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**How Keen on Being Green ?  
The EU Climate Change Strategy  
under the Lens of Multi-level Governance**

Mémoire présenté pour l'obtention du  
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# Acronyms

BINGOs	Business and industry non-governmental organisations
CAN	Climate Action Network
CDM	Clean Development Mechanism
CDR	Common but differentiated responsibilities
CER	Certified Emissions Reduction
COP	Conference of the Parties
EAP	Environment Action Programme
EC	European Community
ECCP	European Climate Change Programme
EEA	European Environment Agency
EM(A)S	Environmental management (and audit) schemes
ENGOS	Environmental non-governmental organisations
EPI	Environmental policy integration
EU	European Union
EU ETS	European Union Emissions Trading System
GHG	Greenhouse gas
IPPC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
MBI	Market-based instruments
NAP	National Allocation Plan
NEPI	New environmental policy instruments
NGO	Non-governmental organisation
OPEC	Organisation of Petroleum Exporting Countries
R&D	Research and development
REIO	Regional Economic Integration Organisation
RINGOs	Research and independent non-governmental organisations
UN	United Nations
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VA	Voluntary agreements
WPIEI-CC	Working Party on International Environmental Issues - Climate Change

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# Introduction

Climate change denotes a reality of many contrasts. Some view it as the deserved punishment for humans' reckless behaviour towards the natural environment; others reprobate its existence, denouncing scientific manipulation in the name of political and economic interest. Some press for urgent and extreme measures to abate the causes of global warming, and hence of climate change. Others consider it a fatality that cannot be diverted from its course, preaching for 'carpe diem' at all costs. Between environmental extremism calling for the return to nature and environmental scepticism preaching the status quo, a realist observer would acknowledge climate change as the inconvenient challenge of our days. Its reality should neither be hindered by unfounded alarmism nor dismissed by blue-eyed ignorance, but approached with precaution.

Essentially a multi-cause and multi-effect phenomenon, climate change is severe, transnational, and evolving. The 2007 Nobel peace prize co-laureate United Nations Intergovernmental Panel on Climate Change estimates that climate change is preponderantly attributable to human activity. Principally due to inefficient production processes, high levels of consumption, population growth and movement, economic development, urbanization, and environmental-unfriendly technological use, the negative impacts of anthropogenic environmental degradation on natural and human systems are taking their toll. Sea level rise threatening life on coasts and islands, glacier and ice cap melting pressuring water availability, extreme weather events like storms, floods, draughts and heatwaves are all signs that climate change is not a mere environmental issue, but one with serious implications for human wellbeing and safety.

Governments have increasingly been acknowledging the challenge of climate change and progressively addressing it in their national policies. In discourse and practice, the European Union has engaged itself with ambition in the project of tackling climate change. Over the last decade its attention has been principally drawn to developing a coherent climate strategy that translates its international commitments. The EU has been employing a strong rhetoric, turning into the fiercest supporter of the UN Framework Convention on Climate Change and of its Kyoto Protocol. The European Community, the legal entity representing the EU in the international climate regime, and the individual member states have a shared responsibility to observe the UNFCCC and Kyoto commitments. Under the Protocol, the EC is bound to reduce by 8% its greenhouse gas emissions, the principal drivers of global warming. This target has been redistributed among the EU-15 member states ('the EU bubble') under the Burden Sharing Agreement. Although the member states that joined the EU in 2004 and 2007 have individual targets, they are nevertheless obliged to implement EU climate change policies, programmes and measures, and therefore participate indirectly in burden-sharing. At European level, the European Climate Change Programme (ECCP) is the main legal instrument that shapes the climate change policy. Its main objective is to reduce greenhouse gas emissions in accordance with the Kyoto commitments, to promote energy efficiency, renewable sources and alternative types of technologies, and to develop a multi-stakeholder cooperation.

The EU accounts for 15% of the world's greenhouse gas emissions for a population of only 5%. In other words, Europeans contribute three times more to the global greenhouse gas emissions than the average individual. Emissions reduction constitutes the focal point of mitigation policies that are at the heart of the climate regime; adaptation strategies have so far taken the back seat. Notwithstanding, mitigation and adaptation are the two facets of the same coin, one that is intended to purchase the promise of a safe environment. Whereas mitigation aims to diminish the sources of global warming by limiting emissions and promoting environmentally-friendly technologies, adaptation strategies are designed to reduce the natural and human vulnerability to actual and potential negative impacts of climatic changes. Adaptation is increasingly acknowledged as a vital pillar of the climate policy, aimed at assisting communities to manage and adapt to the negative effects of climate change on water resources, agriculture and forestry, biodiversity, industrial and urban infrastructure, energy supply, health and insurance industry.

## Objective and research questions

Against this background, the aim of this research is to examine the EU climate change policy and the role of the EU in the development of a global climate regime. For this purpose, three main research questions will be addressed. The first one touches upon the configuration and the evolution of the EU climate change policy. Distinguishing between the internal and external dimensions, the analysis of the EU climate policy develops along two lines: the domestic performance and policy instruments, and the international commitments. The answer to the first research question boils down to the estimation that the EU climate change policy represents a hybrid policy issue, where the distinction between the ‘high’ and ‘low’ politics dimensions becomes blurred. For this reason, I maintain that the EU climate strategy can be optimally analysed by the means of an integrated approach.

The second research question addresses the role played by the EU in the emergence of the international climate regime. Relying on two fundamental legal documents, the 1992 UN Convention on Climate Change and its 1997 Kyoto Protocol, the global climate regime has been keenly supported by the EU, both in discourse and practice. For the purpose of this research question, the first step is to determine whether the EU behaves as an international actor in its own right. This analysis is guided by a theoretical framework that relies on four core concepts: recognition, authority, autonomy and cohesion (Jupille and Caporaso 1998). Having established that the EU does possess the attributes of an international player, the second step is intended to examine whether the EU can be rightfully considered an environmental leader in the climate regime. This inquiry is articulated by a multi-factor evaluation grid that takes into account the most relevant factors that influence EU’s proclaimed leadership in the climate regime: formal policy commitments, key participants, multi-level governance, external context, resources and rhetoric. The conclusion establishes that the EU qualifies for three types of leader: structural (due to its economic and political weight, the EU employs incentives to induce compliance); directional (with the most advanced domestic climate policy in the world, the EU seeks to teach by example); and instrumental (the EU makes use of environmental diplomacy). However, the evaluation also reveals several elements that determine a non-linear climate leadership performance, such as the institutional complexity of the Union, the plurality of interests that compose it and the novelty of concrete policy output.

The third research question seeks to assess EU’s climate governance – which conveys both the internal and external dimensions of its climate policy – under the lens of multi-level governance. The multi-level governance thesis is chosen to serve as the theoretical foundation of this research because it provides an accurate description of how EU policy-making operates. A selection of features pertaining to the multi-level approach will constitute the assessment variables, namely the plurality of levels and participants, the policy networks and epistemic communities, and the soft modes of governance. The conclusion argues that the multi-level governance approach accounts well for how EU’s climate policy is shaped and implemented. Notwithstanding, the high level of intergovernmentalism that characterises the external dimension of the climate policy can hardly be accommodated by the multi-level perspective.

In a nutshell, this study will allow for the development of three questions:

- (a) What are the configuration and the evolution of the EU climate change policy?
- (b) What is the role of the EU in the development of the international climate change regime?
- (c) Can the EU climate policy be appropriately conceptualised as a multi-level governance model?

## Theoretical framework

The novelty of the situation in which actors that previously had little power become increasingly involved in the structures and processes of governance, through both formal and informal channels, has determined vivid scholarly interest for ‘the new clothes’ of EU governance. The emerging types of governance mechanisms, arenas, participants and their interactions are therefore at the heart of the multi-level thesis. In short, this approach maintains that policy-making authority and influence are shared across multiple levels of government – subnational, national, and supranational – by a growing number of participants, from national governments to non-state actors. The EU multi-level governance consists of two dimensions: formal structures, rules and actors doubled by informal practices. Within the decision-



making process the hierarchical structure and formal interaction is coupled with a second order, that of informal negotiations and bargaining between interdependent actors and institutions. The multi-level approach on EU governance has been traditionally coupled with the concept of policy networks, which stands for a type of interaction between a number of individuals and organizations which, contrary to other forms of interaction (such as hierarchical structures), are characterized by mutuality and complex interdependence of participants, an open and fluctuant structure depending on the policy sector they serve, informality of strategies of bargaining, arguing and deliberation.

The reason for choosing this particular conceptual approach resides in its focus on the plurality of decision-making levels and actor interactions, informality, networking and bargaining as specific attributes of EU policy-making and on the soft modes of governance. As an actor-centric theory, multi-level governance is sensitive to the influence that non-state actors exert in the policy-setting and policy-shaping phases of decision-making. It also reveals with precision the formation and behaviour of policy networks under the form of supporting and opposing climate coalitions in which environmental NGOs and industrial lobby groups activate respectively. The contribution of epistemic communities, namely scientific groups such as the IPCC, is vital to the development of the climate policy. Multi-level governance accounts well for the informality of interactions within formal institutions, between institutions themselves and between institutional and non-institutional actors. From this perspective, EU policy-making can be accurately qualified as a bargaining marathon (Kohler-Koch 1995). Finally, this approach lends itself well to the study of soft modes of governance and alternative policy instruments that are increasingly being employed in the climate policy along with classical 'command and control' regulation.

## **Hypotheses**

The proposed research relies on two preliminary hypotheses. The first one refers to the compatibility between the multi-level governance postulates and the climate change policy. The fluid and fragmented institutional structure of the EU, the absence of a central authority, the growing number and variety of significant participants in the European decision-making arena, coupled with a structural repositioning of the nation-state are factors that legitimize the redefinition of the political architecture of the EU in terms of multi-level governance. The EU climate change policy seems to be a good candidate for multi-level governance postulates. This hypothesis will be tested once the configuration of the climate policy is examined.

The second hypothesis is that the EU has become a notable international actor on the climate arena. While international actorness is not identical to environmental leadership, this hypothesis presumes that if the EU is indeed an environmental leader, this quality is conditional of its international actorness. Both of these labels will be analysed from a theoretical standpoint and subsequently evaluated according to EU's performance in the global climate regime.

## **General structure and methodology**

These considerations pave the way for addressing the structure of this work, which can be divided into four tracks. The first one is preponderantly theoretical and comprises two chapters: the first chapter sets the conceptual framework, while the second deals with the features of the EU governance. The second, incarnated by the science basis track, sheds light on the phenomenon of global warming and on its effect, namely climate change. The third, policy-oriented track is formed by the two chapters addressing the EU domestic climate change policy and the international commitments respectively. The last track is embodied by the evaluation of EU's climate change policy which operates along two lines: first, it establishes the main features of the climate policy, pleading for an integrated approach; and second, it examines whether the EU climate policy is an accurate model of multi-level governance.

In terms of methodology, the study largely relies on an analytic approach, intersected by elements of legal and public policy analysis. Discourse and official document analysis enhance the understanding of EU's position on climate change.

## Chapter-by-chapter outline

Chapter 1 is designed to lay out the theoretical foundation of this research. The multi-level governance thesis states that political authority is shared across multiple levels of government: subnational, national, and supranational. As it has been traditionally coupled with the concept of policy networks, I reveal the explanatory value of this conceptual combination. Policy networks are taken here as an analytic model which supplements the multi-level governance approach, one that explains the patterns of interaction between a variety of actors that coordinate their actions across multiple levels of governance.

Chapter 2 aims to shed light on the specific configuration of EU governance, which is the result of a series of transformations in the traditional state structures and practices brought by European integration. In order to address the complexity of the European governance as a multi-level game I first review the causes and the effects of the conceptual shift from government to governance; I then explore the physiognomy of the EU governance; I comment on Commission's 2001 White Paper on European governance; and I finally discuss the soft modes of governance.

Chapter 3 is intended to map out the challenge posed by global warming, its causes and negative impacts in Europe and worldwide. The purpose is to provide a short but inclusive understanding of the challenge that climate change constitutes. I employ a tripartite sectoral approach, focusing on the geographical distribution of climatic changes, on the vulnerabilities of natural systems and on the most sensitive social and economic sectors. I finally explore fundamental concepts related to mitigation and adaptation strategies, such as vulnerability, risk and hazard.

Chapter 4 is dedicated to the analysis of the EU domestic climate change policy. I first evaluate the Union's 'greenness' in terms of greenhouse gas emissions, the principal anthropogenic contributors to global warming. I then overview the legal foundations and the institutional setup of climate change decision-making. The core of this chapter is embodied by the two major dimensions of the climate strategy: mitigation and adaptation. Finally, I discuss the process of environmental policy integration (EPI), which stands for the continual process of taking into account environmental issues in the design and implementation of non-environmental policies.

Chapter 5 touches upon EU's international commitments to the global climate regime along two lines of analysis: first, I overview the major elements of the international climate change regime; second, I scrutinise the role of the European Union in multilateral climate negotiations. The purpose of the first section is to place the policy measures discussed in the previous chapter in a global context. The aim of the second section is to address EU's role in the international climate arena. For this purpose, I proceed in three steps: first, I clarify EU's institutional setup in international climate negotiations; second, I inquire into EU's international actorness in the climate arena as a condition for its proclaimed environmental leadership; third, I examine EU's environmental leadership status from both a theoretical and an empirical perspective.

Chapter 6 is intended to draw the conclusions from the overall analysis of EU's climate change governance under two angles: (a) the integrated approach of the climate change policy that accounts for both the internal and external dimensions; and (b) the evaluation of EU's climate change policy as a multi-level governance model. First, by adopting an integrated approach of the climate policy, I argue that the internal and external facets of the climate policy are linked through a causal logic that works both ways: the international commitments constitute a driving force for domestic policy implementation and development, which, in their turn, contribute to EU's international standing as a credible player. Second, I demonstrate that EU's climate change policy embodies a multi-level governance model.

This research will draw to an end with a general overview of the results and several random considerations of the challenges that lie ahead of EU's leading role on the climate agenda. As far as the Annexes are concerned, they are intended to provide assistance to the reader by facilitating the access to: (a) the primary sources cited in the text (Annex 1 reproduces the Environment Title of the EC Treaty and Annex 5 contains excerpts from the UNFCCC and the Kyoto Protocol); and (b) mitigation and adaptation examples by sector (Annex 2 and 3) and an overview of implemented and planned EU climate policies

(Annex 4). Several graphics illustrating the attitudes of European citizens towards the environment are provided in Annex 6.

### **Eluded temptations**

A final introductory remark is necessary in order to illuminate the issues that have deliberately been ignored or under-addressed. First, the analysis of EU multi-level governance has resisted the temptation of normative claims. The theoretical approach is therefore addressed as an analytical framework, blind to any normative considerations. In other words, the argument seeks to understand how the EU multi-level policy-making process functions, and not whether it is efficient, legitimate or accountable. A second temptation is represented by the debate over the reality of global warming. Although scientific uncertainty is recognised to have a notable influence on how policy options are shaped and measures taken (or not), the existence of global warming is not questioned. All precautions taken, the intention is not to argue whether climate change exists or not, but to examine EU's response to the negative effects attributable to observed climatic changes. Finally, insofar as the scope of this research is wide, the reader might feel unsatisfied with the frugality of the treatment of particular issues. While such sentiments may be well founded, the reader must be aware that this work attempts to provide a broad overview of EU's climate strategy that encapsulates as many relevant items as possible, at times sacrificing the detail for the sake of inclusiveness.

# CHAPTER 1

## The Analytic Toolbox: Theory and Concepts

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### OVERVIEW

The theoretical framework that serves me as starting point is provided by the interplay of two distinct areas of research in European studies: multi-level governance and policy analysis. The multi-level governance thesis maintains that political authority is shared across multiple levels of government – subnational, national, and supranational. The multi-level approach has been traditionally coupled with the concept of policy networks, which stands for a type of interaction between a number of individuals and organizations characterized by mutuality of exchanges, interest and resource interdependence, open and fluctuant structure, informality of strategies of bargaining, arguing and deliberation. For the purpose of this chapter, I proceed as follows: first, I analyse the multi-level governance thesis; second, I bring into discussion the conceptual couple formed multi-level governance and policy networks; and third, I review the classical policy analysis that will serve me as the backbone of the study of EU’s climate change policy.

## 1. Multi-level governance as an analytical framework

The multi-level governance approach makes its way into the EU studies with the analysis of the European cohesion policy during the 1980s. Developing an actor-centred approach, as opposed to state-centric theories dominating the academic debate at the time, Marks and Hooghe argue that state sovereignty is being eroded by collective decision-making and by the existence of supranational institutions. Along these lines, multi-level governance is defined as ‘a process in which authority and policy-making influence are shared across multiple levels of government – subnational, national, and supranational’ (Marks et al. 1996, 342). The authors note that ‘the locus of political control has changed’, with national governments losing their total control (although not their centrality) over the decision-making process, with the individual national sovereignty becoming diluted, with the supranational institutions gaining terrain and with non-governmental actors becoming a part of the equation.

Marks and Hooghe build their argument on three major premises: first, decision-making competences are shared by actors at different levels and supranational institutions have independent influence on policy-making processes; second, collective decision-making in the European Union equals to significant loss of individual governmental control; and third, transnational associations foster interconnected rather than nested political arenas, as the border between domestic and international politics becomes blurred. The multi-level governance approach prioritises the interdependence of multiple actors at different territorial levels over solely intergovernmental relations; it highlights non-hierarchical, negotiated, fluctuant and contextually-defined interactions; it focuses on networking and informal exchanges as the main features of institutional relationships.

Interested in determining how the authority architecture should be configured (thus adopting a normative standpoint<sup>1</sup>), Marks and Hooghe (2001, 2003a, 2003b, 2004) introduce a two-type model of multi-level governance. Type I multi-level governance belongs to general-purpose, non-intersecting, Russian doll-like jurisdictions that are limited in number. Type II refers to task-specific (policy-oriented), ad-hoc, intersecting jurisdictions that may be unlimited both in their number and in the number of their levels. While the first type of multi-level configuration is proper to the national state, the second one accommodates well the international context (for instance, cross-border regions). The EU is the single major exception of type I found beyond national boundaries: ‘The EU bundles together policy competencies that in other parts of the world are handled by numerous, overlapping, and functionally specific jurisdictions. Most EU policies, with the major exceptions of monetary policy and border controls, have a single unified jurisdiction’ (Marks and Hooghe 2004, 18). However, the authors are quick to admit that ‘some salient features of EU architecture are consistent with Type II governance: variable territorial jurisdictions as a result of treaty derogations; distinct governance systems or ‘pillars’ for different policies; the multiplication of independent European agencies; and the flexibility clause of the Amsterdam and Nice Treaties specifying the conditions under which a subset of member states can engage in greater integration’ (Marks and Hooghe 2004, 20).

Despite not being generally acknowledged as a fully-fledged theory (Fairbrass and Jordan 2004), multi-level governance is an approach which provides a realistic and comprehensive description of the policy-making process in the EU. Despite its inability to generate predictions on governance outputs, multi-level governance has the advantage of focusing on the role of the institutional and non-institutional actors and their degree and patterns of participation to the EU policy-making. It is through this observation that this particular approach to the Euro-polity gains its advantage over state-centric theories.

The argument against the multi-level governance approach as a ‘grand theory’ is based on the observation (by both critics and defenders) that the sectoral architecture of the European Union renders any generalisation about the system dangerously inappropriate. The structures, processes, instruments and actors of multi-level governance vary to a great extent across policy sectors (Bache and Flinders 2004). If areas of ‘low politics’ such as the cohesion policy provide this approach with an easy test case, issue areas known as ‘high’ politics are more difficult to be conceptualised under a multi-level governance lens.

Moreover, the kaleidoscopic nature of the multi-level governance approach and its predilection for conceptual over-stretching have led critics to dismiss it as a valid account of the nature and functioning

of the Euro-polity. More precisely, a comprehensive critical evaluation points out several major shortcomings: multi-level governance does not constitute a new theory, it is but an amalgam of existing theories which only provides a description of the EU; it overstates the autonomy of subnational actors to the exclusion of other significant actors, thus employing a 'top-down' view; subnational actor mobilisation is taken as evidence of influence; finally, it ignores the international dimension of interaction (Jordan 2004 in George 2004, 107). One supporter of the multi-level thesis considers this criticism of 'variable validity' (George 2004). While some of the considerations do have some truth in them, it is nonetheless generally accepted that multi-level governance does bring new insight on how the EU acts and develops.

There are two complementary arguments that, overstated, endanger the legitimacy of the multi-level governance framework: one that pleads for the demise of the state, and one that tends to over-exaggerate the role of non-state actors. In order for this analytic model to become a realistic evaluation grid of EU governance, neither of the two extremes should be advocated. The repositioning of the nation state in the context of European integration does not imply its obsolescence, but rather its recasting from the role as the single significant player (or better yet, arbitrator) to the role as one of the team members (be it the captain).

How do national governments respond to this changing authority architecture? How come that they are willingly ceding some of their control in the multi-level game? Bache and Flinders (2004, 201-202) offer a number of arguments for this state of art: the states remain the keepers of the metagovernance key (i.e., the rules of the game; Jessop 2004); they control how and to what extent power should be allocated upwards, downwards or sideways to other institutions or actors; by controlling resources, they influence non-state actors in order to achieve particular objectives that they otherwise would have attained with greater difficulty and costs; they shape the outcomes of policy decisions by being in charge of their implementation; states can also impose – out of their own will or as a response to sub-/ supranational pressures – institutional reforms in order to alter their strategic capacity (notably in terms of increase of their 'gatekeeping' capacity).

In a nutshell, multi-level governance is focused on systems and processes of governance involving institutions and actors belonging to different levels (regional, national, supranational, transnational); it captures institutional relationships under a network perspective, emphasizing a negotiating and deliberative order; it takes into account the activity of non-state actors (private or public interest-oriented) within the governance process and the variable constellations of coalitions that these groups may form. A contrario, multi-level governance rejects solely intergovernmental relations as the engine of policy-making; it opposes a strictly hierarchical order of governance processes; it does not allow for a narrow understanding of formal rules and delimited jurisdictions, taking also into account the informal character of actor interactions, the flexibility of governance instruments and permeability of arenas; and finally, multi-level governance largely ignores structure, to the advantage of processes and outputs (Peters and Pierre 2004).

## **2. Conceptual combinations**

Multi-level governance has been traditionally coupled with the concept of 'policy networks', a fashionable catchword shared by political science, a number of social theory disciplines, public policy analysis and economics. This conceptual combination has the virtue of accounting for the activity of and the interaction between a wide range of actors present in the EU policy-making arena.

While the limitations of the multi-level governance approach – its inability to explain the creation of the EU and its incapacity to predict its future evolution – are not counter-balanced by the policy networks metaphor, the couple benefits the scholar more than each of the concepts do separately. The theoretical value of combining the multi-level approach with policy networks resides in the fact that the first element is able to explain the quixotic nature of the Euro-polity and of its players, while the latter offers clarification on how the EU system produces policy, both through horizontal and vertical linkages between networks (Warleigh 2006, 91-92).

