO2 permits from 2013. Germany, on the other hand, is trying to protect
its industry from added costs. However, not only the states have expressed their concerns
about the proposal of the European Commission. Heavy industries, such as, steel,
aluminium and chemicals have also raised opposition to the proposal, arguing that their
competitiveness with regards to industries in neighbouring regions will suffer due to less
strict environmental regulations in those areas. Therefore, France proposed opt-outs for
industries facing competition from unregulated overseas rivals and for some countries’ power
sectors. For the purpose of the research, the following industries’ stance on the proposals of
the European Commission needs illustration.

Steel industry

The European Confederation of Iron and Steel Industries (EUROFER) states in its
position paper on ETS that the steel industry is willing to contribute to the reduction of
greenhouse gas emissions (GHG) as proposed by the European Commission, but argues that
there is a need for framework in a global context. EUROFER emphasizes the need for a
Climate Change policy with implemented global CO2 prices to avoid unequal conditions for
competing industries. It furthermore calls for strengthening of the research and development.
EUROFER fears that the current proposal of the European Commission might bring many
disadvantages to the European steel industry, as for instance the threat of a full auctioning
regime, penetration of the home market by non-EU competitors and complete exclusion from
export markets, etc. On account of these threats, EUROFER calls for enhancement in the
introduction of sufficient provisions in order to:
• ensure a sustainable development by a fair balance between climate change
measures and the competitiveness of EU industry,
• allow the steel sector to remain internationally competitive through the continued
allocation of free allowances as long as no international or global sectoral agreement which
provides for an equal footing of industrial competitors is in place,
• secure sustainable investment and high quality jobs in the European steel industry to
maintain the European Union as a region with a strong industrial backbone in which the steel
industry remains a driver of technological innovation and added value. (EUROFER, October
2008)

The general guideline for improving the proposal should be a balanced recognition of
social, economic and environmental aspects to secure sustainable progress towards the
climate stabilisation whilst attaining a high level of employment, high social standards and
the well-being of European citizens. (EUROFER, October 2008)

Petrochemical industry

The petrochemical industry is a very energy-intensive industry. As a result, the
petrochemical industry has been investing in energy efficiency improvement for decades
through innovation and better management. Due to economic and environmental policy
conditions, the chemical industry has set its objective to reduce emissions with 30% by 2010.
In its position paper, the Association of Petrochemicals Producers in Europe (APPE) argues
that the European Commission and Member States should acknowledge the needs of
industry. Furthermore, a stable environment to do business should be created.
The petrochemical industry is particularly concerned about the auctioning tool of the EU ETS. Although they support the aim of the CO2 emissions' reduction, they believe that the auctioning system might negatively affect the competitiveness of the European industries. Therefore, they recommend “benchmarking” based on performance, which is in their view much more cost effective and beneficial with regards to the EU ETS goals and competitiveness of the European industries. Petrochemical industry argues further that benchmarking would “provide a strong motivation for continuously improving CO2 performance while a generalised auctioning mechanism would penalise everybody, including the best performers” (APPE, October 2008). With benchmarking, the petrochemical industry will be allowed to use their investment capacities in order to produce new emission reduction techniques and to maintain stable competitiveness.

Aluminium industry

The European Aluminium Association (EAA) believes that the EU ETS could have a very negative effect on the European aluminium industry. Just like other industries and some Member States they fear that costs of CO2 emissions will be incorporated into electricity prices. Furthermore, they express their concerns regarding possible negative effects that the EU ETS might have on the competitive position of the European industries in the global market. With almost the same arguments as the other industries that have been previously mentioned, the aluminium industry is in favour of protection of the industry through “free allocation of permits to benchmark for direct emissions and electricity induced cost increases, including those in self-generation” (EAA, 2007).

Currently electricity amounts to around 30 to 40% of the production costs. TEA believes that the costs of CO2 allowances will rise after 2013. With the proposal of the European Commission, the aluminium industry cannot pass these costs in their product prices, in view of the global market. If they do so, they will lose their competitive position. Although the aluminium industry supports emission trading as an appropriate mechanism, it argues that the EU should adopt certain provisions to preserve the competitiveness of energy industries. They believe, otherwise, it would not be possible for them to maintain their current operations or to invest in new technologies to reduce emissions.