What makes multi-level governance and policy networks a solid couple? One reason would be their actor-centred focus: both devices seek to understand the particular role of actors in the alliances that form in the policy process, and the resource dependencies that lead to specific interactions. Cross-level relations fostered by networks imply that domestic issues are directly linked to international ones (ibidem, 92). As middle-range theories, both of them take great advantage of being reinforced by other approaches in order to attain a high level of ‘intellectual purchase’ (Cooke 1996 cited in Warleigh 2006, 93). Moreover, in the absence of a conceptual combination as this one, certain issues may remain underdeveloped, ‘floating and un-linked’ (Warleigh 2006, 93).

By supplementing the multi-level governance approach, policy networks are taken here as an analytic model that explains the patterns of interaction between a variety of actors that coordinate their actions through resource and interest interdependencies, and not as a theory in stricto sensu. Nevertheless, one author estimates that there is a ‘Babylonian variety’ of applications of the policy network concept in the domestic public policy literature, as well as in EU studies (Börzel 1997, 2). Such diverse understandings vary from policy networks as a typology of interest intermediation to policy networks as a specific form of governance. Applied to European governance, policy networks have widely been conceptualised as a ‘metaphor’ which accounts for the horizontal exchanges among actors. The following table resumes the ways in which policy networks have been employed in the study of EU governance:

**Table 1.1. The application of policy network approach to the multilevel governance thesis**

	Policy networks as analytical tool	Policy networks as theoretical approach
<b>European governance</b> as <b>dependent variable</b>	<ul style="list-style-type: none"> <li>◆ Forms of interest intermediation</li> <li>◆ Policy results</li> <li>◆ Changes/ structures/ processes of European policy-making               <ul style="list-style-type: none"> <li>➔ Intergovernmental vs. supranational/ transnational policy-making</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>◆ EU as a system of governance without government               <ul style="list-style-type: none"> <li>➔ Policy networks as a mode of European governance; EU as a new form of modern statehood vs. EU as a system of governance beyond the state</li> </ul> </li> </ul>
<b>European governance</b> as <b>independent variable</b>	<ul style="list-style-type: none"> <li>◆ Impact of European policy-making on the domestic structures of the member states               <ul style="list-style-type: none"> <li>➔ Strengthening vs. weakening the state</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>◆ Impact of European integration on the domestic structures of the member states               <ul style="list-style-type: none"> <li>➔ The transformation of the state from actor to arena</li> </ul> </li> </ul>

Source: Börzel 1997, Annex, Table 3

### 2.1. Policy networks

While the definitions proposed for the ‘policy networks’ concept may vary according to the discipline, governance theorists understand ‘policy networks’ as an analytical concept, model or tool for the analysis of the relationships, dependencies and dynamics between actors that co-ordinate their actions through interdependencies of resources and interests. One definition refers to ‘a cluster or complex of organisations connected to each other by resource dependencies and distinguished from other clusters or complexes by breaks in the structure of resource dependence’ (Benson 1982, 182).

Fearing that too broad an understanding of networks may result in their application to any social arrangement, thus rendering their specific use superfluous, Marin and Mayntz reserve this notion for a specific class of policy making structures, endowed with specific attributes (Marin and Mayntz 1991, 40). The very first definitional constraint proposed by the authors is that policy networks should refer to ‘specific structural arrangements in policy-making’ that emerge as a response to the changing conditions of

policy-making – dispersion of resources and action capacity of actors, and structural evolutions in society and in the polity (ibidem, 19). Policy networks are evaluated against a number key variables, among which the most prominent are: the belonging to a policy sector; the requirement of collective action; the membership of public as well as private or corporate actors; informal, horizontal and often asymmetric power and resource dependencies; structural instability; strategic interaction and antagonistic cooperation (idem).

It should also be noted that policy networks can belong to different territorial levels (regional, national, European, international), and that their structure and activity focus can vary over time, space and policy sector. Depending on the territorial level, two types of policy networks can be observed: at EU level, they take the form of unstable, fluctuant and complex ‘issue networks’. Their characteristics are the result of the high competition for scarce resources available at this level. However, the technicality of most policies determines the existence of, the polar opposite of issue networks at European level. As the following section will attempt to demonstrate, this type of policy networks consist of highly-specialised technocrats who are able to provide in-depth expertise on specific issues. At the national level, a second type of networks activate: more stable, longevous, routinised and well integrated ‘policy communities’ (Peterson and Bomberg 2003, 328-29).

The Rhodes model of policy networks is probably the most frequent reference in policy network analysis. It is grounded on three variables: the relative stability of membership, the network’s insularity or permeability and the strength of resource dependencies. Rhodes distinguishes between five types of resulting networks, ranging along a continuum from highly integrated policy communities to loosely integrated issue networks (Rhodes 2003b, 38-39). The following table resumes the typology:

**Table 1.2. The Rhodes typology of policy networks**

<i>Type of network</i>	<i>Characteristics of the network</i>
<b>Policy community</b>	Stability, highly restricted membership, vertical interdependence, limited horizontal articulation
<b>Professional network</b>	Stability, highly restricted membership, vertical interdependence, limited horizontal articulation, serves interest of profession
<b>Intergovernmental network</b>	Limited membership, limited vertical interdependence, extensive horizontal articulation
<b>Producer network</b>	Fluctuating membership, limited vertical interdependence, serves interest of producer
<b>Issue network</b>	Unstable, large number of members, limited vertical interdependence

Source: Rhodes 2003b, 38, Table 2.1

At EU level, policy networks become increasingly active in the policy-shaping phase of the policy cycle. A key attribute of networking is informality, defined as ‘the operation of networks of individual and collective, public and private actors pursuing common goals [...] through regular though non-codified and not publicly sanctioned exchanges in the institutional context of the European Union’ (Christiansen et al. 2003, 7). Two dimensions articulate informality: the non-codified nature of interactions (formally established and regulating principles of actions are inexistent) and the lack of public sanctions (however, peer pressure, reputation and retaliation might function as private sanctions). Informal interactions take place outside official arenas, ‘around the edges’ of the EU institutions (Wincott 2003, 233), bypass institutional practices, and are pursued ‘in the shadow of hierarchy’. They either emerge spontaneously, as a result of the mobilisation of interested actors around an issue, or are allowed existence by Commission’s open method of coordination (Christiansen et al. 2003, 6).

Peterson and Bomberg (1999) explain that there are four reasons for which informality is a persistent feature of networks. First, despite Commission’s attempts to formalise the consultation of stakeholders,



the EU lacks the formal tools and institutions that could foster this dialogue. The result is that the consultation 'process' is highly informal, bargain-like and extensive. Secondly, the absence of a clearly specified formal context of consultation allows an overwhelmingly wide range of stakeholders to participate. Thirdly, as Commission's favourite legal tools are directives, national governments are free to establish and implement their content. However, this implies that technical expertise is needed; more often than not, such advice is provided by interest groups. Finally, policy networks facilitate bargaining between divergent positions, thus smoothing the way to a consensual policy formulation.

## *2.2. Epistemic communities*

Despite their fluid structure and relative independence from one another, networks are able to exercise power, mainly due to their expertise and specialization in a particular policy domain. Policy network analysts make use of the term 'epistemic communities' to refer to 'networks of professionals with recognized expertise and competence in a particular domain, who define problems, identify compromises and supply 'expert' arguments to justify political choices' (Peterson and Bomberg 2003, 329). Thus, they can not only influence the agenda for a given sectorial policy, but they can also create their own environment by generating new political and economic forces (Thatcher 1998 cited in Peterson 2003, 3). This assumption leads the way to the observation that the EU produces 'network governance'.

The concept of 'epistemic communities' has been largely discussed by Haas, who identified four specific elements: '(1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; (3) shared notions of validity – that is, intersubjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise; and (4) a common policy enterprise – that is, a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human welfare will be enhanced as a consequence.' (Haas 1992, 3 cited in Richardson 2006, 17-18).

Valuable providers of information and technical expertise that is often unreachable through other channels, the members of such epistemic communities become strong players in the governance game. They can go as far as influencing state interests 'either by directly identifying them for decision-makers or by illuminating the salient dimensions of an issue from which the decision-makers may then deduce their interests' (ibidem, 18). 'Knowledge can speak volumes to power... epistemic communities are transmission belts by which new knowledge is developed and transmitted to decision-makers' (ibidem, 20).

The policy network analysis emphasizes the importance of ideas, knowledge and expertise, rather than pure interest. It is by the means of concepts such as policy networks, advocacy coalitions, policy streams or epistemic communities that one can grasp the intricate process by which new knowledge and policy ideas are translated into specific policy proposals (Richardson 2006, 13). The importance of networks or communities of experts is particularly crucial under the conditions of uncertainty that characterizes interactions in the European multi-arena polity.

### 3. Multi-level governance meets policy analysis

Any effort to understand the complexity of EU policy-making must depart from a basic model of public policy analysis. There are numerous definitions of the term ‘public policy’, ranging from most general to extremely detailed. Whereas Dye (1972) contends with a broad understanding of public policy as ‘whatever governments choose to do or not to do’, a more comprehensive definition is offered by Knoepfel et al. (2007): ‘a public policy is defined as a series of intentionally coherent decisions or activities taken or carried out by different public – and sometimes – private actors, whose resources, institutional links and interests vary, with a view to resolving in a targeted manner a problem that is politically defined as collective in nature’. Following this logic, the constituent elements of a public policy identified by the authors are: (1) a solution to a public problem; (2) the existence of target groups; (3) intentional coherence of the initiative over a policy; (4) the existence of several decisions and activities; (5) an intervention programme; (6) a key role for the public actors; (7) the existence of formalised measures; (8) the coercive nature of those decisions. The following table resumes the principal phases of the policy cycle:

**Table 1.3. Sequences of a public policy**

<i>Sequence</i>	<i>1<sup>st</sup> phase</i>	<i>2<sup>nd</sup> phase</i>	<i>3<sup>rd</sup> phase</i>	<i>4<sup>th</sup> phase</i>	<i>5<sup>th</sup> phase</i>
<i>Terminology</i>	<b>Emergence of problems</b>	<b>Agenda setting</b>	<b>Policy formulation/ shaping</b>	<b>Policy implementation</b>	<b>Policy evaluation/ monitoring/ control</b>
<i>Content</i>	Emergence of a problem	Selection (filtering) of emerging problems	Definition of the ‘causality model’	Application of selected solutions	Determination of eventual policy effects
	Problem perception Definition of the problem and identification of possible causes	Outline and formulation of a causality model	Definition of suitable and acceptable solution(s) to the defined problem	Action of administrative implementation agents	Evaluation of extent of impacts, effectiveness, efficiency, relevance with respect to the original problem
	Representation of the problem	Responses of public powers to problems recognised as being the necessary policy object	Filtering between ideal solutions and available resources		
	Request for public action		Selection of instruments		

Source: Knoepfel et al 2007, Table 2.1

All policies are results of decisions, of choices between competing courses of action suitable for a particular problem. In this sense, ‘decisions are the building blocks of policies’ (Peterson and Bomberg 1999, 314). But how exactly can EU decision-making be accurately described?

One framework of analysis is proposed by Peterson and Bomberg (1999). The authors identify three levels of EU decision-making – super-systemic, systemic and sub-systemic – and three main criteria of assessing the types of decisions – actors, modes of bargaining and rationalities. Furthermore, the model has the advantage of being theoretically neutral in the sense of combining the insights of various theories according to the most appropriate fit for each of the categories. It also accommodates a multi-level vision of the EU.

**Table 1.4. The conceptual framework of the EU decision-making process**

<i>Level</i>	<i>Super-systemic</i>	<i>Systemic</i>	<i>Sub-systemic</i>
Type of decision	History-making	Policy-setting	Policy-shaping
Negotiation	Intergovernmental	Interinstitutional	Resource exchange
Rationality	Political	Political & technocratic	Technocratic & consensual
Appropriate theory	Liberal intergovernmentalism ; Neo-functionalism	New institutionalism	Policy network analysis

Source: Peterson and Bomberg 2003, 319

History-making decisions pertain to the super-systemic level of EU decision-making configuration. Belonging to 'high' politics, they are semi-constitutional and transcend the policy process, imposing the general direction and rhythm of the European integration. History-making decisions come into being (a) as a result of intergovernmental conferences (revision of the treaties), (b) through European Council's guiding principles or priorities, or (c) as legal decisions taken by the European Court of Justice (Peterson and Bomberg 2003, 320-321).

At the systemic level the majority of EU decisions are brought to life by the bias of constant negotiations between the member states' representatives. Policy-setting decisions mark the end of the legal process of policy-making, known as the 'Community method': the Commission proposes, the Council disposes, the Parliament amends (ibidem, 324).

Taken early in the policy cycle, in the pre-legislative phase, policy-shaping decisions are not decisions per se, but rather suggestions for possible courses of action. The sub-systemic level is where lobbying occurs, where stakeholders are consulted by the Commission, where networking accelerates, and where coalitions are made and unmade.

The scrutiny of his particular analytic model of EU decision-making will be particularly useful in analysing the climate change policy.

## CHAPTER 2

### EU Governance: A Multi-level Game

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#### OVERVIEW

The interest for the practice of governance in the European Union is first and foremost the result of a series of transformations in the traditional state structures and practices brought by European integration. The fluid and fragmented institutional structure of the EU, the absence of a central authority, the growing number and variety of significant participants in the European decision-making arena, coupled with a structural repositioning of the nation-state are key factors that legitimize the reconceptualisation of the political authority. In order to address the complexity of the European governance as a multi-level game I proceed as follows: first, I review the sources and the implications of the conceptual shift from government to governance; second, I explore the physiognomy of the EU governance; third, I briefly comment on Commission’s 2001 White Paper on Governance; and finally, I take into account the specific modes and instruments of EU governance.

## 1. Rethinking political authority: From government to governance

The state is dead, long live the state! This dictum adequately resumes the status of the debate on how the European Union should be defined in terms of political organisation, how its emergence within the modern state system should be explained and what path its evolution is likely to follow. Are we witnessing a radical transformation of the nation state into a novel type of polity? Or rather is the EU an empty label behind which national governments preserve their sovereignty unattained? Is the EU an (embryonic) federation, a consociation, a regulatory state? Or is it and shall remain a mere *objet politique non-identifié* (Schwob 2005, 11)? As challenging as this dispute may be, it nevertheless constitutes a different story than the one which this research is dedicated to. In turn, what will be examined here is the way EU actually functions. Whether one sees it as a continuation or as a divorce from the traditional nation state, the EU is a governance system.

The changes in the nature and role of the public authority have been translated into the conceptual shift from 'government' to 'governance'. The first term stands for the centralized and coordinated control of an authority. As such, it exercises legitimate violence over its territory by the means of a hierarchical structure of public institutions and commands (Schmitter 2006, 158). Government is by tradition used with reference to the national governments which exercise authority over the territory within their borders. Governance, on the other hand, is used to distinguish state control from alternative modes of political 'steering and coordination of independents (usually collective) actors based on institutionalised rule systems' (Benz 2004, cited in Trieb et al. 2005, 5), such as the EU. Governance thus accounts for the fact that the authority is slipping away from the hands of the state. One author notes that 'governance is a flexibilisation of government structures towards a better engagement with its environment' (Magone 2005, 56). This boils down to the fact that the transformation of political authority requires adequate concepts fit for explaining this phenomenon.

Catchy and fancy, the word 'governance' seems to have become the victim of its own success: its capacity to stand for a wide range of processes and relations makes it an encompassing and flexible concept. The temptation of concept stretching (Sartori 1970) means that 'governance has been used and abused by political scientists without coming to a better organised and analytically (sic) definition of governance' (Magone 2005, 56). While broad conceptualisations come against narrow definitions, there are three realms within which governance gains its explanatory value: polity, policy and politics (Trieb et al. 2005).

The *polity*-centred understanding of governance conceives it as a system of rules that regulates actor behaviour. An institutional stance characterises this approach. The modes through which governance operates are placed on a spectrum delineated by the market model at one end and the hierarchy at the other. In between, other modes of governance exist: communities, associations, networks (Schneider and Kenis 1996, cited in Trieb et al. 2005, 5).

The *policy* dimension of governance explains it as a mode of political steering (Héritier 2002, 187). According to the steering instruments employed, policy objectives are set and policy outputs are explained.

Finally, the *politics*-focused definition of governance is articulated by the relationship between public and private actors as they engage in the policy-making process. More precisely, governance stands for 'the ways and means in which the divergent preferences of citizens are translated into effective policy choices, ... the plurality of societal interests are transformed into unitary action and the compliance of social actors is achieved' (Kohler-Kohl 1999, cited in Trieb et al. 2005, 5).

Transgressing this tripartite divide, there are two extreme definitions of governance of which the differentiating principle is the inclusion or exclusion of the traditional modes of governing. In the broad sense, governance refers to 'every mode of political steering involving public and private actors, including traditional modes of government and different types of steering from hierarchical imposition to sheer information measures' (Héritier 2002, 185). At the end of the spectrum, the narrow conception equals governance to 'types of political steering in which non-hierarchical modes of guidance, such as persuasion

and guidance, are employed, and/ or public and private actors are engaged in policy formulation' (idem), thus diametrically opposing the definition of traditional government.

In the EU lexicon governance is defined by the intersection of five core principles: *openness, participation, accountability, effectiveness* and *coherence*, as Commission's *White Paper* on European Governance suggests (Commission 2001, 10, note 1). The Commission proudly employs the term of 'good governance', which is commonly understood as not as the finality, but as the means to attain a number of political objectives by the horizontal interaction between a number of actors. Although they pursue similar to antagonistic objectives, these actors are sufficiently independent from one another that they are unable to impose their own solutions and, at the same time, sufficiently interdependent that they must find a solution of compromise through negotiation (Schmitter 2006, 161-162).

An appealing political catchword, governance has been ascribed a prescriptive meaning, thus become increasingly notorious beyond the EU context. The phrase 'good governance' first came in the limelight with the 1989 World Bank's report on African sustainable development, where it was used as a synonym for 'democracy and economic liberalism' and as an antonym to 'state intervention' (Abrahamsen 2000, 51, cited in Welch and Kennedy-Pipe 2004, 128). The United Nations Development Program draws attention to the fact that, 'Good governance is, among other things, participatory, transparent and accountable. It is also effective and equitable. And it promotes the rule of law. Good governance ensures that political, social and economic priorities are based on broad consensus in society and that the voices of the poorest and the most vulnerable are heard in decision-making over the allocation of development resources' (UNDP 1997).

'Global governance' is yet another successful formula, especially with IR scholars. Rosenau (1992) understands international governance as the coupling of order and intentionality. In the post-Cold War era, this represented an effort to understand how international cooperation could be possible. A shift from states' power struggle to states' problem-solving capacity was thus operated. In the global system, deprived as a world government, governance refers to 'institutional arrangements beyond the nation state that are characterised by two features: the inclusion of non-state actors, such as firms, private interest groups or NGOs in governance arrangements (actor dimension); [and] an emphasis on non-hierarchical modes of steering (steering modes)' (Risse 2006, 179).

At the end of the spectrum, the focus on 'local governance' meant that the new forms of policy-making, involving regional and local agencies, became important for those who pleaded for the changing of centres of authority (Marks et al. 1996, 342). As Rhodes notes, governance 'signifies a change in the meaning of government, referring to a *new* process of governing; or a *changed* condition of ordered rule; or the *new* method by which society is governed' (Rhodes 2003a, 65).

Finally, 'transnational governance' refers to 'arrangements beyond the nation state in which private actors are systematically involved' (Risse 2006, 181), relying on a conceptualisation of governance as a 'type of regulation typical of the cooperative state, where state and non-state actors participate in mixed public/private policy networks' (Mayntz 2002, cited in Risse 2006, 182).

Having sketched a rough image of governance, let us now turn from theory to practice: how does EU governance actually function?

## **2. EU governance: Exploring 'the nature of the beast'**

A comprehensive understanding of the development and of the functioning of the EU is provided by the governance approach to European integration. It is viewed as a strong alternative to classical integration theory, but not in terms of competition, but rather complementarity (Jachtenfuchs 2003; Jachtenfuchs and Kohler-Kohl 1995). While the latter views the EU as the dependant variable by attempting to explain the nature and the causes of European integration, the governance approach aims to discover the 'forms, outcomes, problems and development paths of governance in the Euro-polity' (Jachtenfuchs 2003, 346), thus taking the EU as an independent variable. The endeavour is to understand the consequences of the existence and of functioning of the Union on national, European and global politics. Thus, the change in

perspective equals a shift in the focus from polity to policies. No longer the *explanandum*, the EU seen from a governance angle becomes the *explanans* (idem).

The EU is a polity in constant transformation; so are the efforts to conceptualise it. Whether an ‘experimental process’, as Wallace (2001) denounces it, or an evolutionary system, the Euro-polity is subject to perpetual change. Adopting the governance approach, the intention of the present analysis is not to define ‘the nature of the beast’ (Risse-Kappen 1996), but explore the way it functions. Obvious from the very title, this research understands the EU as a system of governance characterised by ‘a unique set of multi-level, non-hierarchical and regulatory institutions, and a hybrid mix of state and non-state actors’ (Hix 1998, 39). In terms of governance dynamics, Jachtenfuchs and Kohler-Kohl pinpoint tree elements: ‘action capacity and responsibility of politics, changes in political structures and processes, and the transformation of the statehood’ (Jachtenfuchs and Kohler-Kohl 1995, 7).

First, both integration and internationalisation lead to the de-territorialisation of politics, with national governments being crippled in terms of autonomy and action capacity. The joint exercise of authority at EU level and the constraint of the horizontal coordination of member states’ political action result in a reduced EU action capacity. This translates into hindered policy implementation and control<sup>2</sup>, vulnerability to the limits imposed by joint decision making in interlocked systems<sup>3</sup> and problematic democratic accountability<sup>4</sup>, despite the relative efficiency of horizontal coordination. Second, EU politics transforms the institutional design and the policies of its member states, both by supplementing and replacing national policies with European ones. As a consequence, actor constellations are refigured, power relations are reshaped, and patterns of interaction are remodelled. Third, statehood as an ‘organizing principle’ is reconceptualised due to the internationalisation of societal functional subsystems, determined by the state’s failure to provide efficient institutions (ibidem, 8).

Given these changes, which are the distinctive features of EU governance? The following picture is neither a complete, nor a haphazard shopping list. Rather, it is a selection of the most pertinent elements that account for the EU as a multi-level governance system.

Let me begin by the most evident characteristic: the *multi-level structure*, which the proponents of the multi-level governance approach single out as the essential feature of the EU. The multi-tiered system implies tremendous complexity, with a diverse set of actors (public and private, institutional and non-institutional, national and transnational, political, social and economic) interacting on various levels. These relationships are rather fluctuant than stable, interest-based rather than constant, issue-focused and sectoral. ‘Loose coupling’ may be an accurate attribute of the interactions that take place between the levels of governance (Jachtenfuchs and Kohler-Kohl 2004, 103).