To conclude, the three above mentioned industries have more or less the same position regarding the proposal of the European Commission. They argue that the costs of CO2 allowances might result in a steady increase of electricity prices, in this way distorting the market. Furthermore, the industries fear for their competitiveness in the global market and argue for the possibility of including benchmarking into the EU ETS as an alternative to the proposal of the European Commission.

Road Transport

Road transport as the second biggest source of greenhouse gas emissions in the EU, contributes to one-fifth of the EU’s total emissions of carbon dioxide (CO2) which is the main greenhouse gas. The transport industry is a branch that occupies an important position in the European Union, “accounting for 7% of its gross national product (GNP), 7% of all jobs, 40% of member states' investment and 30% of Community energy consumption.” In order to reduce greenhouse gas emissions as well as meet the Kyoto Protocol targets, the EU has agreed that average CO2 emissions from new passenger cars should not exceed 120g CO2 per km by 2012 (EurActiv, 2008, Transport in Brief, para. 2).

In order to improve the situation, the Commission has proposed introducing new binding legislation instead of the voluntary commitment of the sector to reduce CO2 emissions. The car industry has rejected the plans, arguing that they have already achieved strong cuts through technological progress. Progress was made but “average emissions fell
only from 186g/km in 1995 to 161g/km in 2004” (EuroActiv, 2008, Cars and CO2, para 5). The Commission therefore decided that the voluntary commitments would not achieve their target and binding legislation was necessary to be adopted. Consequently, in December 2007, the European Commission proposed binding legislation for vehicle manufacturers to cut the average emissions of new cars by improving vehicle technology. As a result of extensive lobbying from both the car industry and green NGOs (especially the German car industry, which is the world’s global leader in heavy luxury cars but also the industry with higher CO2 emissions), the presentation of the Commission’s strategy was postponed, however, finally took place on the 7th of February, 2007 (EurActiv 07/02/07).

Lately, a compromise agreement to reduce CO2 emissions from new vehicles was reached on the 1st of December, 2008 after significant pressure from the car industry, which is actually being influenced by the economic crisis. After a month of tri-partial discussions (EurActiv 04/11/08), member states settled for a compromise based on a French proposal to limit CO2 emissions gradually. Most manufacturers are expected to meet the target set by the legislation, so significant penalties should be avoided.

**Aviation sector**

The exhaustion of carbon emissions from the aviation sector have currently not been included in the EU ETS. Despite this fact, the European Commission is currently working on including the aviation sector within the scope of the EU ETS. EU Commissioner Stavros Dimas underlined the importance of including the aviation sector in the EU ETS in a press release from the EU at the end of September, 2007:

“In order to fight climate change, all sectors must contribute in a fair way, including aviation, whose emissions are increasing very rapidly. It is a great pity that ICAO has not been able to reach an agreement on the way forward. The EU has set up an ambitious and comprehensive emissions trading system and it is in the process of agreeing legislation that would extend it to aviation emissions (in Alice Bows et al., 2009. p. 64).

Considering the growth of the aviation sector in the recent years and the growth prospects in the future, it seems not only fair, in comparison to other sectors, to include the aviation sector in the EU ETS but also quite important for the EU to achieve their ambitious targets. The EU has to implement a set of measures to reduce the impact of climate change caused by aviation. In the absence of a global agreement concerning cutting down emissions from the aviation sector, several ways of covering those emissions were recommended. CE Delft, a Dutch non-profit environmental consultancy investigated the issue and proposed flight coverage options. According to CE Delft, three options to include emissions in the EU ETS seem promising:

- “emissions from all flights departing the EU
- emissions from all intra-EU flights
- the emissions from flights passing through EU airspace”