As a result, authority is *diffused* along numerous levels rather than centralised in the hands of the Member States: ‘While national arenas remain important arenas for the formation of national government preferences, the multi-level governance model rejects the view that subnational actors are nested exclusively within them. Instead, subnational actors operate in both national and supranational arenas. [...] National governments ... share, rather than monopolize, control over many activities that take place in their respective territories’ (Hooghe and Marks 2001, 4).

EU decision-making is *non-hierarchical*. It operates on the basis of ongoing *negotiations* among separate but interdependent institutions and actors. For this reason, the EU is characterised by a negotiated order, where arguing and bargaining are instruments that forge consensual agreements rather than majoritarian ones. Whereas national governments enjoy privileged negotiation positions based on their relative power, they are increasingly joined by other actors like NGOs, lobby groups and experts. Negotiations are a constant feature of the EU system of governance, with the outcome of a round of negotiations constituting the core of another bargain (Tagil et al. 2000, 128).

Perpetual negotiations create a climate of cooperation that breeds the ‘*problem-solving capacity*’ of EU governance (Jachtenfuchs 2005, 14). Opinions diverge on whether it is high or sub-optimal, but this evaluation depends on how easily consensus is reached within the multi-level architecture and polycentric actor constellation of the specific policy. Therefore, it is difficult to assess the general problem-solving

capacity of the EU. As one author notes, ‘While in the field of market regulation the balance is rather positive, the EU is still rather ineffective in areas requiring strong legitimation – a resource that the Euro-Polity possesses to a limited extent’ (Jachtenfuchs 2005, 16).

As discussed in the introductory chapter, another essential feature of the EU is that it provides a unique instance of *network governance*. As this particularity has already been analysed at length, I will only remind here that networking does not have mere functional utility, but it represents a specific mode of governance that prevails in the Euro-polity. Transcending institutional boundaries, networks are the glue that links the levels of interaction and assures constant exchanges between participants. As one author notes, ‘wherever the edges and unyielding forms of the EU architecture, its solid foundations in law, its pillars and its well-defined mechanics, are felt as constricting, the softer, much less formal and organically growing ivy of networks seems to provide both comfort and a means of overcoming conflicts about EU rules and decisions. If EU central policy-making follows deductive reasoning, networking practices operate along inductive lines, applying trial-and-error strategies instead of Cartesian logic’ (Janning 2005, 827).

Apart from negotiation and deliberation, EU governance operates through a number of specific *modes of governance*, also known as ‘new’ modes of governance, such as the open method of coordination (OMC), best practices, benchmarking and mainstreaming. These modes of governance will be closely scrutinised in a subsequent section of this chapter, mainly in connection with the EU climate change policy.

This tentative summary of relevant features of the Euro-polity may be pursued by enumerating the following features: detached political contestation and under-politicisation (weak political parties, no political public sphere at EU level); uneven Europeanisation (strong economic integration versus weak collective identity); structural problems of democracy (the celebrated ‘democratic deficit’). For the time being, however, I will contend not to go further into these details. Instead, the next section is dedicated to how the Commission qualifies its system of governance and what reactions its official rhetoric has encountered.

### 3. Commission’s *White Paper* on European governance

In July 2001 the European Commission adopted a *White Paper* on European governance (Commission 2001). The promotion of new forms of governance was one of the four priorities of the Prodi Commission’s period in office. Governance is defined in the *White Paper* as ‘rules, procedures, and methods of conduct, that characterise the way and method that power is exercised at European level, particularly in relationship to openness, participation, responsibility, efficiency, and coherence’ (Commission 2001, 10, note 1).

The five standards considered by the Commission as essential elements for establishing more democratic governance at all levels: global, European, national, regional and local. What do these principles precisely signify?

- *Openness* is a key principle that should exist within the European institutions themselves, in order to assure a good communication of decisions to be made, and guide the relationship between the institutions and the general public, which needs to be provided with accessible messages;
- *Participation* stands for an inclusive approach of both the institutions and the member states along the EU policy chain, from conception to implementation;
- *Accountability* is required from the part of EU institutions with regard to their respective responsibilities, from the part of the member states regarding the development and the implementation of policies and from the part of all other actors involved in the policy process;
- *Effectiveness* is a result of having set clear policy objectives, having made correct evaluations of future impact and, where available, having taken into account the past experience. It also highly depends on the correct application of the proportionality and subsidiarity principles, which means evaluating if (a) public action is absolutely necessary, (b) the European level is the most appropriate one, and (c) the measures chosen are proportionate to the objectives.



- The *coherence* of EU policies and action become highly important not only with the enlargement of the geographical territory of the Union, but also with the diversity and complexity determined by the inclusion of new members and thus the rise of new challenges.

Acknowledging the need to render the Union more democratic, more efficient and more inclusive, the *White Paper* sets a number of proposals for change in four main areas (Commission 2001, 4-6 and Commission 2003):

1. Better involvement, articulated by four dimensions: (a) openness as a result of enhanced information and communication; (b) enforcement of regional and local democracy with the view to reaching out to citizens; (c) civil society involvement through effective and open consultation during EU policy shaping; (d) networking;
2. Improved policies, regulation and implementation through the mix of policy tools and simplified legislation with the aim to reach a middle ground between uniformity of approach and flexibility of implementation;
3. A twofold EU contribution to the debate on global governance: by an improved dialogue with third parties, governmental and non-governmental, and by a more unified EU position in its international representation. Moreover, the EU is interested in contributing to the effectiveness and to the power enforcement of the international institutions.<sup>5</sup>
4. Refocused policies and institutions to assure a coherent overall policy strategy and clear long-time objectives.

The reactions to the White Paper ranged from fierce criticism to enthusiastic appraisal. However, a clear-eyed evaluation of the Commission's document, both in terms of the rhetoric and in terms of the compatibility of the claims with the reality of decision-making, will readily pinpoint a set of drawbacks. To begin with, why does the Commission ascribe the five mentioned principles to what constitutes 'good governance'? Particularly, why these principles and not others? How does the Commission justify its selection? To be sure, it does not. Rather, it imposes a limited vision of how governance should be functioning; it enumerates its qualities without searching a deeper understanding of their implication in real-life situations. Not addressing concrete policy contexts that see these principles at work, the Commission offers to the public 'a text that remains in no man's land, between political theory and a political programme' (Möllers 2001).

As a consequence, the principles that articulate EU governance remain regretfully underspecified. They fail to fill the 'legitimacy gap' (Eriksen 2001) between the standards of good governance and their concrete application. Take the participation principle, for instance: 'wide participation' says almost nothing about its democratic value. The inclusion of a broad range of actors (civil society representatives, business interests, etc.) does not constitute in itself a guarantee of legitimacy of the decision-making process. On the contrary, it may hinder representativity. How about those interests that are not involved in the decision-making process? Does not partial participation endanger the legitimacy and transparency of the political process? Turing the question on its head, does not unrestricted participation come at the cost of efficiency? On this point the Commission seems unaware of the inconsistencies, if not conflict, between several principles: openness does come against participation in certain situations. Furthermore, civil society participation raises questions about accountability: is it to observe the same accountability rules as political actors (institutions) should? Focusing on the importance of civil society participation to EU governance, the Commission does not take heed of their specific roles, of how their responsibility towards the institutional setup may be established, of what criteria should guide equal interest representativity in order to avoid selectivity or overload, nor how the tension created by diverging interests within the civil society and between the latter and the institutions should be addressed. As before, placing itself beyond the context of decision-making, the Commission fails to provide its guiding principles with real democratic substance.

A second flaw of the White Paper is that it constitutes a technocratic guide to how governance is to be delivered. Focusing on instruments and methods, on the efficiency and effectiveness of policy delivery, the document does not seriously address the most important of EU's shortcomings: the lack of legitimacy and popular mistrust. The Commission seems to take refuge in a technocratic vision of how governance

can be upgraded to greatest efficiency, what policy instruments are the most adequate to solve administrative defects, how the institutional architecture should be redesigned in order to improve the policy-making capability. While the merit of these constructive proposals should be acknowledged, the fact that the Commission leaves essential challenges out of the discussion speaks volumes of how prepared it is to handle them. Should one understand its silence on capital issues as a *acte manqué*?

The third element of criticism is embodied by the suspicion that the Commission is sending a signal that it wants to regain clout in the policy-making process (Héritier 2001). A number of proposals hint to its willingness to exercise dominion within the institutional architecture. According to the Commission this could be achieved by two complementary strategies: on one hand, its attributions should be increased by the employment of new policy tools and by an extensive structure of regulatory and executive agencies placed under its direct control and, on the other, the competences of the Parliament and the Council should be limited to setting the framework legislation, giving the Commission free hand to establish the details.

A cynical assessment of Commission's White Paper on governance may see the much awaited party as nothing more than a damp squib. Failing to address the essential neuralgic points of the Euro-polity, such as the manifest legitimacy gap between the standards of governance and their real performance, the structural difficulties of 'eurocracy', and the symptomatic public apathy and disinterest, the Commission finds itself easily bedevilled. However, refracted through another prism, the document is not void of substance. Technocratic and partisan as it may be, the White Paper puts forth a number of proposals and solutions for more efficient and effective governance processes and outputs. For the purpose of this work, the following sections will concentrate on the novel modes and instruments of governance that are considered specific for the EU.

#### **4. Something old, something new, something borrowed, something blue: The soft modes of governance in the EU**

The shifting balance of political authority in the context of European integration triggered not only a reconceptualisation of the nature of the governing process itself (from government to governance), but it also called for the reconsideration of the modes and instruments that serve political steering.

The standard phrase used to refer to the specific EU governance toolbox is 'new modes of governance'. There is an ongoing debate about the accuracy of the attribute 'new', as most of the modes of governance hardly start from scratch (Smismans 2006, 4). The difficulty to distinguish neatly between what is 'old' and what is 'new' in the exercise of political power within the EU or the daring consideration that 'old' modes of authoritative control are rendered obsolete by 'new' governance mechanisms add substance to the debate. But what surpasses this semantic disagreement is that the EU modes of governance do represent an alternative to traditional modes of governing. In order to avoid this temporal criterion trap, I will employ the phrase 'soft modes of governance'.

Before embarking to a short analysis, let me clarify the choice of this section's title. The expression pertains to a traditional wedding custom, standing for the good luck token the bride must wear on her wedding day. By way of analogy, 'something old' in the soft modes of governance refers to the historical continuity of 'old' and 'new' types of governing; 'something new' stands for those features that distinguish them as specific for the multi-level Euro-polity; 'something borrowed' hints at their building on diverse elements proper to other domains of public action (like business, or societal interactions at large); finally, 'something blue' is a part of the expression and, at the same time, happens to match the theme colour of the EU.

Back to my argument, the soft modes of governance are characterised by the heterarchical setup in which they emerge (as opposed to hierarchy), the non-formalised, open, voluntary, cooperative, deliberative and informative procedures that secure consensual agreements (rather than majoritarian decisions), their problem-solving capacity, the plurality and variety of participants to the policy process. The emergence and development of the soft modes of governance are closely linked to the evolution of the EU as a multi-level system<sup>6</sup>. Against this background, they appear as 'non-coercive processes based on the will of

the participants to agree, by way of collective deliberation, on procedural norms, modes of regulation and common political objectives and, at the same time, to preserve the diversity of national and even local experiences' (Bruno et al. 2006, 520 cited in Caporaso and Wittenbrinck 2006, 472-3).

Insofar as the soft modes of governance have been explained and categorised according to various criteria, three guiding principles should be retained: voluntarism (nonbinding targets, soft law, no formal sanctions), subsidiarity (decisions are taken at the lowest possible level) and inclusion (the actors concerned participate in governance by defining policy goals and instruments) (Héritier 2002, 187; 2003, 106). The mechanisms through which the soft modes of governance operate are, among others, policy learning and diffusion, persuasion and standardisation of policy knowledge, monitoring and target development (Héritier 2002).

The most notable soft mode of EU governance is the Open Method of Coordination (OMC). Its establishment by the 2000 Lisbon Strategy determined a growing interest for the 'new' modes of governance, especially from the Commission. Other soft modes of EU governance are voluntary agreements, benchmarking, mainstreaming and best practices. Although all these governance modes depict a break with traditional models of governing, they developed from a fundamental EU public governance structure, the Community Method. Similar (but not identical) to nation state authority structures, the Community Method is articulated by several core features: hierarchy, norms, public control and sanctions, and the separation of powers and their respective competences (Commission's legislation initiative right, Parliament's and Council's legislative and budgetary power) (Smismans 2006, 4).

In an attempt to introduce flexible, differentiated and horizontal institutional arrangements, Commission's White Paper on European governance refers to five soft governance instruments. *Framework directives* are aimed at flexible policy implementation and simplified institutional interaction (especially between the Council and the Parliament). Second, *co-regulation*<sup>7</sup> combines binding legislative and regulatory action by integrating 'overall objectives, basic rights, enforcement and appeal mechanisms, and conditions for monitoring compliance' into the legislation and encouraging voluntary accords between the Commission and stakeholders (Commission 2001, 21). The latter are responsible for the preparation and implementation of policy measures. They can also initiate self-regulating measures<sup>8</sup>, which are non-binding, but which are nevertheless coupled with formal procedures.

Third, aimed at 'spreading best practice and achieving greater convergence towards the main EU goals' (European Council 2000), the *Open Method of Coordination* (OMC) implies:

- fixing guidelines for the Union combined with specific timetables for achieving the goals which they set in the short, medium and long terms;
- establishing, where appropriate, quantitative and qualitative indicators and benchmarks against the best in the world and tailored to the needs of different Member States and sectors as a means of comparing best practice;
- translating these European guidelines into national and regional policies by setting specific targets and adopting measures, taking into account national and regional differences;
- periodic monitoring, evaluation and peer review organised as mutual learning processes.

Explicit reference to the OMC as a desirable soft, non-legislative tool can be found in policies like research and innovation, health care, social inclusion and pensions; it was subsequently integrated into education policy, e-business and enterprise, information society, and climate change-related policies (Citi and Rhodes 2007, 8). The OMC is founded on classic soft practice (monitoring, peer review, benchmarking, voluntary policy objectives, etc.), characteristic for most international cooperation organisations, and on traditional EU soft legal instruments like recommendations, declarations or codes of practice<sup>9</sup> (ibidem, 9). However, its comparative novelty resides in that it allows the member states to choose how a policy is to be shaped and implemented, by which instruments and in which way it should be democratically justified. The guidelines for these actions, observing EU political objectives, are nevertheless decided at supranational level.

Fourth, the White Paper enumerates *network-led initiatives* as another form of soft governance that links businesses, communities, research centres, and regional and local authorities in order to ‘provide new foundations for integration within the Union and for building bridges to the applicant countries and to the world’ (Commission 2001, 18).

Finally, *regulatory agencies* assist the Commission in the implementation of EU policies, especially in areas that require highly technical expertise (for instance the European Environment Agency). Among the advantages of their assistance the Commission acknowledges their specialised insight, potential for increased visibility for the sector they represent and the cost-effectiveness in relation to business interests (Commission 2001, 24).

The soft modes governance characteristic for the environmental policy represent a group of policy approaches referred to as ‘new environmental policy instruments’ (NEPI). The need for more effective, efficient and flexible environmental policy-making transformed the NEPIs in regular tools in the shaping and the implementation of numerous environmental policies, such as climate change. The most common NEPIs are market-based instruments like emissions trading, eco-taxes, environmental subsidies and incentives, liability and compensation systems, and green public procurement; voluntary agreements; and environmental management and audit schemes (EMAS) (Herodes et al. 2007, 11; Bomberg 2007, 251-4). A detailed and contextualised analysis will be provided further on with the occasion of the discussion of EU’s domestic climate change policy.

## CHAPTER 3

# Climate Change: The Inconvenient Reality of Our Days

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### OVERVIEW

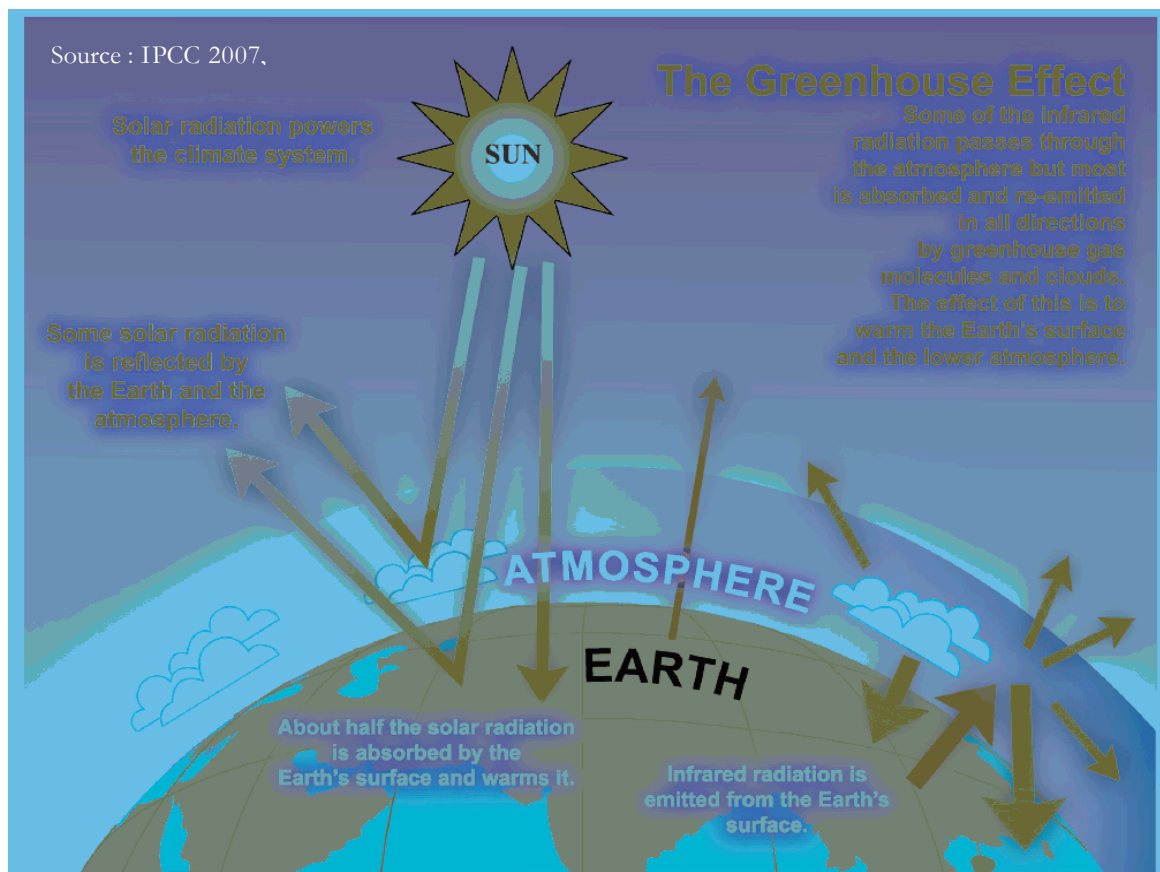
Environmental issues are connected in a web of dependencies that renders any strict separation between them not only difficult, but inappropriate. Whether one refers to extreme weather events, deforestation, biodiversity loss, resource scarcity or pollution, one speaks about one and the same thing: environmental degradation. Essentially a multi-cause and multi-effect phenomenon, environmental degradation is severe, transnational, and evolving. Climate change is one of the most urging components of such environmental stress, one that demands not only a rapid mitigation response, but a long-term strategic vision. This chapter will scrutinise the physical phenomenon of climate change, its causes and negative impacts in Europe and worldwide through a sectoral approach in order to provide a short but inclusive understanding of the challenge it constitutes. The concluding section will explore fundamental concepts related to the mitigation and adaptation strategies that form the core of climate change policy responses, such as vulnerability, risk and hazard.

## 1. Understanding climate change

Global environmental issues are connected in a complex web of interdependencies that renders any strict separation between them not only difficult, but inappropriate and misleading. The unprecedented scale and the acceleration of human-generated environmental degradation pose direct threats to human welfare and safety. Global warming, air, water and soil pollution, biodiversity damage, land degradation, and resource overuse are all signs of environmental degradation.

Essentially a multi-cause and multi-effect phenomenon, climate change is severe, transnational, and evolving. This statement has been proved by scientific insight, such as the research of the UN Intergovernmental Panel on Climate Change (the 2007 Nobel peace prize co-laureate), which provides the most comprehensive guide to climate change. Its Reports evaluate the state of the environment and recommend suitable courses of action to prevent the negative effects of climate change. In the IPCC lexicon, climate is defined as the average weather or 'the statistical description in terms of the mean and variability of relevant quantities over a period of time' (IPCC 2007, Appendices, 4). Climate change refers to 'any change in climate over time, whether due to natural variability or as a result of human activity' (IPCC 2007, 2). The UN Framework Convention on Climate Change offers yet another version of the definition, attributing climate change solely to human activity: 'a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods' (UNFCCC 1992). Thus, the UNFCCC distinguishes anthropogenically-driven climate change (external variability) from climate variation due to natural causes (external and internal variability<sup>10</sup>).

The increase in the global temperature on the surface of the Earth is the main cause of climatic changes. While variations of weather conditions are partly natural phenomena, global warming is largely anthropogenically induced. The physical explanation of global warming is the following: human activities are emitting increasing quantities of gases (especially carbon dioxide, CO<sub>2</sub>) that add to the carbon concentration of the atmospheric carbon dioxide. As a good absorber of the radiation that comes from the surface of the Earth which is warmed by the sunlight, carbon dioxide acts as a 'blanket' that partly traps this thermal radiation (Houghton 2003, 8). The trapping effect is enhanced by the quantity of water



vapour in the atmosphere, which is determined by the evaporation of the ocean surface (ibidem, 18). The more carbon dioxide in the atmosphere, the thicker the blanket, the warmer the surface temperature. In its Physical Science Basis Report, the Working Group I of the IPCC brings further clarification: ‘The amount of warming depends on various feedback mechanisms. For example, as the atmosphere warms due to rising levels of greenhouse gases, its concentration of water vapour increases, further intensifying the greenhouse effect. This in turn causes more warming, which causes an additional increase in water vapour, in a self-reinforcing cycle.’ (IPCC 2007, WG I, 115-116).

This ‘blanketing’ phenomenon is also known as the ‘greenhouse effect’, and the gases responsible for its existence as ‘greenhouse gases’ (or GHGs<sup>11</sup>): water vapour is the most important greenhouse gas, and carbon dioxide (CO<sub>2</sub>) the second-most important one; methane, nitrous oxide, ozone and several other gases are present in the atmosphere in small amounts and contribute to the greenhouse effect. There is a *natural* greenhouse effect – produced by natural atmospheric gases, independent of humans’ fair share – and *enhanced* greenhouse effect – produced by anthropogenic GHG emissions (Houghton 2003, 12).

Proofs of global warming are readily available. Statistics indicate a 0.74°C rise in Earth’s temperature over the last century. Europe is experiencing a 1.4°C increased temperature compared with pre-industrial levels. The last decade was the warmest in the last 150 years, with 1998 and 2005 the hottest on record. In terms of future predictions, an additional temperature rise of between 1.8° and 4.0°C is expected in course of the 21<sup>st</sup> century; in a worst case scenario the increase could reach 6.4°C. (EEA 2007a; IPCC 2007).

The impacts of global warming on natural and human systems are already visible: sea level rose by 1.7 mm yearly during the last century and is projected to rise by 0.18 m to 0.59 m during this century; glacier melting is drastic in several areas; natural ecosystems and biodiversity are seriously threatened; human health is in danger especially due to extreme weather events like draughts and floods; economic sectors like agriculture, forestry and tourism are also vulnerable. Extreme weather events are manifestations of abrupt climate change, determined by the shifting of the climate system<sup>12</sup> from one state to another over a short period of time. While these phenomena are not exclusively determined by climate change, they represent sensitive issues that might worsen in the future (EEA 2007a, 147). The second section of this chapter will scrutinize the key drivers of climate change, while the third section will summarise the impacts of climate change at global and regional (European) levels.

## 2. Drivers of climate change

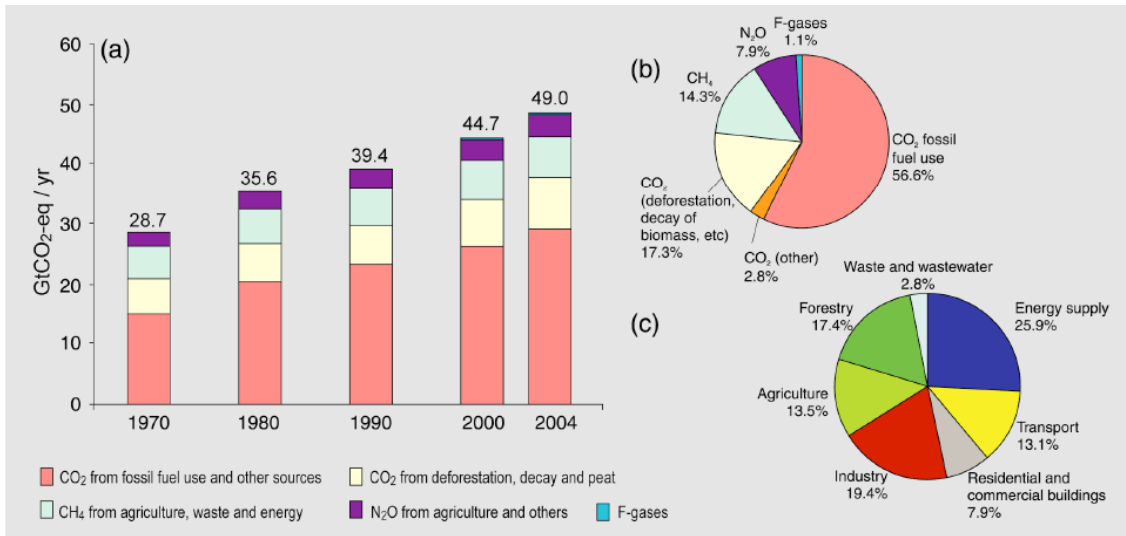
The Intergovernmental Panel on Climate Change considers that the anthropogenic GHG concentrations are responsible for the observed increase in the averaged temperature during the 20<sup>th</sup> century (IPCC 2007, Topic 2, 6). Global anthropogenic GHG emissions increased by 70% from 1970 to 2004, principally due to energy supply, transport and industry. The atmospheric concentrations of CO<sub>2</sub> and CH<sub>4</sub> (methane), two of the for ‘long-lived’<sup>13</sup> greenhouse gases produced by human activities, exceed in a great degree the natural range observed over the last 650.000 years (IPCC 2007, Topic 2, 3).

Most of the GHG concentration is determined by four economic sectors: energy, transport, agriculture and tourism. These activities are the main environmental stress inducers, not only due to their high GHG emitting, but also due to resource overuse (water and land). By transforming resources, energy provision is a top polluter; land and energy are used by transportation services that pollute and endanger biodiversity; the primary resources for agriculture are land and water, which are deteriorated through pollution, overuse and biodiversity degradation; finally, tourism puts pressure on all these resources and on sensitive areas like coasts and mountains (EEA 2007a, 292-93). Industry and households also bring their share to environmental degradation. Generator and consumer of energy, industry is also a thirsty consumer of resources and of transportation systems. The vicious circle is therefore in constant motion.

**Figure 3.1. Global anthropogenic GHG emissions**

Source: IPCC 2007, Topic 2, 2

- (a) Global annual emissions of anthropogenic GHG from 1970 to 2004
- (b) Share of different anthropogenic GHG in total emissions in 2004 in terms of CO<sub>2</sub>-equivalent
- (c) Share of different sectors in total anthropogenic GHG emissions in 2004 in terms of CO<sub>2</sub>-equivalent



### 3. Impacts of climate change

The effects of climate change are unequivocal: while changes are already visible in particular areas of the world or across systems and sectors, they are expected to become more accentuated in the future. Most of the climate change-related impacts are negative. Positive effects occur as well (warmer weather, longer warm seasons or more precipitation that increase land fertility), but they remain a feeble minority.

The reference to negative impacts of climate change on natural and human systems boils down to the issue of vulnerability. The IPCC defines vulnerability as ‘the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity’ (IPCC 2007, Appendices, 16). The European Environment Agency prefers yet another, more precise, definition: ‘a state induced from adverse impacts of climate change, including variability and extremes, and sea level rise, of both natural and human systems’ (EEA 2005a, 11)<sup>14</sup>. The central message that emerges from these conceptualisations is that vulnerability is contextual. Furthermore, the uncertainty that accompanies climate change in terms of impacts and adaptation capacity leave long-term estimations on vulnerability regrettably underspecified.

When discussing the impacts of climate change, it does not suffice to refer to vulnerability. Environmental stress is primarily perceived as a threat to natural and to human wellbeing. Vulnerability and threat are the two sides of the same coin. Buzan<sup>15</sup> estimates that a state of insecurity arises when there is a combination of threat and vulnerability: ‘A threat is present when developments are possible that would be very harmful to a society if they occur at some future date. Vulnerability is present when a society lacks the means to limit the harmful impacts of threatening events or actions that occur’<sup>16</sup>. A high level of security would thus imply reducing both threats and vulnerabilities. If reducing threats means diminishing ‘either the probability that potentially damaging sequences of events will occur or their strength and intensity if they cannot be prevented completely’, reducing vulnerabilities stands for ‘preparations to avoid or minimize the consequences of threatening events if they do take place’<sup>17</sup>.

Reducing both threats and vulnerabilities equals having both mitigation and adaptation strategies at hand. While the first couple will be discussed in this section, the latter will be at the heart of the next chapter.



### 3.1. A global danger

The impact of climate change on physical and biological systems is the focus of comprehensive scientific study, measurement and comparison. Water is a first indispensable resource that finds itself in peril, with droughts already taking place and being expected in the long run. Glacier melting pressurises the availability of safe drinking water for a billion people. Its expiry may result in migration. Changes in rainfall patterns is likely to determine water shortages, affecting drinking water supplies and agriculture. With a global temperature increase of 2.5°C above pre-industrial levels, over 3 billion more people worldwide are likely to suffer from water scarcity (Commission 2007a). An average temperature exceeding 1.5–2.5°C will largely endanger ecosystems and biodiversity, putting at risk up to 30% of plant and animal species and producing geographical shifts in their occurrence and/or their extinction (Commission 2007a). Furthermore, coasts and islands are likely to shrink and even disappear (such is the case of the Polynesian island of Tuvalu), bringing about further environmental migration of more than 1 million people in each delta by 2050 (Commission 2007b).

If humans are partly the producers of environmental change, they are also the victims. Important health-related risks relate to extreme weather events. Increase in infectious diseases, such as diarrhoea, malaria and protein-energy malnutrition, already caused more than 3.3 million deaths globally in 2002, of which 29% occurring in Africa (Commission 2007b). The risk of famine as a result of the increasing drought-affected areas may be a reality for some several hundred millions of people worldwide. An increased frequency and intensity of extreme events such as wind damages, higher temperatures, severe precipitation, droughts, and landslides will lead to negative effects on forestry, fisheries, buildings, transport, industrial infrastructure, health care, etc. These phenomena are likely to subsequently affect economic and financial activities, inside and outside of the EU (Commission 2007b).

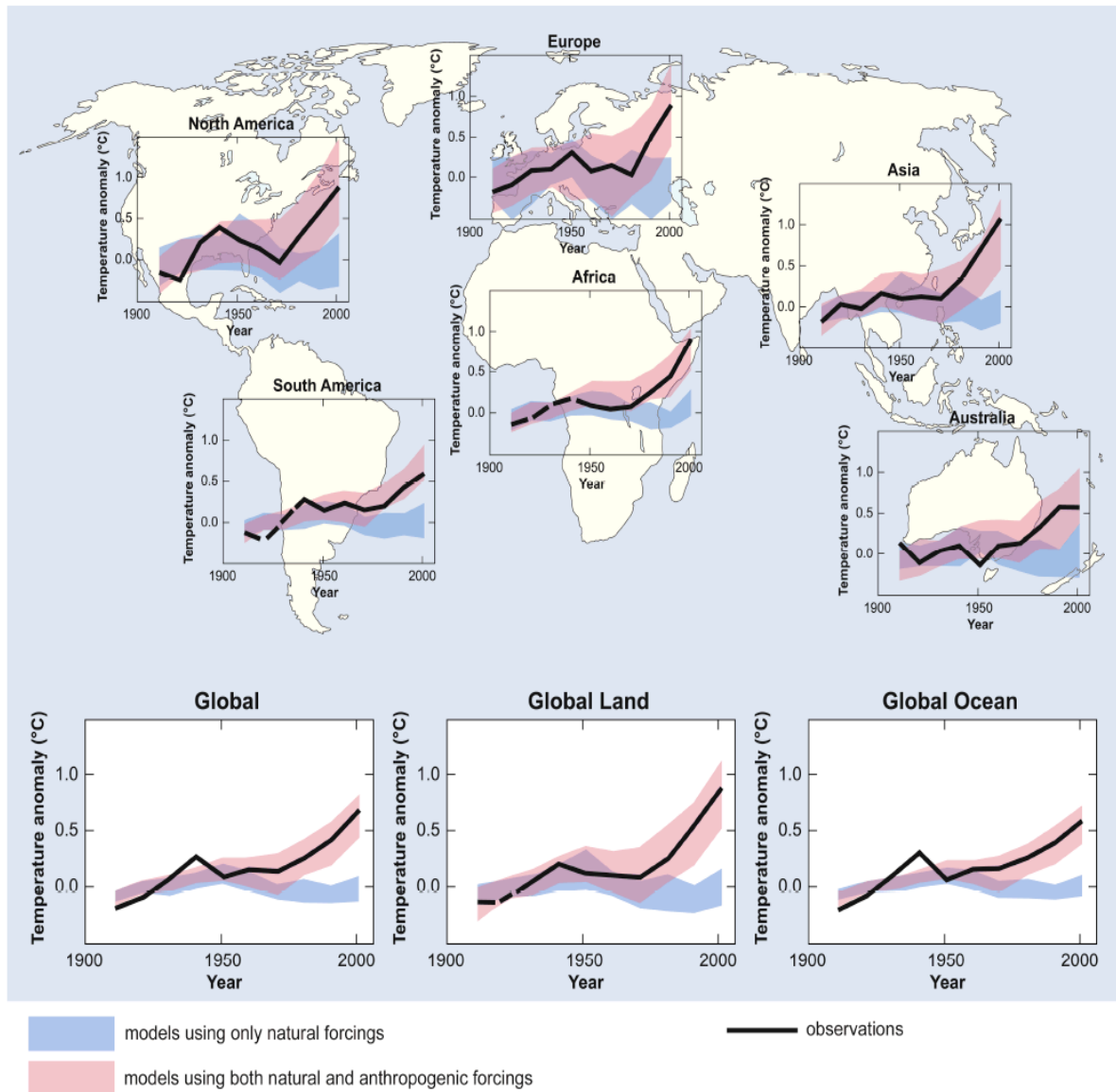
If sceptics contend to label environmentally-aware activists as alarmists or even public-opinion manipulators, the scientific proofs multiply in number and strengthen in certainty. Principally due to inefficient production processes, high level of consumption, poor waste management, population growth and movement, economic development, urbanization, and environmental-unfriendly technological use, human-generated environmental degradation is pervasive, severe, transnational, and worsening (Matthew 2002, 7).

The world's most sensitive areas which are already experiencing negative effects due to global warming are most likely to continue to do so, and even to be subject to accentuated adverse impacts. By regions, the 'hotspots' of danger are explored by the IPCC (2007, Topic 3, 11-13). They can be resumed as follows:

- By 2020, *Africa* is expected to experience increased water stress, agricultural production loss by 50%, limited access to food exacerbating existing food insecurity and malnutrition. By the end of the century, low coastal areas may be invaded by water, with an adaptation cost of 5-10% of GDP; a 5-8% increase of the arid land is also projected.
- By 2050, freshwater availability is expected to decrease in Central, South, East and South-East *Asia*. The same areas are endangered by flooding from the sea and rivers, which in its turn may facilitate the spread of deadly diseases. Natural resources may be under more pressure due to rapid urbanisation and industrialisation.
- *Australia* and *New Zealand* are estimated to suffer most notably from biodiversity loss (Great Barrier Reef and Queensland Wet Tropics), water security, agriculture and forestry yield decline, and an increase in the severity and frequency of storms and flooding.
- Rainforest replacement by savannah, tropical species extinction, crop and livestock productivity decline and water scarcity determined by changes in precipitation patterns are projected for *Latin America*.
- *North America* is expected to experience decreased snowpack in the mountains, increased winter flooding, more frequent, intense and longer heatwaves in the cities.
- *Polar regions* are already undergoing severe reductions in the thickness and wideness of glaciers and sea ice, changes in ecosystems and in the lifestyles of indigenous communities.

- *Small islands* are in danger of being inundated, eroded and hit by heavy storms, thus having their infrastructure and facilities deteriorated; additionally, non-native species are expected to invade mid- and high-latitude islands.

Figure 3.2. Global and continental temperature change



Comparison of observed continental- and global-scale changes in surface temperature with results simulated by climate models using either natural or both natural and anthropogenic forcings. Decadal averages of observations are shown for the period 1906-2005 (black line) plotted against the centre of the decade and relative to the corresponding average for the 1901-1950. Lines are dashed where spatial coverage is less than 50%. Blue shaded bands show the 5-95% range for 19 simulations from 5 climate models using only the natural forcings due to solar activity and volcanoes. Red shaded bands show the 5-95% range for 58 simulations from 14 climate models using both natural and anthropogenic forcings.

### 3.2. Vulnerabilities in Europe

Europe has warmed up faster than the global average (1.4° compared to 0.74°). This increase has led to a situation where precipitation patterns differ strongly from region to region. While Northern Europe has been under heavier rainfall and snowfall, Southern Europe is dryer. Temperature extremes have been recorded in 1998 and 2005; the record-breaking 2003 summer heat wave is also remembered. High temperatures coupled with wind damages and increased bushfires endanger forests; water pollution is a serious threat for fisheries. Human systems are not and will not be spared: infrastructure, transport and household damage, industry and financial services, tourism and health are expected to undergo serious pressure.<sup>18</sup>

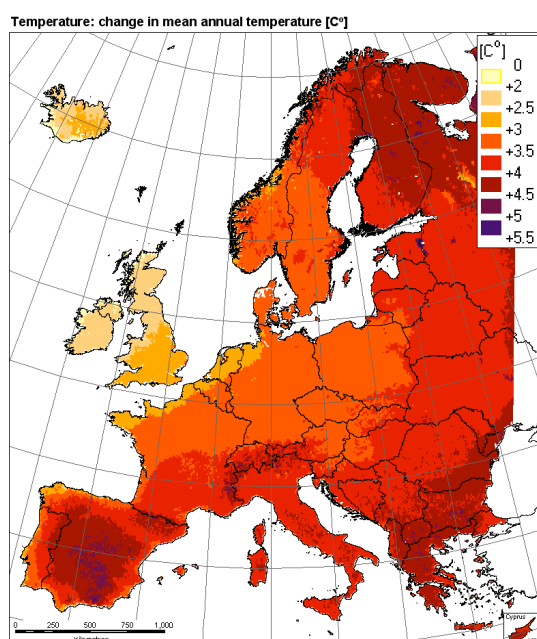
#### 3.2.1. Endangered geographical areas

The geographical distribution of climate change effects on the European continent is illustrated by the *Green Paper on climate change adaptation* (Commission 2007a). The figures below depict the most vulnerable areas in Europe. Generally, the entire continent is likely to suffer from negative impacts of climate change. Regionally, climate change-related phenomena are differentiated in their effects (idem):

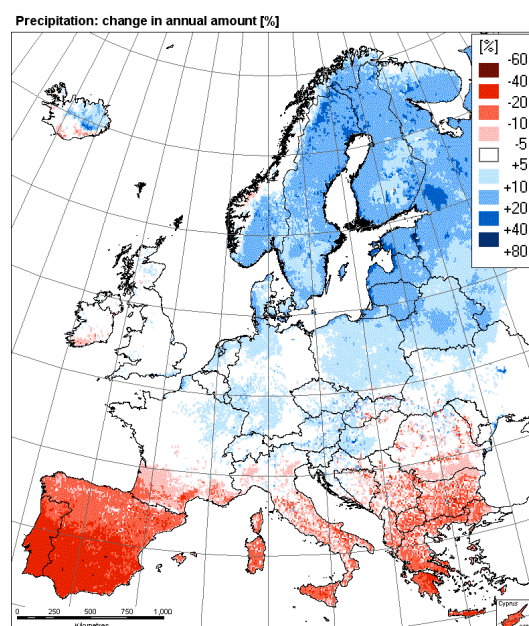
1. In southern Europe, climate change is projected to worsen high temperatures and drought in a region already vulnerable to climate variability. Water availability, hydropower potential, summer tourism and crop productivity in general are expected to be reduced. Climate change is also projected to increase health risks due to heat waves and the frequency of wildfires.
2. In central and eastern Europe, summer precipitation is projected to decrease, causing greater pressure on water resources. Health risks due to heatwaves are projected to increase. Forest productivity is expected to decline and the frequency of peatland fires to increase.
3. In northern Europe, climate change is initially projected to bring mixed effects, including some benefits such as reduced demand for heating, increased crop yields and increased forest growth. However, as climate change continues its negative impacts – including more frequent winter floods, endangered ecosystems and increasing ground instability - are likely to outweigh its benefits.'

**Figure 3.3. Change in mean annual temperature precipitation by the end of this century**

Source: Commission 2007a, 7-8



**Figure 3.4. Change in mean annual precipitation by the end of this century**



### 3.2.2. Natural systems under threat

The environmental impacts of climate change in Europe have been under close scientific scrutiny for the last three decades, which enables researchers not only to explain phenomena taking place, but also to emit future predictions. The latter are especially relevant for the design of adaptation strategies because they reveal the most sensitive areas and sectors that should be dealt with.

*Ecosystems and biodiversity.* Ecosystems have always been under human pressure, but never before at the pace experienced today. Recently, human-induced multiple stresses such as (over-) exploitation, habitat fragmentation and destruction, as well as pollution accentuate the negative impacts of climatic changes. Research has shown that a small temperature increase of 1-2° can have destructive effects on ecosystems. Climate conditions influence the distribution of species, as species can live and reproduce under specific conditions. The extension of growing seasons, the dis-synchronisation of food patterns, and the increase of the productivity of many ecosystems have resulted in notable negative effects on the functioning and distribution of ecosystems. More precisely, species have become extinct at rates 100–1.000 times greater than the average level; 25% of today's plant species in Romania, Bulgaria, the Iberian peninsula and several Mediterranean countries may become extinct by 2100, and by then more than 35% of the plant species composition in northern countries may consist of invasive species, due to northwards shifts (Bakkeness et al 2006, cited in EEA 2005a). Generally, the most sensitive areas are: the Arctic (and Scandinavia and Greenland), mountains and coastal zones across Europe (especially of the Baltic and the Mediterranean seas) (EEA 2007a; EEA 2005a).

*Fisheries and forestry.* Notable levels of pollution and over-exploitation of marine aquaculture in addition to climate change will most probably result in a sustainability and productivity slowdown of fisheries. Particularly, it is suggested that the ongoing warming trend in the eastern Atlantic has adversely affected the southern limits and stocks of cold-water fish (like cod) and that a northward shift in the geographical distribution of Atlantic salmon may be expected (EEA 2005a, 18). As far as forestry is concerned, coupled with natural disturbance regimes (such as fire, insects and wind-throw), climate change is likely to determine tree mortality in southern and central Europe, productivity decline and shifts in the distribution of forests and species composition. With these predictions in mind, one should also be aware that approximately 30% of Europe is covered by forests (EEA 2005a, 19-20).

*Agriculture.* Although the vulnerability of agriculture does not affect Europe's global economy to a considerable extent, the southern and central areas are highly vulnerable, since for these countries agriculture represents a more significant sector for employment and GDP. However, as the summer 2003 heat wave has proved, extreme weather events such as hot spells, heavy storms, intense rain fall or droughts can severely disrupt crop production all over Europe, with the Mediterranean basin being the most vulnerable. The expected shifts in exotic species' habitats will certainly affect crops and their control measures (Parry 2000 cited in EEA 2005a, 18). Changes in precipitation patterns, temperature rise and increased CO<sub>2</sub> levels remain the most notable negative impact-inducers (EEA 2007a, 156).

*Glaciers.* The changes in the configuration of mountain glaciers are the very first sign of climate change. As pictures clearly show, glacier reduction rate in Switzerland is of 1.3% and is expected to rise so as regions under 2.500m to be ice free by the end of this century. Northern Sweden glacier may see its mass reduced by 30% by 2050. A 4°C warming equals to a 90% reduction of the snow volume of mountainous areas below 1.000m (EEA 2005a, 20). Plant and animal species, as well as human activities like winter tourism and sports should be negatively influenced by these projected developments.

*Coasts and Arctic sea ice.* European coastal zones are more vulnerable as they concentrate large human communities), in addition to habitats and sources of food (EEA 2005a, 21). Almost 30% of EU's population lives within 50 kilometres from coasts. Sea level rise and extreme events are the main factors of environmental stress characteristic for these areas, leading to inundations, displacements and coastal erosion. The most vulnerable regions are the Netherlands and Belgium, where 85% of the coast is under 5m elevation (EEA 2005a, 22), as well as deltas, low coastal plains, estuaries, beaches and islands. By the turn of the century, the IPCC estimates that sea level will rise by 0.18 to 0.59 m (IPCC 2007). One meter

rise of the sea level may damage 13 million people in five European countries (EEA 2005a, 22). For its part, summer Arctic ice may disappear by the turn of the century (EEA 2007a, 155).