The aviation sector itself can try to lower the exhaust of emissions by improving technologies, for instance, by modifying the engine and airframe designs. The reduction of aircraft weight is predicted to improve the fuel efficiency. Currently most airplanes are built of aluminium. The use of carbon composite materials, as those used by manufacturers in the new Boeing 787 and Airbus A350, is to effectively reduce the weight of aircrafts and improve fuel efficiency (Alice Bows, Kevin Anderson, Paul Upham, 2009. p. 50). Reduction of the exhaust of carbon emissions can additionally be achieved through the use of ‘low-carbon fuels’ like bio-diesel, bio-kerosene or hydrogen (Alice Bows, Kevin Anderson, Paul Upham, 2009. p. 50-52).
What can be concluded from the above-mentioned is that there are many opportunities for the aviation sector and consequently for the EU to reduce the exhaust of carbon emissions. Real efforts, however, need to be made by all parties involved in order to create an effective EU climate policy based on the research and existing proposals.

**Trade Unions**

When looking at climate change from a trade union's perspective one cannot deny the importance of its main goal of maintaining and improving employment conditions. Trade unions therefore see great potential for improving workers’ conditions not only on an EU scale but on a global scale when member States commit themselves towards active participation in a global emission reduction strategy.

"Employment and workplace issues are at the top of our agenda, as is the need to ensure worker and trade union participation in climate decision-making to implement change at the point of production as well as in communities around the world. Attention should be given also to programmes for greening workplaces and communities" (Pearson, 2007)

From an employment perspective, there will be an increase in employment resulting from new jobs to be created due to the so-called new green industrialization force. This green industrialization force is committed to developing new low carbon technologies and renewable energy sources. From a health and safety perspective this is a welcome change, mainly for developing nations as those workers are by far more susceptible to negative effects of climate change due to emissions. In addition, they are also more vulnerable to the damages caused by the non-environmental friendly industries they work for, in comparison to their counterparts in developed nations.

"As the nature of what is produced changes that is going to affect workers on a day to day basis as their jobs vanish or move, around the country or to the other side of the world. It is a trade union issue because by the nature of what workers do on a day to day basis they are producers of carbon emissions - not by will but by default" (Kearns, 2008)

The Trade Unions would like to warn the global actors for failure to comply with the terms of the new strategy. The severe environmental conditions (such as Katrina or Tsunami) and the negative effects they have had on employment, leaving thousands and thousands still unemployed to this day will continue to affect societies if no action is taken. Moreover, employment shifts due to adverse environmental conditions can be found in relation to specific sectors. For example, a shift is predicted in the tourism sector where in regards to coastal areas and islands, due to raised water levels will disappear into the seas. As for mountainous areas, global warming results in less frost, meaning less snow meaning fewer jobs. With this in mind, trade unions have listed six climate change priorities:

- Undertake research to establish climate change linkages to employment;
- Establish climate change linkages to sustainable development;
- Promote worker participation as a key to determining sustainability of climate change policies;
- Recognize the workplace as a key field of action for climate change;
- Consider technology options that strengthen social engagement by favouring sustainable and labour-intensive energy solutions;
- Fashion a long-term agreement for equitable sharing of the burden of emission reduction between developing and developed countries to extend beyond 2012. (World of Work Forum, 2007)

It is evident from a trade unions' perspective that the climate change strategy will provide workers and their societies with new opportunities. Trade unions would like to raise awareness among governments and societies of the benefits to compliance to the proposed strategy. Job creation will benefit societies globally as well as the incentive to create
healthier, safer and more secure working environments, which will prove to be major success factors.

Other Opinions

According to the agreement made by the European Council in 2007, European Union agreed to "cut overall greenhouse gas emissions by 20% compared to 1990 levels" (EurActiv.com, 2008, para 1, "EU Emissions Trading Scheme"). This agreement belongs to the main points mentioned in the EU's Emissions Trading Scheme (EU ETS). Central and Eastern newcomers to the EU has already objected to this plan arguing that it places an extensive burden on their economies and might potentially diminish competitiveness of their coal-oriented industries. "Instead of using 2005 as the reference year for the basis of the European Commission's calculations, they advocate a uniform 18% reduction of emissions for all member countries" (EurActiv.com, 2008, para 5, "Poland proposes price brand for CO2).

Poland took the leadership of this group and came up with the plan to set "upper and lower limits for CO2 permits within the EU's Emissions Trading Scheme" (para 1). Polish government expects 2.7 billion euro of deficit stemming from "the discrepancy between the auctioning revenue accruing to the government and the number of allowances the industry will have to buy" (para. 13). Authorities use the argumentation put forth by the main Polish energy companies which have the following standpoints on the issue:

- "Auctioning foreseen by the Commission after 2013, but with only a quarter of the costs" (para. 9)
- "ETS would raise costs for Polish industries by 65%" (para. 11)

Regarding financial part of European Union proposals, new member states consider it favouring the old member states. Therefore, they perceive the "principle of sharing the costs of common solutions according to the financial capacity of individual member state" as more appropriate one (para. 7).

Not only new EU Member States perceive the need to alter the existing concepts related to the Emission Trading Scheme. In order to maintain the continuity of the negotiation rounds and to push the Member States to come to a climate policy agreement, France recently has proposed some measures to revise the current EU ETS proposal. In its most recent proposal France opts for “free emission rights for coal plants, financial compensation for energy-intensive industries and extensive use of third country emissions reductions to meet CO2 'effort sharing' targets” (EurActiv, 27 November 2008). In determining the qualification for receiving free emission rights France proposes that the threshold for free emission rights in coal industry intensive countries should be 30% of their national energy production, as recent proposals mentioned 60% as the threshold for free emission rights.

The details of a ‘trialogue talk’ held on 25 November between France, representatives of the European Commission and the European Parliament are yet to be revealed, albeit slowly. But there are signs that the three are negotiating for a financial aid for energy-intensive industries that will face high energy costs due to the EU ETS. As part of a way to deal with sectors that do not fall under the scope of the current EU ETS there are signs for a proposal that would give Member States the opportunity to invest in clean development projects in third countries. By doing so, Member States could book up to 70% of the emission reductions (EurActiv, 27 November 2008). Environmental NGOs and green groups argue that if the above mentioned proposals are to be accepted as such, it would mean that the current climate package is to be effectively ruined. Furthermore it is argued that the proposed compensation for energy-intensive industries would seriously undermine and damage the EU ETS (EurActiv, 27 November 2008).
Environmental perspective

Looking at climate change from an environmental perspective, several weak key areas can be distinguished. According to the European Environmental Agency’s report 'Impact of Europe’s Changing Climate – 2008 indicator based assessment' those key areas are water, ecosystems, food, coastal areas and health. The physical effects of climate change on the earth can be seen in the rise of water levels, disturbance of ecosystems, vanishing of coastal regions, and an increase in weather-related deaths. Although these results have not been quantified, there is reason enough to believe that these physical effects will change the earth as we know it today. In order to determine what exactly the physical effects will be, it is necessary for the relevant scientific institutes to provide more research in these vulnerable areas.

Those countries most affected by these changes are the developing countries. The poorest countries do not have the ability to make the necessary changes to adapt to the situation. According to the IPCC, the principle of adaptation can be defined as the “Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.” The developed nations need to step up to their moral obligation to support the developing nations in their aim to adapt, as we live in a global environment and the negative effects of climate change will eventually spill over from the least developed to the most developed countries.

From an environmental perspective it is not only necessary for countries to prevent the negative effects of climate change but to provide more research on and quantify the physical climate change effects on the earth and help each other, by means of adaptation to cope with the changes brought about by climate change.

Commitment within the EU

Enforcement action against Member States constitutes a possibility of ensuring that countries belonging to the European Union comply with their commitments. Article 10 clearly provides all Member States with the duty to fulfil the specific obligations placed on them by both the Treaty and secondary sources of Community law. It also provides the Member States with a general duty not to do anything that could jeopardize the aims of the Community. The Treaty itself ensures that all Member states comply with their Community obligations (Davies, 2003, p.68).

Enforcement procedures, particularly the administrative stage of Art 226 EC, play an important role in ensuring that Community aims are achieved and Community law is upheld.