*Water resources.* Inappropriate land use and pollution add to the negative effects that climate change has on the hydrological system of Europe. Annual river discharge is expected to decrease in the Mediterranean basin and to increase in Northern Europe (EEA 2005a, 155)

### 3.2.3. Sensitive social and economic sectors

*The energy sector.* Greenhouse gas emissions are principally produced by energy industries that contribute up to 29% of total emissions in Western Europe, 42% in accession countries and 20% in Eastern Europe (according to a 2003 EEA estimate). Energy demand and power transmission and distribution systems may be influenced to a great extent by temperature rise and season variability. *Health care.* Summer 2003 heat waves claimed 20.000 lives. With extreme weather events expected to be more accentuated, the future looks rather gloomy. From heat waves to cold spells, great temperature and precipitation gaps represent a real risk for human physical and mental health. *Tourism.* Tourist flows are especially concentrated in Southern Europe, but this picture is likely to change with the frequency of heat waves, flooding or droughts. Northern and mountainous areas are to take advantage of this predicted situation, but the snow-cover reductions in the Alps, for instance, may drastically cut tourist flows in the winter.

## 4. Exploring adaptation: Hazard, risk, vulnerability

Before embarking on the analysis of EU policy responses to the danger posed by climate change, a further conceptual stop is required: what does climate change policy exactly consist of?

Mitigation and adaptation are the two elements of a comprehensive policy response to the destructive effects of environmental degradation, of which climate change is a notable component. Whereas adaptation strategies aim at reducing the natural and human vulnerability to present and possible climate change effects, mitigation measures refer to ‘technological change and substitution that reduce source inputs and emissions per unit of output’ (IPCC 2007, Appendices, 2 and 20). More precisely, mitigation is about implementing measures to reduce the source of global warming (and thus climate change), namely GHG emissions. Adaptation, on the other hand, whether anticipatory or reactive, spontaneous or planned, is about looking ahead and caring for the most sensitive issues that are or may be under threat.

While policy responses to climate change have been largely focused on mitigation measures, adaptation strategies have taken the back seat. However, recent developments both in the political realm and in the academia show increased awareness towards adaptation as an essential condition for an efficient climate policy response. The growing body of literature on adaptation and adaptive capacity has called for the definition and examination of related notions such as vulnerability, hazard, risk, exposure, sensitivity or resilience. For the sake of the argument, these concepts are explored next, in order to provide a comprehensive understanding of the physical phenomena explored previously.

To begin with, climate policies address the physical manifestations of climatic variability (or change), whether they are abrupt or a result of long processes, actual or potential, present or future. In other words, climate policies are designed to tackle climatic hazards. Hazard is to be distinguished from disaster, which represents its very outcome and which is ‘mediated by the properties of the human system that is exposed to and affected by the hazard’ (Brooks 2003, 3). A typology of climatic hazards singles out three categories: (a) discrete recurrent hazards (storms, droughts, heavy rainfall); (b) continuous hazards, like the increase in mean temperatures or the decrease in mean rainfall observed over a long period of time (global warming, the desiccation of the Sahel); (c) discrete singular hazards (abrupt climate change) (ibidem, 8).

According to one author, hazards are threats to a system, consisting of perturbations and stress (Turner et al. 2003, cited in Gallopin 2006, 294). Whereas perturbations are ‘major spikes in pressure (e.g., a tidal wave or hurricane) beyond the normal range of variability in which the system operates, and commonly originate beyond the system or location in question’, stress is a continuous pressure (such as soil

degradation) that originates within the system and does not surpass normal variability (Gallopín 2006, 294-5).

The product of hazard (natural component) and vulnerability (human component), risk refers to the probability of occurrence of a loss as a result of a particular hazard for a given area within a specific timeline (Downing et al. 2001, cited in Brooks 2003, 7). Using the previous hazard-disaster distinction, risk can 'be better described as the probability of a hazard contributing to a potential disaster'; moreover, it 'involves consideration of vulnerability to the hazard' (Stenchion 1997, cited in Brooks 2003, 7). *Event* risk should be distinguished from *outcome* risk. The difference consists in that the latter 'integrates both the characteristics of a system and the chance of the occurrence of an event that jointly results in losses' (Sarewitz et al. 2003, cited in Brooks 2003, 6), while the former stands for 'the probabilistic risk of occurrence of any particular hazard or extreme event' (Brooks 2003, 6).

Turning to a key concept of the climate change literature, vulnerability is defined by IPCC as follows: 'Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.' (IPCC 2007, Appendix, 16). In the literature, it has been comprehended either in terms of the amount of (potential) damage caused to a system by a particular hazard, or as an inherent characteristic of the system independent of possible occurrences of hazard events. The first line of the definition points out to what is known as *biophysical* vulnerability, which 'is concerned with the ultimate impacts of a hazard event, and is often viewed in terms of the amount of damage experienced by a system as a result of an encounter with a hazard' (Brooks 2003, 4). If one regards vulnerability as something that exists within systems independently of external hazards, then one refers to *social* vulnerability, determined by factors such as poverty and inequality, marginalisation, limited access to food and insurance.

Vulnerability goes hand in hand with sensitivity and exposure to hazardous conditions, as well as with the resilience of a system to cope, adapt or recover from the effects of such conditions (Smit and Wandel 2006, 286). Inherent features of human systems, exposure and sensitivity highly depend on the interaction between the characteristics of the system and on the climate conditions. Thus, the degree of exposure and sensitivity of a community to an environmental risk translate into the likelihood of the community experiencing particular foreseeable or unforeseeable environmental stress. More precisely, sensitivity<sup>19</sup> is 'the degree to which the system is modified or affected by an internal or external disturbance or set of disturbances'; exposure, on the other hand, stands for 'the degree, duration, and/or extent in which the system is in contact with, or subject to, the perturbation' (Gallopín 2006, 295-296). Some authors contend that exposure is the exogenous constituent of vulnerability; another explanation states the opposite, considering that 'vulnerability is a function of the system's sensitivity and capacity of response, and the transformation suffered by the system is a function of its vulnerability, the properties of the perturbation, and the exposure of the system to the perturbation' (idem). In its turn, resilience is defined as 'the ability of groups or communities to cope with external stresses and disturbances as a result of social, political, and environmental change' (Adger 2000, cited in Gallopín 2006, 297). Evaluated against vulnerability, resilience qualifies as 'the preservation of the behaviour of the system as expressed by its state remaining within the considered domain of attraction', whereas vulnerability refers to 'transformations that may go beyond a single domain' (Gallopín 2006, 297).

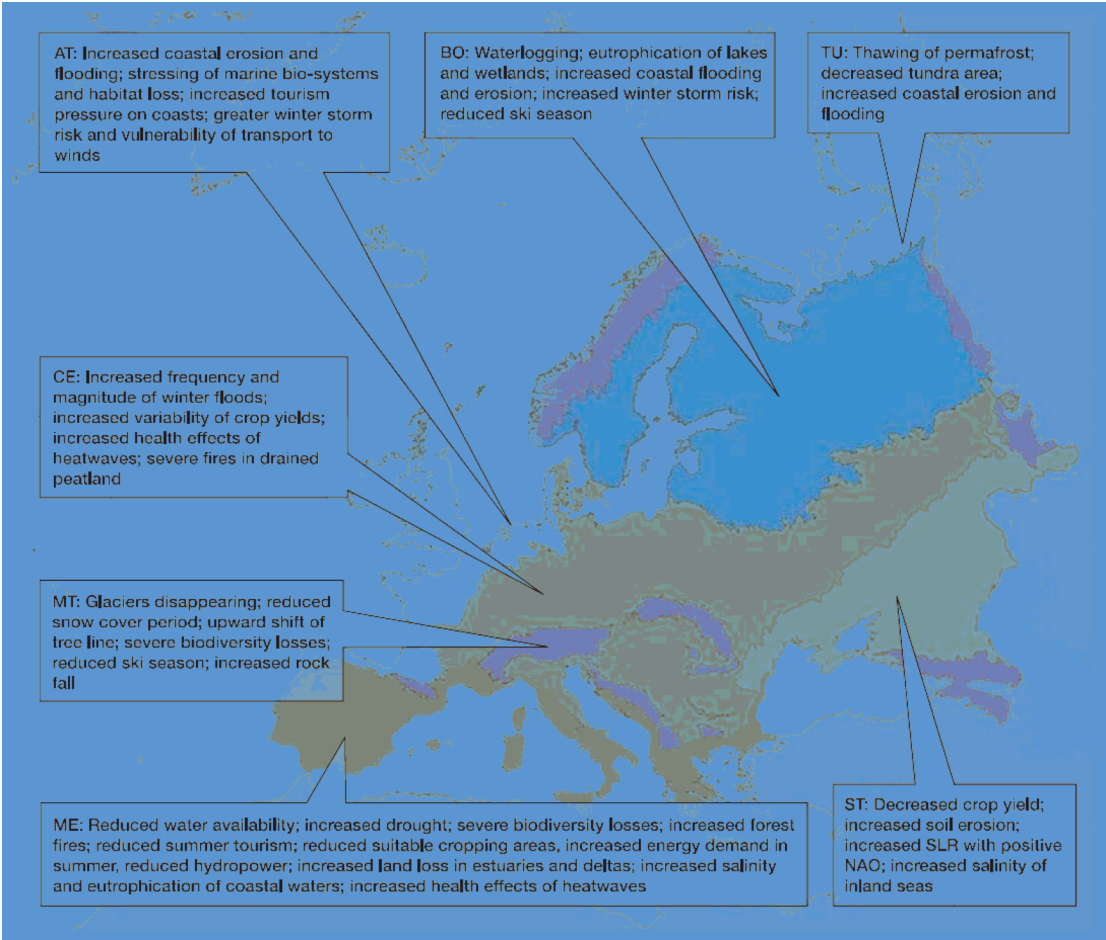
Adaptation is broadly equalled to adjustments in a system's behaviour and characteristics that enhance its ability to cope with exterior stress (Brooks 2003, 8). The term originates in evolutionary biology, where it refers to 'development of genetic or behavioural characteristics which enable organisms or systems to cope with environmental changes in order to survive and reproduce' (Smit and Wandel 2006, 283). It has been taken up enthusiastically by anthropologists who point out that adaptation is a consequence of society's selecting those cultural practices that enabled it to survive over time (O'Brien and Holland 1992, cited in Smit and Wandel 2006, 283). In this respects, cultural adaptation is a 'process of change in response to a change in the physical environment or a change in internal stimuli, such as demography, economics and organization (Denevan 1983, cited in Smit and Wandel 2006, 283).

In the climate change literature, adaptation refers to adjustments undergone by ecological-socio-economic systems in response to actual or expected climatic impacts in order to reduce its vulnerability to hazards (Smit and Wandel 2006, 282). Whether anticipatory or reactive, autonomous or planned, public or private, adaptive actions are changes in processes, practices, or structures to moderate or offset potential damages or to take advantage of opportunities associated with changes in climate (IPCC 2007, Appendices, 2). Contrary to adaptation, adjustments refer to those hazard responses that do not fundamentally change the system; rather, they are short-term measures that call for minor system modifications.

Against this background, the following chapters will provide an examination of EU’s climate change policy that will supplement this conceptual overview with empirical details so that a comprehensive evaluation of EU’s performance can be generated.

**Figure 3.5. Key vulnerabilities of European systems and sectors to climate change during the 21st century for the main bio-geographic regions of Europe**

Source: IPCC 2007, WG II, 558 citing EEA 2004  
 TU: Tundra, pale turquoise. BO: Boreal, dark blue. AT: Atlantic, light blue. CE: Central, green; includes the Pannonian Region. MT: Mountains, purple. ME: Mediterranean, orange; includes the Black Sea region. ST: Steppe, cream. SLR: sea-level rise. NAO: North Atlantic Oscillation.



# CHAPTER 4

## EU Policy Responses and Performance on Climate Change

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### OVERVIEW

This chapter aims to scrutinise the EU domestic climate change policy. In so doing, the first step is to evaluate EU's 'greenness' in terms of greenhouse gas emissions, the main inducers of global warming. The second is to establish the legal grounds and institutional setup of climate change decision-making. The third step is to offer an extended evaluation of the two dimensions of a comprehensive climate strategy: mitigation and adaptation. Finally, environmental policy integration is discussed.



## 1. The state of the art: How green the EU actually is

The EU accounts for 15% of the world's GHG emissions for a population of only 5% (Commission 2002a, 8). In other words, Europeans contribute three times more to the global GHG emissions than the average individual. In discourse and practice, the EU has engaged itself with ambition in the project of tackling climate change. At the domestic level, its attention has been principally drawn to mitigation strategies and to integrating climate change measures into related policies, such as energy. Adaptation-focused initiatives began to be pursued lately, but they are still in their early years. Internationally, the EU has been employing a strong rhetoric, turning into the fiercest supporter of the UN Framework Convention on Climate Change and of its Kyoto Protocol.

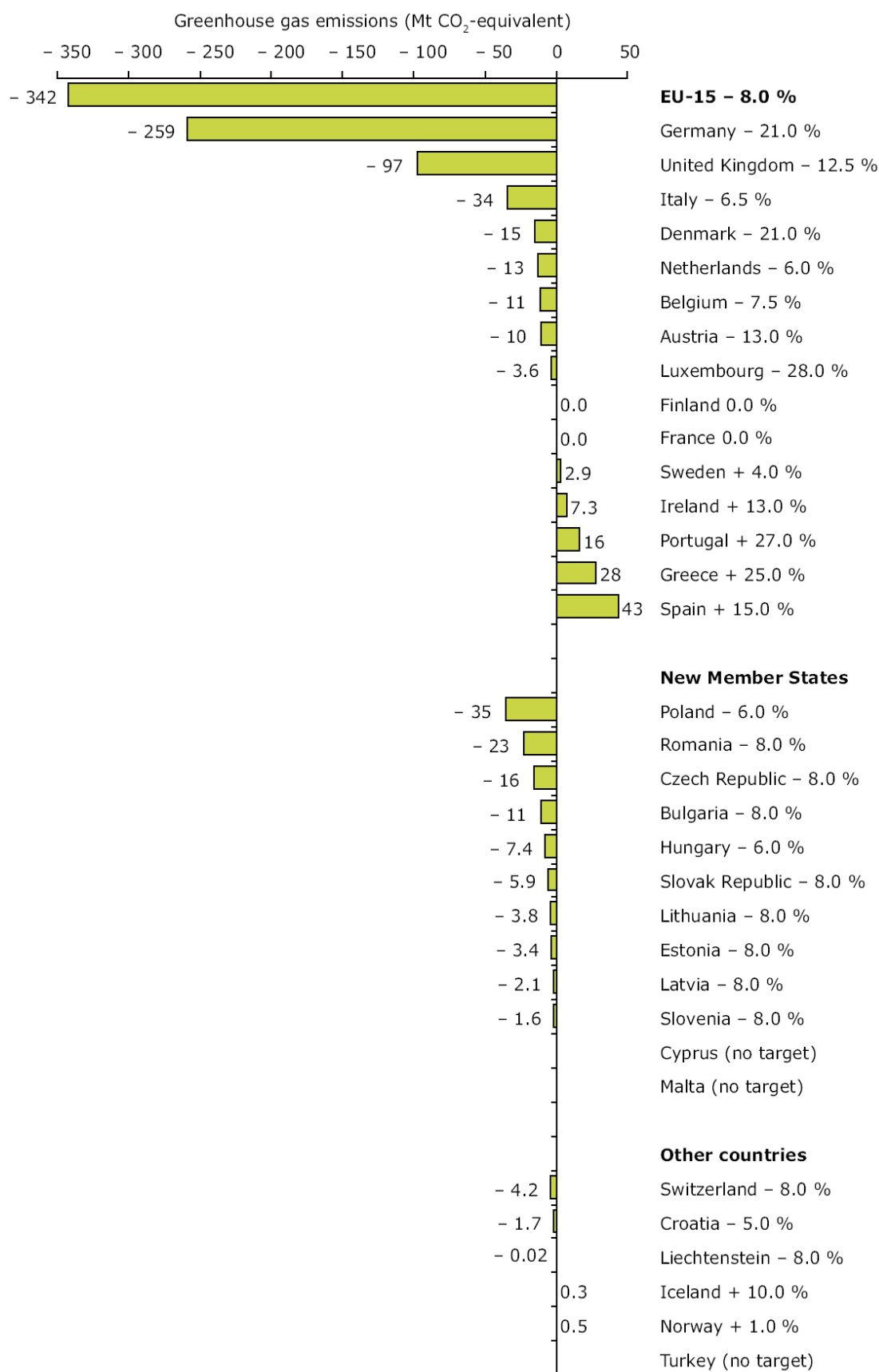
As this chapter will attempt to demonstrate, the European Community<sup>20</sup> domestic policy on climate change has developed not only in parallel with the international regime, but in close interaction. It is important to note that the European Community and its member states<sup>21</sup> have ratified the Convention without the EU having a concrete internal policy of its own, as one commentator notes: 'From the entry into force of the UNFCCC in 1994, the attention of the EC was concentrated on international negotiations to the detriment of internal implementation measures. [...] Paradoxically, the impact of the Protocol on the Community policy was further to distract attention from the domestic front.' (Pallemmaerts and Williams 2006, 44).

The evolution of the EU climate change policy is divided into two phases: before and after the signing of the Kyoto Protocol. While the first is marked by 'the construction of a common understanding' (Usui 2005, 14) of the phenomenon of climate change and of how it should be addressed, the second phase sees intensified efforts to curb GHGs through internal legislative acts and programmes. Contrary to the non-binding, informative measures that characterise the first period, EU climate policy begins to gain momentum with the 2001 Bonn and Marrakesh Accords that open the way to the Protocol ratification. The advancements in the climate policy will be the focus of the present chapter; however, a preliminary overview of EU's current situation in terms of GHG emissions imposes itself.

Under the Kyoto Protocol, the EU-15 is bound to reduce emissions by 8% in the period 2008–12 from base year levels. It has agreed to do so in accordance with the UNFCCC principle of common but differentiated responsibility that takes the form of 'burden-sharing' (or burden differentiation). The 1998 Burden-Sharing Agreement aimed to share the costs of implementing the Kyoto Protocol among EU-15 member states ('EU bubble'). According to the burden-sharing commitment, there is a common 8% reduction target for EU-15, but each of the member states has an individual target as well. In their turn, the new member states have only individual targets and therefore do not participate in the burden-sharing commitment. They are nevertheless obliged to implement EU climate change policies, programmes and measures, which can be rightfully seen as indirect burden-sharing (Gipperth 2007, 121). Cyprus and Malta are the only EU member states with no Kyoto targets.

**Figure 4.1. Greenhouse gas emission targets of all EU-27 Member States, EU candidate and other EEA member countries for 2008–2012 relative to base-year emissions**

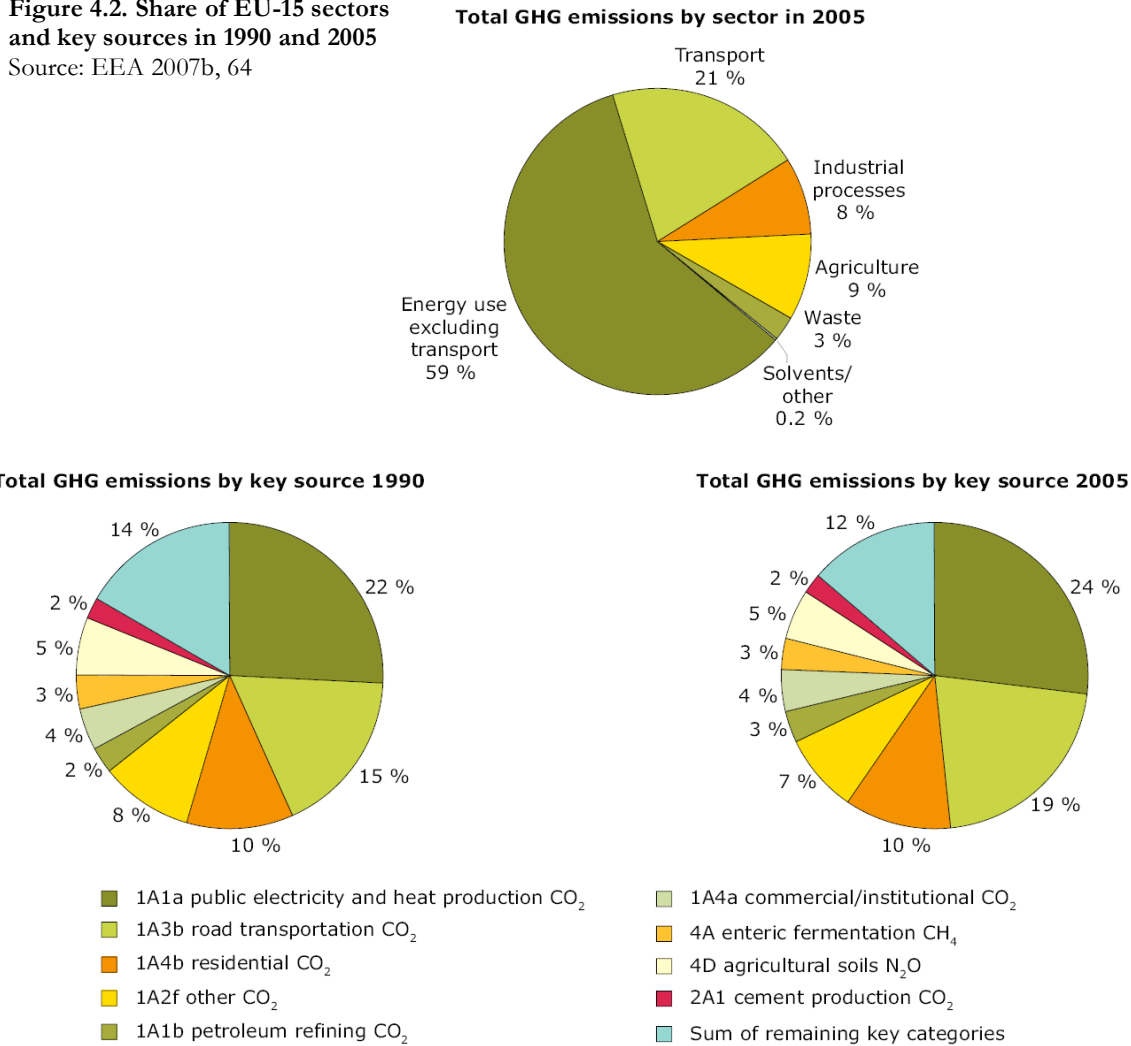
Source: EEA 2007b 17



The total GHG emissions in the EU-27 decreased by 7.9 % between 1990 and 2005 and by 0.7 % between 2004 and 2005. In 2005, a 2% reduction of EU-15 GHG emission was recorded, higher than 2000 and close to 1992 levels (EEA 2007b, 6). It is therefore clear that, considering the 1990-2005 evolution, the EU is not on track to meet the Kyoto target. However, 2010 projections estimate that this desideratum may become reality provided the EU implements existing policies and pursues additional measures.

Among the six global warming-inducing greenhouse gases, CO<sub>2</sub> alone was responsible for 82% of total EU-27 emissions in 2005 (3.5% below 1990 levels), which represent a 0.7% decrease compared to 2004 (Commission and EEA 2007, 87). In terms of sectoral producers of GHGs, energy accounted for 80% of total EU-27 emissions in 2005, followed by agriculture (9%) and industrial processes (8%) (Commission and EEA 2007, 91).

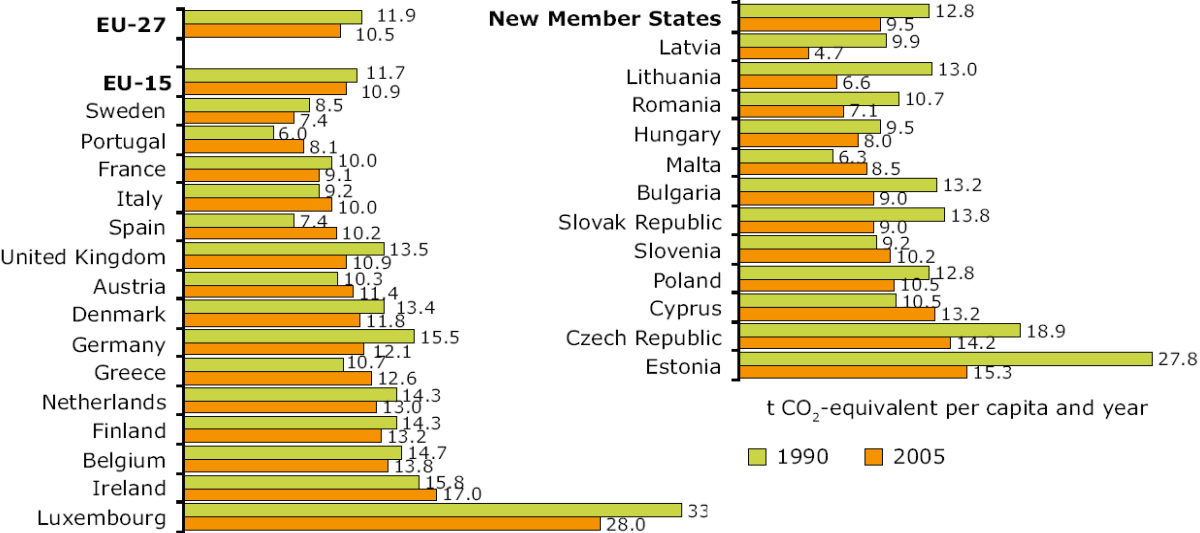
**Figure 4.2. Share of EU-15 sectors and key sources in 1990 and 2005**  
Source: EEA 2007b, 64



The EU-15 contributed with 81% of the total EU emissions in 2005. Among the member states, Germany and the UK qualify as the largest emitters, accounting for approximately 30% of total EU-27 GHG emissions. Italy and France are the third and fourth largest emitters, with 11 % shares each, followed closely by Spain (9%) and Poland (8%).

The GHG emissions per capita vary significantly across member states, with Latvia, Lithuania, Portugal and Sweden having the lowest levels, and Luxembourg and Estonia at the opposite end of the spectrum. Between 1990 and 2005, EU-27 per capita emissions were reduced by 11.7 % (mainly in the 1990s and less between 2000 and 2005). With the exception of Cyprus, Malta and Slovenia, the new member states decreased their per capita emissions to a notable extent, as the following EEA graphic shows.

**Figure 4.3. Greenhouse gas emissions per capita of EU-27 Member States for 1990 and 2005**  
 Source: EEA 2007b, 22



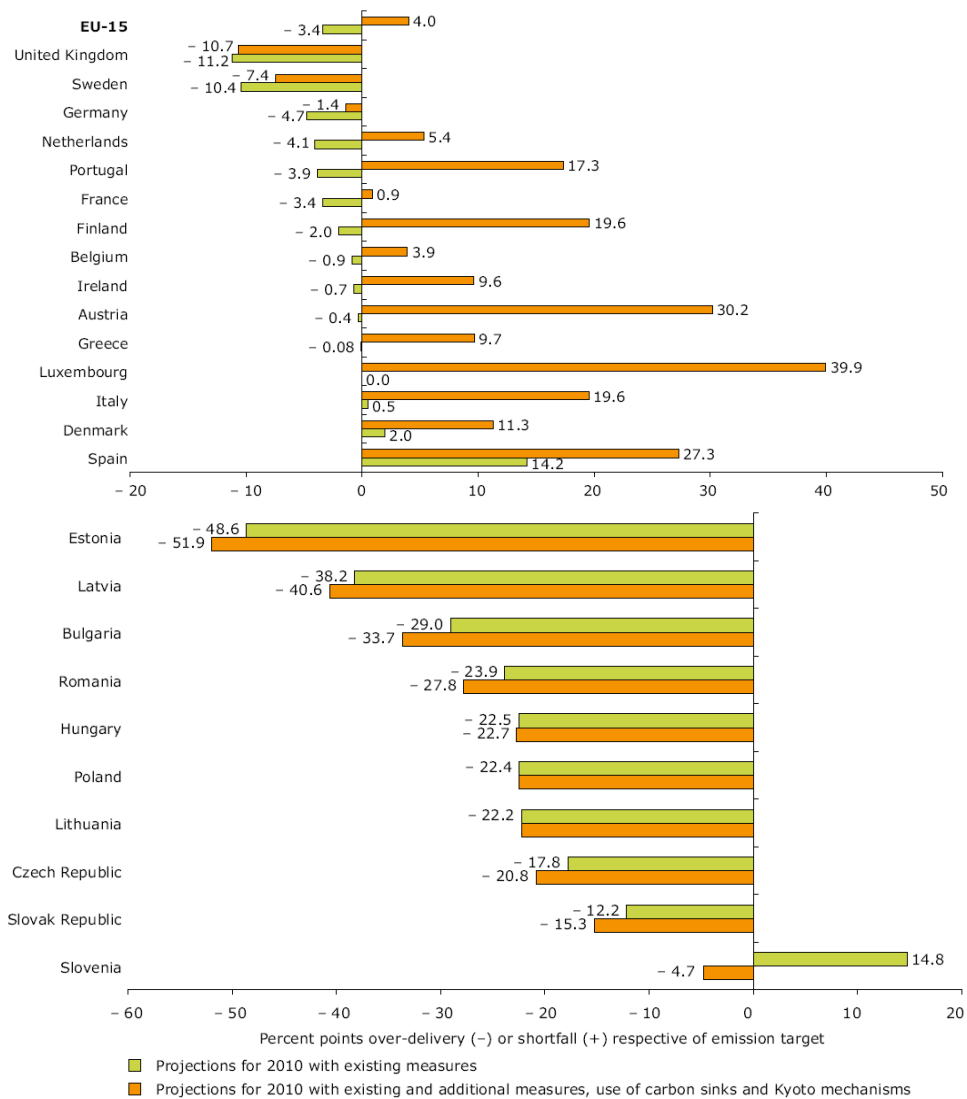
The intensified emission reductions in the early 1990s can be attributed to a number of factors: increasing efficiency in power and heating plants; the Eastern German economic restructuring; the liberalisation of the energy market; the use of gas in electricity production in the UK (instead of oil and coal); important reductions in nitrous oxide emissions in the chemical industry (France, Germany and the UK) (EEA 2007b, 25). Between 1999 and 2004, however, an increasing trend in EU-15 emissions was recorded, mainly due to intensified energy consumption (transport, public electricity, heat production). An increase in the use of diesel oil of 22% (despite a 13% reduction for gasoline) had a notable impact. Industrial processes contributed with their fair share of GHG emissions of 3% between 2002 and 2004.

The 2004-2005 period showed signs of emissions reduction in the EU-15, mainly in sectors such as public electricity and heat production (decrease of 0.9 %), households and services (decrease of 1.7 %), and road transport, for the very first time (decrease of 0.8 %), thus accounting for one quarter of the 8% Kyoto reduction engagement. It was Germany (-2.3 %), Finland (-14.6 %) and the Netherlands (-2.9 %) that largely contributed to these reductions; Belgium, Denmark, France, Luxembourg, Sweden and the United Kingdom, followed the same descending track. The opposite trend was noticed in Spain, Austria, Greece, Ireland, Italy and Portugal (EEA 2007b, 25-26). According to the reductions recorded in 2005, five of EU-15 member states were on track to achieve their Kyoto target (Sweden, UK, Germany, Finland and France), and three more were likely to do so (Luxembourg, the Netherlands and Belgium).

As far as the new member states are concerned, they are required to reach their Kyoto targets individually. A 2005 estimation places the total GHG emissions of new member states at 28% below 1990 levels. The emissions decrease observed after the fall of the communist regimes in Central and South-Eastern Europe was a direct result of the modernisation of their economies (introduction of market economies and the closing down of heavily polluting industry facilities). However, the economic boom that followed determined GHG slight emissions increases (EEA 2007b, 37). This situation allows for the presupposition that the new EU members will meet the Kyoto targets, if not over-deliver.

**Figure 4.4. Relative gaps (over-delivery or shortfall) between projections and 2010 targets**

Source: EEA 2007, 30 and 38



## 2. The legal and institutional framework of the environmental policy

Environmental protection ranks among the objectives of the European Community, as Article 2 of the Treaty Establishing the European Community provides for ‘a high level of protection and improvement of the quality of the environment’<sup>22</sup>. It was not until the 1986 Single European Act (SEA) that an explicit reference to environmental competence of the EC was introduced under the form of a special Title in the EC Treaty. In the meanwhile, environmental policy was dependant on the internal market regulation. It relied on Article 94, which calls for member states to approximate those laws that ‘directly affect the establishment of the common market’ and on Article 308, which provides for action ‘necessary to attain, in the course of the operation of the common market, one of the objectives of the Community’<sup>23</sup> (Lee 2005, 16). The SEA allowed for the establishment of a clear legal foundation for environmental protection under Articles 174-176 (see Annex 1), setting out the principles and the institutional competences<sup>24</sup> for more ‘pro-active decision-making’ (ibidem, 17). Furthermore, Article 6 of EC Treaty requires that environmental concerns be integrated in the definition and implementation of other policies: ‘Environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities referred to in Article 3, in particular with a view to promoting sustainable development’.

With the Treaty on the European Union<sup>25</sup>, the legislative procedures that apply to environmental decisions have been largely amended to the profit of the European Parliament, as the codecision procedure with qualified majority in the Council has become the ordinary practice for policies that fall under the incidence of Articles 95 and 175 EC<sup>26</sup>. However, there are a number of areas where unanimity is required in the Council under Article 175(2) EC, implying a restricted influence from the Parliament: fiscal provisions, town and country planning, water resources management, land use, member state choice of energy sources and energy supply.

Environmental decision-making relies on three principles: subsidiarity, proportionality and shared responsibility. Introduced by the environment title of the SEA and consecrated as a general principle by the Maastricht Treaty, the principle of *subsidiarity* seeks the optimal level of regulation (ibidem, 13) in order to secure policy effectiveness. As Article 5 CE provides, ‘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.’ Thus, in the environmental area, shared environmental competence is accepted as a norm.

Aimed at leaving as much scope for national decision as possible<sup>27</sup>, the principle of *proportionality* states that ‘Any action by the Community shall not go beyond what is necessary to achieve the objectives of this Treaty’ (Article 5 EC). The best illustration of the application of the proportionality principle is the ‘minimum harmonisation’ technique that characterises most environmental decisions (Davies 2004, 23).

In the exercise of the Community competence in the environmental policy, the principle of subsidiarity is buttressed by the concept of *shared responsibility* which implies ‘not so much a choice of action at one level to the exclusion of others, but, rather, a mixing of actors and instruments at the appropriate levels, without any calling into question of the division of competences between the Community, the Member States, regional and local authorities’ (Fifth Environmental Programme of Action, cited in Davies 2004, 20). Supplementing the national-Community level distinction of subsidiarity, the principle of shared responsibility acknowledges the multi-level architecture and the plurality of actors of the Euro-polity. Furthermore, it invites alternative policy instruments (NEPIs) that are increasingly being employed for environmental issues along with the classical ‘command and control’ regulation (Lee 2005, 13).

The macro lens aside and turning to the climate change policy, the opening line is bound to be a negation: the existing treaties do *not* contain the phrase ‘climate change’, or any other similar expression for that matter. The recent Lisbon Treaty that is on its way to be ratified by EU member states attempts to make up for the lost ground, modifying Article 174, which now reads, ‘[...] promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change’, after having supplemented the ‘environment’ title with ‘climate change’.

The first and most comprehensive document to contain explicit references to climate change was the 2002 *Sixth Community Environmental Action Programme*, (EAP) which takes a broad look at the environmental challenges and provides a strategic framework for the Commission's environmental policy up to 2012<sup>28</sup>. Focusing on legislative innovation and enhanced implementation, the 6<sup>th</sup> EAP identifies four priority areas: (a) climate change, (b) nature and biodiversity, (c) environment and health, and (d) natural resources and waste. The programme suggests that seven 'thematic strategies' be developed along these four directions: soil and the marine environment (biodiversity), air, pesticides and urban environment (in the area of environment, health and quality of life) and natural resources and waste recycling (natural resources and waste). Subscribing to Commission's 'better regulation' ambition, the thematic strategies build on two approaches: the *integrated approach* (as the effects of decisions in one policy area spillover to others, environment protection requirements must be integrated in other Community policies) and the *implementation approach* (the use of flexible, strategic instruments are encouraged along regulating measures, such as voluntary agreements). These are accompanied by impact assessment<sup>29</sup>, strategic assessment<sup>30</sup> and extensive stakeholder consultations<sup>31</sup>.

The following section will analyse in detail the most important policies, programmes and soft governance tools designed to respond to the existing and potential negative impacts of climate change. In doing so, two main policy categories will be singled out: mitigation measures and adaptation strategies. Furthermore, I will consider some of the issues underlying the governance turn in the practice of environmental policy-making. Specifically, I will refer to the increasing preference for alternative instruments (previously discussed as soft modes of governance) to the detriment (but not to the exclusion) of legally binding, command and control regulations. Along these lines, it will become evident that the climate change policy is articulated by a mix of instruments.

### 3. EU domestic actions on climate change

Mitigation and adaptation are the two facets of the same coin, one that is intended to purchase the promise of a safe environment. Whereas adaptation strategies are designed to reduce the natural and human vulnerability to present and possible climate change effects, mitigation measures refer to 'technological change and substitution that reduce source inputs and emissions per unit of output' (IPCC 2007, Appendices, 2 and 20). In other words, mitigation is about implementing measures to reduce the sources of global warming (and thus of climatic change), namely GHG emissions. Adaptation, on the other hand, whether anticipatory or reactive, spontaneous or planned, is about looking ahead and caring for the most sensitive issues that are or may be under threat. This section is dedicated to the analysis of EU's domestic policy responses to the threat posed by climate change, in terms of mitigation measures and adaptation strategies. For a practical illustration, Annex 2 and 3 reproduce several examples of mitigation and adaptation strategies by sectors.

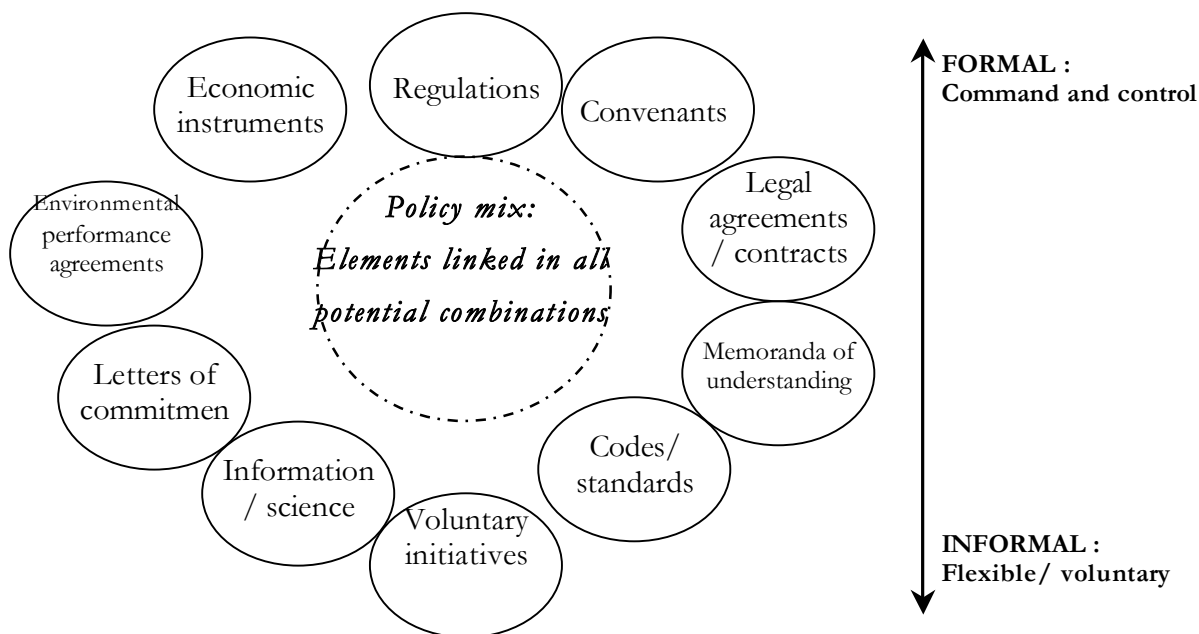
#### 3.1. Mitigation measures

Mitigation has received most of the attention in the development of the EU climate change policy, at the cost of adaptation, which is still in its early years. The EU mitigation strategy is a fine example of policy mix that illustrates the shift from traditional command and control regulation to soft governance modes, incarnated by new environmental policy instruments (NEPI). The NEPI portfolio comprises a diversity of alternative modes of governance, such as market-based instruments (environmental taxes and subsidies, liability and compensatory schemes), voluntary agreements, informational tools (eco-labels, environmental management systems). However, the increasing preference for these soft instruments does not render regulation through legislation obsolete. Rather, elements of regulation form the backbone of several environmental policy tools. The prototype of this hybrid architecture is the EU Emissions Trading System (EU ETS) which, relying on a binding legal foundation, is essentially a market-based initiative, underpinned by targeting and competition (Herodes et al 2007, 10). Similarly, mitigation efforts have developed into integrated, cross-cutting policies which combine a set of instruments<sup>32</sup> with the view to allow for an 'optimal policy mix' (Egenhofer 2003, 41). This desideratum would account for policy effectiveness, efficiency and equity.

This section will scrutinise the climate change policy mix in an attempt to identify the most notable policy instruments and programmes. It will depart from a brief overview of the Kyoto Protocol, taken as the impetus for the EU mitigation effort, in order to accommodate a typology of environmental policy tools. A comprehensive analysis will be provided for the EU ETS.

**Figure 4.5. The optimal policy mix**

Source: adapted from Yachnin et al 2003, in Egenhofer 2003, 59



### 3.1.1. The Kyoto process or the wind behind EU's wings

It was with the coming into being of the Kyoto Protocol that the EU found its motivation to transform the patchy work on climate change into a coherent policy response. The Kyoto Protocol to the UN Convention on Climate Change, signed in 1997 and ratified by the EU in 2005, sets a burden-sharing target of GHG reduction for the European Community as a whole and of all member states individually below 1990 levels. The Kyoto agreement represents a 'pure intergovernmental political process' that called for EU-level legal translation (Usui 2005, 17-18). The transposition of Kyoto requirements into the EU legal order was achieved by Directive 2002/358/EC. Although EU-15 has a common burden-sharing target reduction of 8% under the Joint Implementation mechanism provided by the Protocol, EU countries are allowed to re-allocate their joint commitment.

The EU climate policy has developed within the European Climate Change Programme (ECCP), 'a multi-stakeholder consultative process' designed to 'identify and develop all those elements of a European Climate Change Strategy that are necessary for the implementation of the Kyoto Protocol' (Commission 2000, Annex 2, 8). Furthermore, it represents 'a cooperative effort to all relevant stakeholders such as representatives of the Commission<sup>33</sup>, the Member States, industry<sup>34</sup> and the NGO community<sup>35</sup>' (Commission 2000, Annex 2, 8). Launched in 2000, the ECCP contains a series of policies and measures to cut emissions, promote renewable energy sources, improve the energy performance of buildings and limit emissions from fluorinated industrial gases. The Commission estimates that with only a few exceptions, policies and measures under the ECCP I are now implemented (Commission 2007d). Announced by Commission's communication 'Winning the battle against climate change' (Commission 2005), the second European Climate Change Programme (ECCP II) was launched in October 2005. The focus for ECCP II was not only on the ECCP I review, but most importantly on exploring new policy



areas such as adaptation, aviation emissions, CO<sub>2</sub> and fuel quality, carbon capture and geological storage, and the EU Emissions Trading System.

Drawing on cost-effectiveness, the ECCP is genuinely cross-sectoral in nature covering areas such as: energy (supply, demand, efficiency in terms of equipment and industrial processes), transport, industry, agriculture, forestry and research (ECCP I), supplemented by carbon capture and geological storage, CO<sub>2</sub> emissions from light-duty vehicles and emissions from aviation (ECCP II) (Commission 2006, 6 and 9). A review of the EU policies and measures falling under the ECCP umbrella is presented in Annex 4.

### 3.1.2. EU's climate change policy mix

#### 3.1.2.1. The EU Emissions Trading System

The most notable cross-cutting measure developed under the ECCP is the *EU Emissions Trading System* (EU ETS)<sup>36</sup>, which is the largest multinational carbon 'cap-and-trade' system in the world, restricting emissions from some 11,500 energy-intensive installations<sup>37</sup> which account for 45% of total CO<sub>2</sub> emissions and 30% of all EU greenhouse gas emissions (Commission 2005a, 7). The EU ETS works as follows (Betz et al 2006, Campins Eritja 2006, Neuhoff 2006, Peeters 2006): national governments offer a number of emission rights or allowances<sup>38</sup> to individual emitters which are obliged to surrender them at the end of each year, according to the verified emissions of their installations during that year<sup>39</sup>. In order for emitters to monitor and report their CO<sub>2</sub> emissions, they must hold a permit from the competent national authority. The total number of allowances represents the emission cap, which is determined by national authorities in accordance with the respective National Allocation Plan (NAP). It is the responsibility of member states to prepare their NAPs for each trading period and submit them for Commission's approval<sup>40</sup>. The NAPs comprise the totality of allowances available over the established period<sup>41</sup> and the rules of allocation, of which three are essential (Commission 2005a, 11):

- An allocation plan has to reflect a member state's Kyoto target as well as its actual and projected progress towards meeting it.
- Allocations to installations must take account of their potential for reducing emissions from each of their activities, and must not be higher than the installations are likely to need.
- Where member states intend to use Joint Implementation and Clean Development Mechanism credits (two flexible instruments provided by the Kyoto Protocol) to help them reach their national emission target, thereby giving their companies more scope to emit, these plans must be substantiated through budgetary provisions.