Although no official figures are available relating the success of the informal investigative stage followed by the Commission, the administrative stage as a whole is particularly successful in resolving breaches, as reference to the following table demonstrates:

<table>
<thead>
<tr>
<th>Year</th>
<th>Formal letters issued:</th>
<th>Reasoned opinions issued:</th>
<th>Referrals to the ECJ:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>1,075</td>
<td>460</td>
<td>178</td>
</tr>
<tr>
<td>2000</td>
<td>1,317</td>
<td>460</td>
<td>172</td>
</tr>
<tr>
<td>2001</td>
<td>1,050</td>
<td>569</td>
<td>162</td>
</tr>
</tbody>
</table>

(In Davies, 2003, p.71)

As the above figures demonstrate, the vast majority of breaches are resolved without the need to refer the matter to the ECJ. This suggests that the administrative stage of enforcement produces is particularly successful in that it allows the Commission to "educate" Member States and ensure that they are aware of their EC obligations (Davies, 2003, p.71).

It needs to be emphasized, however, that as of 2005, environmental cases continued to make up almost one quarter of the number of cases open with regards to enforcement
procedures of Articles 226 and 228. Various attempts have been made to address the problem of overload and delay. The Commission has begun to emphasize mechanisms and alternative methods of resolution, to prioritize certain kinds of breach, and to identify cases involving widespread, general, or persistent breaches (Craig & De Burca, 2008, pp. 428-429)

Chapter 6, Conclusions and Recommendations

Based on the findings of our paper, we would like to reaffirm the priority of reaching European environmental agreement based on efficient and economically effective long-term policy framework. In relation to that, we would like to emphasize the importance of communication between the main actors involved in shaping policy frameworks as well as the significance of rapid action in the field as the costs of future action are expected to be more costly. Since the European Union has acknowledged the implications of inaction, it has the potential of playing a major role in reaching a much needed global agreement in the near future. Taking advantage of its potential, it can provide an incentive for major polluting countries like China or the United States which have not ratified the Kyoto Protocol.

Prior to linking together the European and international policies into an efficient international framework, general and sectoral approaches towards reducing emissions should be explored. As stems from the analysis of international agreements that have been made throughout the years, sectoral approach has lately gained recognition due to several advantages over general approach. Based on that, our research has been focused on benefits of sectoral approach, and has provided a detailed analysis of particular sectors involved in the negotiation process of coming to a common European environmental agreement. Based on the opinions of stakeholders mentioned in the paper, the following recommendations can be suggested:

Incorporation of the sectoral approach in European agreement:

Sectoral approach has several advantages that have been acknowledged by, for instance, UNFCCC and the Ad Hoc Working Group established by parties to Kyoto. This approach facilitates addressing competitiveness concerns within the potential framework. As confirmed by scholars, it offers practical solutions for developing countries in particular. As it is more functional among a smaller number of parties, with shared aims, it might turn out to be problematic to implement it within a global agreement where many actors with different views and interests clash. However, sectoral approach gives countries discretion to target sectors in which actions are most critical and in which progress can be easily achieved. In this way it respects the prerogatives of national governments and allows them to employ policies that are best suited to their own national circumstances.

Alteration of the Emission Trading Scheme:

It seems beneficial to establish sectoral baselines and to grant emission reduction credits for emission reductions relative to these sectoral baselines for energy-intensive sectors such as power generation, aluminium, iron, steel, cement, refineries and pulp and paper. In essence, a sectoral crediting mechanism would serve as a sectoral no-lose target: if emissions in the sector exceeded the baseline, there would be no legal consequences; but if emissions were below the baseline, then the state would receive emission reduction credits that could be traded internationally.

Incorporation of the aviation sector into EU ETS:

As stems from a thorough analysis of the EU Emission Trading Scheme, not all sectors currently fall under its scope. This can be perceived as a weak point of the above mentioned strategy. The aviation sector, for instance, is currently not included in the scheme.
Taking into account the fact that the aviation sector is a fast growing sector in the EU it seems more than logical to include it in the EU ETS. To give an example of why is it important to include aviation in the scheme, here are some percentages: while the total green house gas emissions in the EU dropped 3% in the period between 1990 and 2002, emissions from aviation increased significantly in the same period with almost 70% (European Commission, 18 November 2008).

**Change in focus of EU policy towards consumers:**

Environmental and consumer dialogues have produced concrete recommendations to the governments on important issues such as climate change but decision makers have not always granted these civil society groups the opportunity to express their concerns in person. The Post Kyoto Agenda should be shaped and driven with the full participation of people from all walks of life. European consumers have to know that they can effectively contribute to the progression of environmental preservation if future EU initiatives are to have any real impact. It is important that any potential change is not only visible, but also that consumers feel they are part of that change. Recently, there has been an evolution in the way people think about the environment but it can be stronger if they are more involved as real actors instead of as feedback providers solely.

As indicated in our paper, combating climate change is characterized by the uncertainty connected with estimating costs. An agreement within the field of environment constitutes a challenge as countries are obviously reluctant to invest in policies that are unsure to bring desired outcomes. These two issues link the financial aspect of a potential agreement with a compliance element.

Sequential decision-making as a potential solution:

The so-called sequential decision-making has the potential of increasing certainty regarding policy outcomes in cases whereas scientific information does not provide it. Furthermore, it allows policies to be altered in order to meet the desired objectives. As the new information comes about, policy makers have the chance to embrace the findings in the planned measures. In conclusion, sequential decision making encourages countries to comply with the framework they commit themselves to as they do not face the risks of loosing financial means.

Having discussed the decision making within the financial framework, it is important to further elaborate shortly on the cost allocation related issues. The criteria of responsibility, ability to pay as well as distribution of benefits shed some light on the importance of cost allocation. It seems more than logical to assume that the factors such as GDP or emission levels (polluter pays) have to be taken into consideration while allocating the burden of financing. In this regard, developed countries in Europe should take the responsibility of helping those developing countries which may not be able to assume absolute emission targets in the short run. We are of the opinion, though, that the mechanism based on penalizing heavy polluters and countries with highest GDP do not constitute a sufficient enough mean of achieving emissions reduction on its own. The following recommendation can be perceived as a possible solution to the problems arising in conclusion to the mentioned above:

**Embracing opportunities stemming from innovation:**

Innovation might be a positive incentive for industries to reach the emission targets set by the Commission. Consequently, the Commission can play a major role in stimulating industries towards innovation. Encouraged effectively, it could create a great degree of positive impact on many fields such as economy (job market in particular). Abundance of examples can be provided of business success’ stories stemming from innovation and
adaptation to the new market opportunities. As an alternative to punitive policies, rewards can be provided by the European Union to those industries that are willing to implement innovative technologies. The current economic crisis could create possibilities of enforcing incorporation of novelty solutions by the European Union institutions on companies that find themselves in financial distress. Industries that are in financial trouble could apply for subsidies that would be granted after certain conditions were met. One possibility for the EU would be to demand incorporation of an innovative factor that has a potential of facilitating emission reductions before a subsidy is being granted.

Regarding the possible compliance measures, this paper has provided an insight into two types of solutions, namely, “broad-but-shallow” and “narrow-but-deep”. Implementation of the latter can be perceived as an appropriate solution in achieving the Commission’s objectives. The former, on the other hand, seems to create a possible solution to a global agreement as it has to be ratified by many countries with different views on the subject matter. The global framework should accommodate the diversity by allowing variation in the magnitude and timing of countries’ commitments, providing that the overall framework is capable of meeting the agreed intermediate and long-term goals. A comprehensive framework has been developed within the EU itself that deals with non-compliance. It has been incorporated into the EC Treaty, namely, into article 226 (infraction procedure). This method of making countries comply has been efficient, though, has also created problems regarding workload of the European Court of Justice.

References:
http://www.cleanenergystates.org/international/Docs%20to%20post%20Intl%20Page%20August%202005/13%20+%201%20Barrett%20Climate%20Policies%206403.pdf