Generally, member states allocate allowances free of charge on the basis of historical emissions and on benchmarks<sup>42</sup>. This method of allocation is known as 'grandfathering' and has been applied for 95% of first period allowances and for 90% of second period allowances (Schmitt-Rady 2006, 87). Furthermore, the EU ETS creates the right to trade allowances – on the basis of a market value assigned by their relative scarcity (Kemfert et al 2006, 442) – insofar as operators possess more allowances than verified emissions; alternatively, they may keep them for future years within the same period (EEA 2007b, 44). Operators that exceed their emissions limit can either improve their installations in order to reduce emissions, or purchase extra allowances from others. Nevertheless, the Commission keeps an eye on permit trading, assuring as little distortions of competition as possible (Anderson et al 2007, 6). Should operators not fulfil their obligations, they are subject to dissuasive fines<sup>43</sup> for the exceeding CO<sub>2</sub> quantity produced (Commission 2005a, 9 and 12).

The Emissions Trading Scheme is articulated by six capital features (Commission 2005a, 6; Kemfert et al 2006, 443):

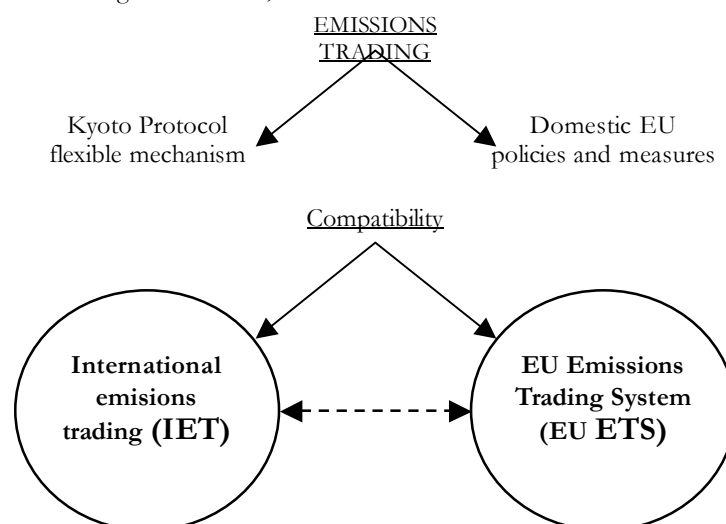
- It is a 'cap-and-trade' system (the absolute quantity of allowances was set at the beginning of the process);
- It covers only CO<sub>2</sub> emissions from four broad sectors: production and processing of iron and steel; mineral industry (cement, glass, and ceramic production); energy (electric power, direct emissions from oil refineries), and pulp and paper.

- Implementation is taking place in phases, with periodic reviews and opportunities for expansion to other gases and sectors;
- National allocation plans for emission allowances are decided periodically;
- It includes a strong compliance framework;
- The market is EU-wide but taps emission reduction opportunities in the rest of the world through the use of the joint implementation (JI) and clean development mechanism (CDM) credits, and provides for links with compatible schemes in third countries.

EU ETS must be differentiated from the emissions trading scheme established by the Kyoto Protocol. While the latter stipulates that emissions trading is allowed between signatories at state level, the former allows for individual emitters across the EU to trade allowances (Kemfert et al 2006, 442). Egenhofer notes that EU emissions trading is essentially domestic and thus unaffected by the international emissions trading (IET). However, he continues, IET is partly domestic given EU's joint burden-sharing (Egenhofer 2003, 29). Additionally, compatibility between the IET and EU ETS is decisive for the effectiveness of both.

**Figure 4.6. International emissions trading versus EU emissions trading**

Source : Egenhofer 2003, 29



During the first, 'trial' or 'learning' period of the EU ETS (2005-2007), the installations that received emission rights emitted 3% less. Verified emissions were higher than allocations in five member states (Austria, Ireland, Italy, Spain and the United Kingdom); eleven member states were in the opposite situation (of which eight new member states) with allocations exceeding emissions by 10%. This can be translated into EU-15 installations being 0.4% short of reaching the target, and EU-10 over-delivering by 15% (EEA 2007b, 46). For the second period, which coincides with the Kyoto commitment period of 2008-2012, allowances have been reduced by 10.5%, which corresponds to a 12.8% actual average reduction of the allowances for 23 member states, given that NAPs without cuts were accepted for five member states (Denmark, France, Slovenia and the United Kingdom).

All things considered, can the ETS be rightfully called EU's 'new grand policy experiment' (Kruger and Pizer 2004, 1)? Without any doubt, the emissions trading initiative has at least one undeniable advantage: it sets a precedent in controlling CO<sub>2</sub> emissions. According to a 2007 EEA estimation, EU ETS will contribute to a 3.4% emissions reduction in EU-15 and a further 1.3-1.9% reduction<sup>44</sup> (EEA 2007b, 53). The programme up and running for three years now (and four more to come), it is indeed a first step towards a system of emissions regulation with great ambitions. But are these ambitions realistic? Can setting a utopian goal do more harm than good? Is the emissions trading a 'no regrets' policy or is it likely to have a lower cost-efficiency level than alternative mitigation strategies? Analysts have disclosed a number of fallacies in the EU ETS that puts sceptics in a comfortable position: over-allocation saw prices dangerously collapse, from €15 to €5, and down to €1 at present; asymmetry of information between

industry and regulators has led to data manipulations that allowed for national governments to favour their own industries<sup>45</sup>; differentiated implementation responses to the Emissions Trading Directive from member states, from strict implementation to protectionist positions, that hindered the efficiency of the ETS; different legal frameworks and procedures across member states meant that the allocation of allowances, the monitoring, validation, reporting and verification of emissions reduction did not follow the same pattern, leading to unavoidable discrepancies affecting the degree of harmonisation of the ETS Directive transposition<sup>46</sup>; the interaction between involved actors, especially between the Commission, national authorities, industry lobbies and individual emitters, was anything but smooth, allowing for political tensions along the process; insufficient synergy between the ETS and other policy areas, such as taxation<sup>47</sup>; user-unfriendly reporting and monitoring guidelines forced enterprises to call for adjusted and simplified methods<sup>48</sup>.

From the very allocation phase to implementation control and output evaluation, the EU ETS is fraught with technological, economic and political incongruences that impede on the effectiveness, efficiency and equity of emissions reduction measures. The EU ETS is threatened at every step by turning from hero to zero. Predictions need not be gloomy, however. Past experience and present challenges should be the key to future improvement.

### 3.1.2.2. Market-based instruments

EU climate change development as a policy mix relied heavily on incentive-based instruments, which vary from fiscal and economic instruments to voluntary agreements. The increased preference for incentive-based instruments is a direct consequence of EU's institutional setup as a decentralised political system, where competences are shared between supranational institutions and national authorities, but also of the international competition and general trend toward markets that the EU has been exposed to since the 1980s (Egenhofer 2003).

Designed to 'affect estimates of costs of alternative actions open to economic agents' (OECD 1994, cited in Jordan et al 2003, 7), the market-based initiatives (MBI) seek to internalise the cost of polluting activities through market competition so that cost-efficiency approaches an optimum level. MBIs are justified by the classic polluter pays principle which provides for the polluter to bear 'the cost of pollution abatement, the costs of environmental recovery and compensation costs for victims of damages, if any, due to pollution'<sup>49</sup>.

The 1994 OECD typology of incentive-based instruments includes five categories: (a) charges and taxes; (b) deposit refund systems; (c) tradable permits; (d) financial enforcement incentives; and (e) subsidies (cited in Egenhofer 2003, 20). Eco-taxes and charges are intended to charge the prices either of emissions or of products. Deposit refund systems levy a surcharge on polluting product prices; it is returned provided pollution is avoided (Egenhofer 2003, 20). Environmental subsidies and incentives are designed to encourage the development of environmental-friendly technologies and to assist in the creation of new markets for environmental goods and services (Herodes 2007, 14). Subsidies may take the form of grants and loans, tax allowances or research and development subsidies (Egenhofer 2003, 20). Financial enforcement incentives are penalties proportional to the saving reaped by non-compliance that are refunded when compliance is observed (idem).

Operators that involve MBIs in their activities make use of market competition and signals (such as the adjustment of prices) in order to have their environmental performance rewarded by the market. Furthermore, MBIs present the advantage of dynamic efficiency, that is, an incentive to improve environmental performance (Egenhofer 2003).

### 3.1.2.3. Voluntary initiatives

Voluntary initiatives are instruments of differing compliance levels, such as voluntary agreements (VA), programmes, standards, guidelines, principles, codes of conduct, statements, etc. (Anderson et al 2007, 7). EU environmental voluntary agreements are established by a non-binding Communication from the Commission which lays down the motivations behind this alternative policy instrument: encouraging a

pro-active approach by industry; enhanced cost-effectiveness and tailor-made solutions; and faster achievement of environmental objectives (Commission 2002b, 5). Environmental agreements are self-regulatory as they do not have legally binding effects at Community level; furthermore, they can be spontaneously initiated by stakeholders: 'Selfregulation concerns a large number of practices, common rules, codes of conduct and, in particular, voluntary agreements which economic actors, social players, NGOs and organised groups establish themselves on a voluntary basis in order to regulate and organise their activities.[...] Selfregulation is usually initiated by stakeholders' (Commission 2002b, 7). Environmental agreements can be also pursued within a regulatory framework (coregulation), thus benefiting from established objectives, implementation deadlines and mechanisms, methods of implementation monitoring and sanctions for non-compliance (Commission 2002b, 8).

The 1999 OECD typology of VAs distinguishes between (a) unilateral commitments (environmental improvement programmes initiated by enterprises and communicated to stakeholders); (b) public voluntary schemes (established by public authorities which define performance criteria and membership conditions for enterprises that are free to join or not); and (c) negotiated agreements (formal contracts between public authorities and industry that tackle specific environmental issues) (cited in Jordan et al 2003, 7-8; Herodes 2007, 15). While VAs hold certain advantages like actual environmental effectiveness, flexibility in finding cost-efficient solutions, reduced administrative costs, decreased negotiation and implementation processes and increased information exchange between involved agents, shadowy areas persist in terms of their economic efficiency and free-riding situations (Herodes 2007, 16).

#### 3.1.2.4. Environmental management systems

Defined as 'a formal set of procedures and policies that define how an organisation will manage its potential impacts on the natural environment and on the health and welfare of the people who depend on it' (Darnell et al 2000, cited in Herodes 2007, 17), environmental management systems (EMS) are intended to integrate environmental concerns into industry practice. EMSs work through the audit of the environmental impact of a company's activity. The most notable example of EMS is the EU Environmental Management Audit Scheme (EMAS) which enables companies to evaluate, report and improve their environmental performance; furthermore, EMAS include a request that member states provide incentives for companies that join the scheme (Bomberg 2007, 253).

#### 3.1.2.5. Informational tools

Informational tools are generally embodied by ecolabels<sup>50</sup>, designed to offer consumers standardised information about a product's environmental impact, thus enabling them to make informed decisions when buying a product (Jordan et al 2003, 8). Ecolabels are intended to 'green' consumers' and producers' behaviours equally, as producers will adequately respond to consumers' demands trying to secure their competitive advantage over similar products (Jordan et al 2003, 8; Bomberg 2007, 252).

### 3.2. *Adaptation strategies*

Adaptation refers to 'policies, practices and projects which can either moderate damage and/ or, in some specific cases, exploit opportunities associated with climate change' (EEA 2007a, 172). Adaptation strategies are aimed at 'reducing vulnerability of people and infrastructure, providing information on risks for private and public investments and decision-making, and protecting public goods such as habitats, species and culturally important resources' (IPCC 2007, WG II, 731). The adaptation capacity is dynamic. In other words, it is influenced by a community's configuration, that is, the 'natural and man-made capital assets, social networks and entitlements, human capital and institutions, governance, national income, health and technology. It is also affected by multiple climate and non-climate stresses, as well as development policy' (IPCC 2007, Topic 4, 2). Moreover, adaptation efforts are usually motivated by additional causes than environmental stress, such as economic development, poverty alleviation, resource planning, etc. (IPCC 2007, Topic 4, 1).

The European Environment Agency suggests five reasons for which adaptation measures should imperatively be designed and implemented as a complement to mitigation measures (EEA 2004, 79):

- Anticipatory/ precautionary adaptation is more effective than reactive adaptation;
- Awareness of unforeseeable climate change developments must eliminate under-adaptation risks;
- Immediate benefits can be achieved from efficient adaptation strategies;
- Adaptive management should focus on the effectiveness of options, eliminating those policies and practices that foster ineffective adaptation;
- The highest the rate of climate change, the least effective adaptation benefits.

Commission's 2007 Green Paper on *Adapting to Climate Change in Europe* acknowledges that by early, preventive action economic benefits and competitive advantages are likely to develop in time, such as the emergence of new markets for climate-proof building technologies, increased beach tourism in the Mediterranean, longer growing seasons in warmer Scandinavia or new insurance services (Commission 2007a, 11). The Paper envisages two types of concrete action: (a) soft, inexpensive measures, such as water conservation, changes in crop rotations, public planning, and awareness raising; and (b) costly defence and relocation measures: 'increasing the height of dykes, relocating ports, industry and entire cities and villages from low-lying coastal areas and flood plains, and building new power plants because of failing hydropower stations' (Commission 2007a, 10).

With its multi-level architecture, the EU must design adaptation strategies for all levels: European, national, regional and local (keeping in mind the global picture at the same time). At EU level, the cross-boundary approach coherent with the policy integration principle (as opposed to a 'one-size-fits-all' perspective) will allow decisions to be made nationally, but in strong coordination. Integrated policy areas (agriculture, biodiversity, etc.) are likely to benefit to a great extent from cross-boundary coordination in adaptation strategies. At a national level, rapid response capacities and risk management are enhanced by the introduction of new policy tools, such as the mapping of sensitive areas, the development of models, forecasting and hazard assessment, satellite observation, etc. (Commission 2007a, 11). Regionally, adaptation equals to spatial planning, land use, and best practice exchange (technical documentation and case studies). Both at regional and at local levels, public and stakeholder awareness and participation is a key issue.

Adaptation strategies rely on the combination of measures and alternatives that form an iterative process: identification of climate sensitive system components; risk assessment; identification of adaptation options; adaptation policy decision-making and implementation; monitoring, assessment and improvement of implemented measures (EEA 2004, 80). Adaptation strategies are evaluated as win-win policies, with enduring benefits, such as: robust infrastructure design and long-term investments; increased flexibility of vulnerable managed systems; enhanced natural systems adaptability; reversed trends that increase vulnerability to climate; public awareness and preparedness (EEA 2004, 80).

Proactive and forward-looking adaptation measures bring a variety of actions under the same roof: crop and livelihood diversification, seasonal climate forecasting, community-based disaster risk reduction, famine early warning systems, insurance, water storage, supplementary irrigation, development of operational capability for regular seasonal climate forecasts and hot-weather alert plans, improvements in climate monitoring and remote sensing to provide better early warnings on complex climate-related hazards, regular regional and national forums and implementation projects (IPCC 2007, WG II, 721). Reactive adaptation refers to emergency response, disaster recovery and migration (Sperling and Szekely 2005 cited in IPCC 2007, WG II, 721). More than often, current adaptation strategies are designed as a response to multiple risks and are integrated in existing programmes.

Given that high adaptive capacity may not automatically translate into successful adaptations to climate change (O'Brien et al 2006, cited in IPCC 2007, WG II, 733), adaptation strategies must take into account a broad range of factors and make use of scenarios of future impacts to the greatest extent. The probability of disastrous effects on communities brought by climate change should be a sufficient reason for including adaptation consideration into current planning. One author estimates that it could be more cost-effective to implement adaptation measures early on, especially in long-life infrastructure (Shukla et al 2004, cited in IPCC 2007, WG II, 721).

### *3.3. Research and development*

Research and development (R&D) on climate change has been carried out in the EU from the 1980s on, mainly under multi-annual framework programmes. Intended to complement national research programmes, R&D activities envisioned under the European framework programmes aim to convey a 'European added value' through the transnational character of research, technological development, demonstration projects and fellowship programmes (Commission 2007e, 6). In so doing, R&D programmes serve two major purposes: to strengthen the scientific and technological base of European industry and to encourage its international competitiveness in connection to EU policy interests (*ibidem*, 7).

The Sixth R&D programme (2002-2006) had a budget of €17.5 billion, of which €2.2 billion were allocated for 'Sustainable Development, Global Change and Ecosystems' (Commission 2005c, 5). The current 7<sup>th</sup> Framework Programme for Research and Technological Development (2007-2013) has been allocated over €50 billion (Commission 2007e, 6). It is designed to support the projects of a wide range of actors, from university research groups, individual early-stage or experienced researchers, civil society organisations, public or governmental administration to companies, small or medium-sized enterprises, associations or groupings (*ibidem*, 10). The R&D programmes cover activities such as collaborative projects that are focused on research with clearly defined scientific and technological objectives and specific expected results, the creation of Networks of Excellence, the coordination and networking of projects, programmes and policies, support for individual national or multinational research teams, to cite just the most important (*ibidem*, 20-21).

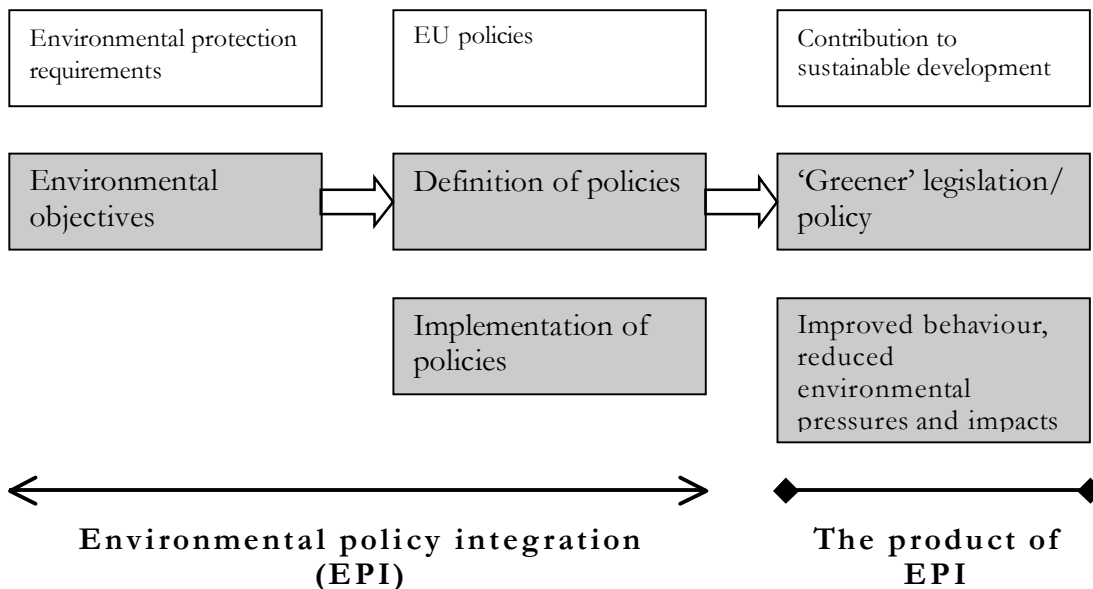
Environmental issues are addressed within the 'Cooperation' track of the FP7 and are allocated a budget of €1.9 billion. The topics covered are divided into four categories: climate change, pollution and risks; sustainable management of resources; environmental technologies; and earth observation and assessment tools for sustainable development. The objective of the environmental section of the programme is 'to promote the sustainable management of the environment and its resources through increasing knowledge about the interactions between the climate, biosphere, ecosystems and human activities' and 'to develop new technologies, tools and services that address global environmental issues', with an emphasis on 'prediction tools and on technologies for monitoring, prevention, mitigation of and adaptation to environmental pressures and risks'<sup>51</sup>.

International cooperation on the environment, including climate change, is acknowledged as a capital step forward in understanding the causes, the evolution and the impacts global environmental challenges and in formulating reliable predictions and efficient policy responses. The novelty of FP7 is the creation of a Specific International Cooperation Actions (SICA), which address research issues of mutual interest and benefit between the EU and other countries. International cooperation on environmental R&D is intended both to support European scientific activities and to attract the best third country scientists to work in and with Europe. Furthermore, better access to research carried out elsewhere in the world is sought, as well as addressing specific problems that third countries face or that are global in character<sup>52</sup>.

#### 4. Environmental policy integration

Environmental policy integration (EPI) stands for the continual process of taking into account environmental considerations in the design and implementation of non-environmental policies, calling for ‘changes in the political, organisational and procedural activities’ in order to secure the overall improvement in policy, its implementation and outcome (EEA 2005b, 7 and 13). The EC Treaty provides for the legal basis of EPI in Article 6: ‘Environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities’. Additionally, the 6<sup>th</sup> EAP and the EU sustainable development strategy (SDS) call for the integration of environmental concerns in all relevant sectors. Thus, the EU acknowledges the importance of supplementing its conventional environmental policy with environmentally-aware sectoral policies (EEA 2005b, 12). In order to attain an optimum of efficiency, EPI should be imagined as a two-way process: from environment to other sectors and vice versa (EEA 2005b, 13).

**Figure 4.7. Environmental policy integration according to Article 6 of the EC Treaty**  
Source EEA 2005b, 13



In practice, EPI presents a number of advantages: (a) a proactive attitude (as opposed to ad hoc) towards the consideration of environmental issues all along the policy process; (b) the encouragement of alternative policy instruments (especially MBIs) to supplement and at times replace regulatory measures; (c) policy reorientation solutions in cases of conflict with a view to prevent environmental damage and assure sustainability; (d) the coherence of policy areas; (e) increased transparency and public participation (EEA 2005b, 12).

EPI can be achieved either through top-down or bottom-up approaches. The first option means that environmental concerns are stipulated in the constitutional framework, ordinary legislation or in political discourse so that developments are secured by law and in compliance sanctioned accordingly. In one of its Reports, EEA estimates that ‘As a rule of thumb, the stronger the signals from the top, and the more mechanisms are put in place to convey these throughout governments and administrations, the greater the likelihood of environmental issues being internalised at all levels.’ (EEA 2005c, 15). Bottom up approaches come into the picture as additional incentives under the form of informal communication, training, guidance and the exchange of good practice. Their purpose is to ensure the internalisation of EPI by people who are directly concerned: ‘Such bottom-up efforts are also seen to be important as a means of instilling feelings of ownership and buy-in, with departments or actors persuaded of the value of EPI, rather than simply told about it.’ (EEA 2005c, 15). At EU level, the Cardiff process is an illustrative example of top-down initiative. Based on Article 6 EC, the Cardiff policy process (started in 1998) was the

first strategy to address EPI, calling for the Council to develop guidelines for the integration of environmental concerns into those sectoral policies that have a direct or indirect effect on the environment, such as transport, energy, agriculture, etc (Gerger Swartling 2007, 6 and Homeyer 2007, 14-15).



## CHAPTER 5

# EU's International Commitments to the Global Climate Change Regime

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### OVERVIEW

This chapter is divided into two main sections: first, an overview of the international climate change regime is provided; second, the role of the European Union in multilateral climate negotiations is scrutinised. The purpose of the first section is to place the policy measures discussed in the previous chapter in a global context. While issues related to mitigation and adaptation strategies have been analysed both in theoretical/ general terms and in relation to the EU policy setting, the present chapter focuses on the international legal framework. The aim of the second section of the chapter is to address EU's role in the international climate arena as an indispensable element of a comprehensive analysis of its climate change strategy. For this purpose, I proceed in three steps: first, I clarify EU's institutional setup in international climate negotiations; second, I inquire into EU's international actorness in the climate arena as a condition for its proclaimed environmental leadership; third, I examine EU's environmental leadership status from both a theoretical and a practical perspective. The evaluation of EU's degree of international actorness and, if applicable, of its environmental leadership will be based on a multi-factor analysis.

# 1. The configuration of the international climate change regime

## 1.1. Regime formation

How did the international climate regime come about? What premises does climate regime formation stand on? What are the stages of regime development? The following lines are aimed at pinning down several theoretical clarifications in response to these questions.

Regime formation is intended to establish a framework of rules that guide participants' behaviour in a specific area. According to one author, 'international regime formation aims at reaching agreement on terms of mutually acceptable provisions suitable for expression in the form of documents that are treated as constitutional contracts. Although they do not always take the form of binding agreements having the force of law, such documents are important benchmarks in the sense that they constitute evidence of the defining characteristics of regimes or governance systems as understood by their creators' (Young 1994, 82).

To be sure, insofar as international agreements represent the materialisation of intergovernmental negotiations, they are only the tip of the iceberg. Beneath the surface, an intricate game of interests and power is at play. Therefore, it is essential to understand which factors influence the development of the climate regime. To begin with<sup>53</sup>, as previously discussed, the scientific consensus that emerged in the 1980s and 1990s, strengthened by technical improvement in data collection, interpretation and prediction, was the necessary condition. A key role has been played by the IPCC, which is the leading scientific forum that assesses the state of the Earth in terms of global warming and climate change effects. Thus, the emergence of the global climate regime relies heavily on a transnational epistemic community.

Secondly, political will imposes the pace at which the regime evolves or devolves. Once awareness about actual and potential dangerous interference of climatic changes with human wellbeing was achieved, political actors called upon themselves to find solutions to this global problem. Intergovernmental conferences called upon institutionalised measures, which gradually came into being through long negotiations. Generally, the advancement of a regime is linked with a nation, or a group of nations, taking a lead position in attempting to achieve effective action by pressuring other participants to support the regime (Porter and Brown 1996, 32). However, being a lead state in climate change negotiations comes against the intuitive statement that a dominant power would necessarily qualify for such a role. Moreover, history has proved that the climate regime emerged in a setting deprived of the participation of a hegemonic power (Young 1994, 37). Instead, dynamic coalitions of states have been instrumental in forging further steps in climate agreements. The European Union, standing for a group of industrialised countries, or the Alliance of Small Island States are examples of leading coalitions.

One need not ignore the importance of a powerful nation occupying the position of a veto state. Insofar as political power equals economic influence and, consequently, a considerable contribution in terms of emissions, adopting a veto position has more often than not implied a stall or even a halt in negotiations and implementation. The stubbornness of the US government on a climate agreement has often impeded advancement. In talking global commons such as climate change, the broadest participation possible needed; moreover, the participation of major polluters is vital. It falls back upon for lead states or groups to bring veto countries into the deal. In this respect, the EU has displayed active environmental diplomacy that yielded important results, analysed in a subsequent section of this chapter.

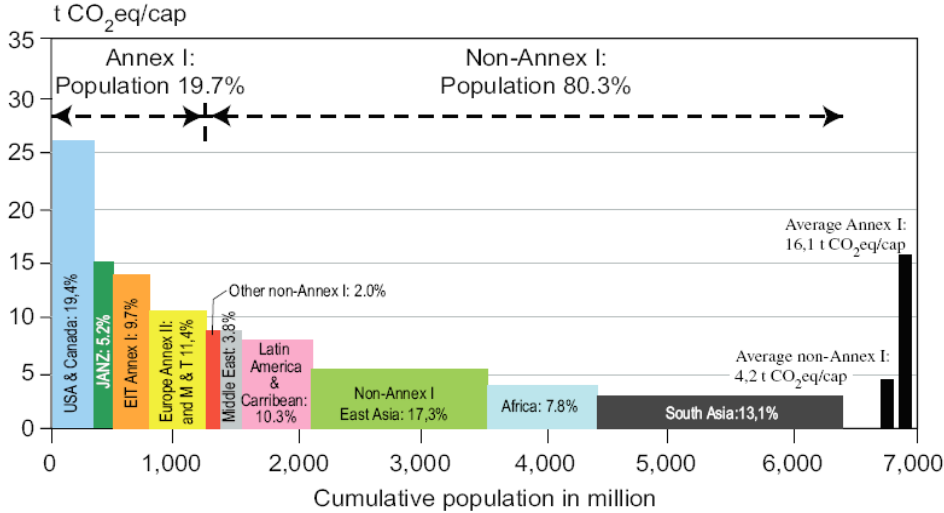
Third, ecological disasters have provided unfortunate warning signals that action must be taken in order to prevent future negative impacts of climate change. Insofar as scientific insight has been capital in raising awareness about the danger of global warming, its failure to provide complete certainty of interpretations and predications has allowed political action to remain elusive. As a relatively recent environmental challenge, climate change remains hidden under the 'veil of uncertainty' (Brennan and Buchanan, 1985). Scientific epistemic communities have been joined by environmental NGOs in their spelling out disaster. Greenpeace, WWF, Friends of the Earth, Birdlife International and several others have been active players of environmental diplomacy. To strengthen their voice, leading ENGOs created networks, such as Climate Action Network or The Green 10. Serving as intermediaries between the local, national and

international levels of governance, ENGOs are now acknowledged as rightful participants to the climate regime. They have gained access to international conferences: for instance, at the Rio Conference in 1992, 20.000 individuals represented some 1.500 NGOs (Carter 2001, 241). Despite fervent presence, ENGOs are reckoned to possess limited influence. The opposite can be said, however, about industrial lobby groups. Although non-state actor participation will be further discussed in the following chapter, one should be aware that intense lobbying by powerful industrial groups directly affected by mitigation measures such as the cut in CO<sub>2</sub> emissions has more than once interfered with the advancement of negotiations. The infamous Global Climate Coalition played a key role in President Bush's rejection of the Rio Climate Convention (ibidem, 238-39).

Finally, an implicit factor of the climate regime development is the very issue at stake. Climate change is essentially a multidimensional challenge that impacts upon an overwhelming range of sectors: human, natural, economic, agricultural, etc, as explained in Chapter 3. Furthermore, tackling the negative effects of climate change implies normative concerns related to 'the tragedy of the commons', transboundary ecosystems, non-renewable resources, North-South responsibilities, intergenerational equity<sup>54</sup>, and so on.

**Figure 5.1. Distribution of regional per capita GHG emissions in the world in 2004**

The percentages in the bars indicate a region's share in global GHG emissions  
 Source : IPCC, WG III, 2007, 106



Turning to the stages of regime formation, a threefold division distinguishes between pre-negotiation, negotiation and post-negotiation (Young 1994, 82-84). In the pre-negotiation stage, the issue is identified, framed and introduced on the international agenda. This corresponds to the politicisation of the scientific discourse on global warming. The negotiation process begins with the intensive bargaining and ends with the signing of an agreement. Specifically, on climate change, this stage spans from the first Intergovernmental Negotiating Committee meeting in 1991 to the UNFCCC signing in 1992 (idem). The subsequent Kyoto Protocol qualifies as a separate negotiation process. Finally, post-negotiation equals ratification and implementation.

Having outlined the central features of regime development with respect to climate change, it is now time to call for an overview of the actual process and the policies it yielded.

*1.2. Organisational features of the global climate regime*

If science forms the backbone of the international climate change regime and political will measures its heart beats, the legal articulations allow this organism to be in motion. In order to have a clear-eyed view of the climate regime itinerary, the legal framework will be scrutinised. Particularly, I will proceed to an overview of the main multilateral agreements, the UN Framework Convention on Climate Change and its Kyoto Protocol.

The UNFCCC is the first international agreement to address climate change. Adopted in May 1992 and entered into force in March 1994, the Convention achieved ‘near universal ratification’ (IPCC 2007, 31): 191 out of the 194 UN members plus the EU<sup>55</sup>. It establishes the basic framework for the climate regime underpinned by a broad ‘ultimate objective’ to stabilise atmospheric concentrations of GHG at a safe level, a number of general principles to guide future policies, the division of the global community in groups (industrialised countries, developing countries and former Communist states) (Gupta 2001, 32-33), and the institutional setup to oversee its development.

Building on the general UNFCCC framework, the Kyoto Protocol sets specific obligations to limit emissions of six GHGs, and introduces innovative market-based implementation mechanisms (known as the Kyoto or ‘flexible’ mechanisms). Adopted in 1997 and entered into force on 16 February 2005, the Protocol has been ratified by 181 countries and the EU<sup>56</sup>. Among the industrialised countries with high GHG emissions that have refused to ratify the protocol are the US (40% of the total emissions from industrialised countries in 2003) and Australia (4% of the total emissions in 2004, EEA 2007a, 166). The EU is responsible for roughly 15% of global GHG emissions.

Designed on the ‘framework convention/ protocol’ model, the international climate regime combines ‘hard’ and ‘soft’ law elements alike (Bodanski 2001, 202-204). The ‘hard’ approach states that international law is meant to impose definite obligations on states, enforceable through obligatory resolutions and sanctioned if violated (*ibidem*, 202). At the other end of the spectrum, ‘soft’ law is intended to encourage rather than impose international action in a specific area. Cooperation is sought through scientific and normative consensus-building and encouraging (rather than enforcing) compliance. Along these lines, the UNFCCC is a fine instance of the ‘soft’ law approach, where international cooperation on climate change is given impetus by a broad framework, whereas the subsequent Kyoto Protocol exemplifies a set of rules with ‘teeth’ (*idem*).

### *1.2.1. Objective and principles*

The UNFCCC defines the ultimate objective of the climate regime as the ‘stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system’ (Article 2, see also Annex 5). One commentator argues that the phrasing indicates a declarative, overarching goal rather than a specific commitment (Bodanski 1983, cited in Yamin and Depledge 2004, 62). The vagueness of the statement breeds a number of questions: What constitutes a dangerous level of anthropogenic interference? According to which criteria should it be established? The IPCC has suggested that ‘such decisions are value judgments determined through socio-political processes, taking into account considerations such as development, equity, and sustainability, as well as uncertainties and risk’ (IPCC 2001, 2). Furthermore, the criteria for determining this level need to be sensitive to local characteristics (natural setting, adaptive capacity, etc.) and to mitigative capacities (*idem*). Thus, the IPCC estimates that ‘There is no universally applicable best set of policies; rather, it is important to consider both the robustness of different policy measures against a range of possible future worlds, and the degree to which such climate-specific policies can be integrated with broader sustainable development policies’ (*idem*).

Action taken in the name of Convention’s ultimate objective should be guided by a list of principles, set out in the Preamble and Article 3. Designating climate change as ‘a common concern of humankind’ calls for two capital principles of the Convention: the principle of common but differentiated responsibilities (CDR) and the equity principle. They are explicitly formulated in Article 3.1: ‘The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities’. The CDR principle is flashed out in detail throughout the text of the Convention in relation to the responsibilities of developed countries, which are by far the largest contributors to the global concentration of GHG, to take action in order to cut their respective share and to assist developing countries in achieving sustainable development. The materialisation of the CDR principle is provided by the Kyoto Protocol under the form of detailed commitments to reduce emissions.

While the principle of common but differentiated responsibilities is increasingly acknowledged in international environmental law, the precautionary principle is still in the making (Yamin and Depledge 2004, 69-70). In the climate regime, it provides guidance for action in conditions of high uncertainty. Article 3.3 provides that Parties ‘should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects’. In addition, governments are required not to hide behind ‘the veil of uncertainty’: ‘lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost’.

The fourth principle set out in Article 3 points to the right to sustainable development and the coherence of climate policies with economic development and reminds that ‘States should enact effective environmental legislation, that environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply’ (Preamble, par. 10). Environmental policies and trade are linked in Article 3.5., especially in connection with developing countries that must not be subject to ‘discrimination or a disguised restriction on international trade’ in the name of climate change measures.

1.2.2. Regime participants

As noted, the global climate regime enjoys extensive participation: 192 Parties (191 countries plus the EU) have ratified the UNFCCC, of which 182 Parties have also ratified the Kyoto Protocol. The Convention and Kyoto Protocol refer to three types of Parties: Annex I Parties, Annex II Parties and non-Annex I Parties. The Parties are organised in several groupings that either observe the UN regional group system or represent dynamic negotiating coalitions (Yamin and Depledge 2004, 32). The following graphic illustrates the party groupings in the climate regime.

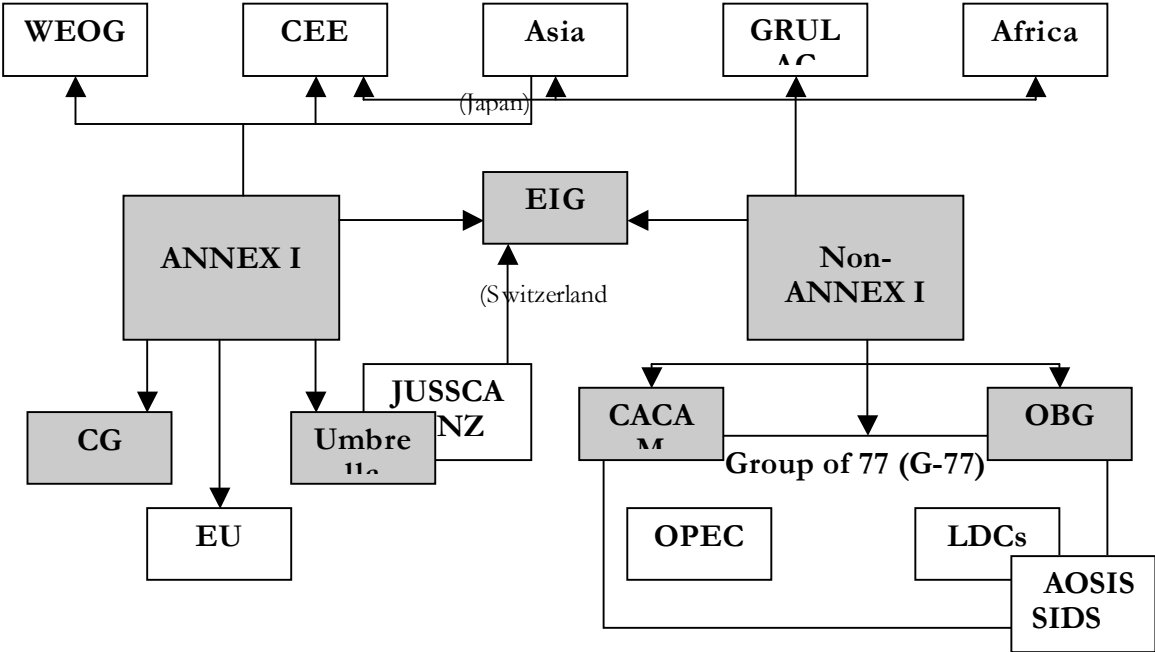
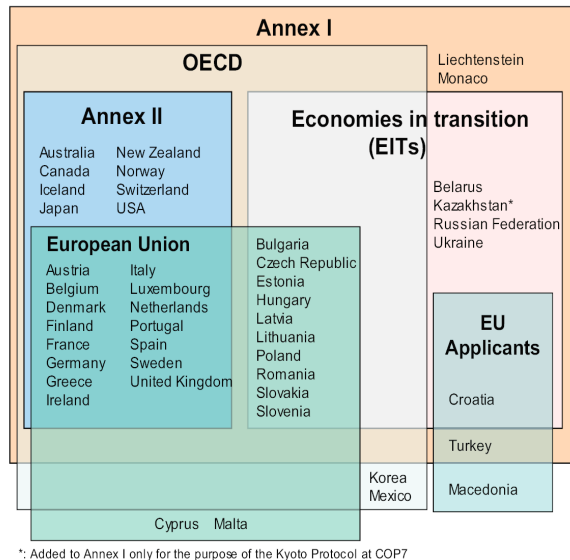


Figure 5.2. Party Groupings in the climate change regime

WEOG: Western European and Others group/ CEE: Central and Eastern European group/ GRULAC: Group of Latin America and the Caribbean/ EIG: Environmental Integrity Group/ JUSSCANNZ: Japan, US, Canada, Australia, Norway, New Zealand/ CACAM: Central Asia, Caucasus, Albania and Moldova group/ OBG: Open Balkan Group/ CG: Central Group/ LDCs: Least Developed Countries/ SIDS: Small Island Developing States/ OPEC: Organisation of Petroleum Exporting Countries/ AOSIS: Alliance of Small Island States.  
 Annex I: Australia, Austria, Belarus\*, Belgium, Bulgaria\*, Canada, Croatia\*, Czech Republic\*, Denmark, European Economic Community, Estonia\*, Finland, France, Germany, Greece, Hungary\*, Iceland, Ireland, Italy, Japan, Latvia\*, Liechtenstein, Lithuania\*, Luxembourg, Monaco, Netherlands, New Zealand, Norway, Poland\*, Portugal, Romania\*, Russian Federation\*, Slovakia\*, Slovenia\*, Spain, Sweden, Switzerland, Turkey, Ukraine\*, United Kingdom of Great Britain and Northern Ireland, United States of America (\* countries undergoing economic transition)  
 Note: Shaded boxes represent groups exclusive to the climate change regime.  
 Source: Yamin and Depledge 2004, 32 and UNFCCC 2006, 46

Among the principal groups established by the Convention, Annex I parties include industrialised countries that were members of the OECD in 1992 and the subgroup of countries with economies in transition (ETIs). Being responsible for most of the GHG anthropogenic concentrations, Annex I countries are required to take a lead in curbing long-term emissions trends to 1990 base-year levels through national policies and measures (Article 4.2(a) of the UNFCCC). Additionally, they are bound to assist developing countries in achieving the common objective of the Convention. ETIs are allowed a certain degree of flexibility in implementing policies and measures (Article 4.6).



**Figure 5.3. Selection of groupings in the climate regime by countries** Source: Höhne et al 2005, cited in IPCC (WG III) 2007, 74

Parties included in Annex II have obligations to provide ‘new and additional financial resources’ to developing countries in an effort to assist them in implementing emissions reduction measures (Article 4.3). Furthermore, Annex I and II parties should give special attention to those developing countries that are particularly vulnerable to climatic changes (Article 4.4). Most developing countries are listed as non-Annex I parties and benefit from less stringent commitments, as the implementation of climate policies depend on the availability of funding from Annex II parties and on development and poverty alleviation considerations, which override climate mitigation (European Parliament 2007, 7). Another party to the Convention is the group of least developed countries (LDCs), that includes members of the African Group, the alliance of Small Island States (AOSIS), and others (UNFCCC 2006, 48). Their status is recognised in Article 4.9 and Article 12.5 of the UNFCCC.

In practice, the participants to the climate regime are organised in groups and coalitions that are more or less dynamic, but whose *raison d’être* is generally based on regional affinities. In the general UN system, there are five major ‘regional groups’: Africa (in climate change negotiation, this group is called the African group), Asia (including the Pacific), Central and Eastern Europe, Latin America and the Caribbean (GRULAC) and Western Europe and Others (WEOG) (UNFCCC 2006, 48). The political negotiating groups are informally established in accordance with common interests. Coalition-building in the climate regime is vital for countries deprived of considerable power. By pooling their resources and negotiating clout (Yamin and Depledge 2004, 32) they are able to make their voice heard. The growing number of negotiating coalitions represents not only a efficiency-driven strategy, but it is also a sign of ‘maturity’ of the regime that indicates that countries are more aware of their interests relative to climate change and more pro-active (ibidem, 34). Among the political negotiating groups the most important are the Group of 77 (G-77) which includes the African Group, AOSIS, middle-income countries and the LDCs, and oil-exporting countries; the Umbrella Group, consisting of Australia, Canada, Iceland, Japan, New Zealand, Norway, the Russian Federation, Ukraine and the United States; Environmental Integrity Group (EIG), comprising Mexico, the Republic of Korea and Switzerland; the Central Group (Bulgaria, Croatia and Romania); the Organisation of Petroleum Exporting Countries (OPEC) and the CACAM group which includes Central Asia, Caucasus, Albania and Moldova (UNFCCC 2006, 49-50).

### 1.2.3. Institutions

The institutional framework of the Convention is comprised of the Conference of the Parties to the Convention (COP), the subsidiary bodies (SBs) – the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI), the Bureau and the secretariat. The COP is the ‘supreme body’ of the Convention. During its two-week annual sessions, the COP adopts

decisions<sup>57</sup>, declarations and resolutions (UNFCCC 2006, 27). The COP Bureau is formed by eleven officers: the COP President, seven Vice-Presidents, the Chairs of the two subsidiary bodies and a Rapporteur. The COP President is appointed on a rotating basis from the five UN regional groups. He or she is the environment minister of his or her country (UNFCCC 2006, 31).

The institutional structure of the Kyoto Protocol builds on the existing Convention framework. The COP serves as the ‘meeting of the parties’ (COP/MOP). Although the COP/MOP is not hierarchically inferior to the COP, it is ‘functionally integrated [with the COP but] legally distinct’ (UNFCCC cited in Yamin and Depledge 2004, 426).

### *1.3. Mitigation*

The mitigation of climate change represents the very ultimate objective of the international regime: the stabilisation of GHG concentrations in the atmosphere below base year levels. Whereas mitigation has been comprehensively addressed in the previous chapter, both in theoretical and in empirical (EU-focused) terms, the purpose of this brief overview is to establish the overall legal framework that serve as a basis for existing policies. As noted, the EU domestic climate change policy has been developing as a result of the legal framing at international level. The most important EU mitigation tool – the EU ETS developed within the ECCP – became functional once the Kyoto Protocol was ratified by the Union. This section will investigate the Kyoto mechanisms in connection with the EU mitigation policies.

The mitigation commitments provided in the Convention are intended to all parties (Article 4.1, general commitments), to Annex I parties (Article 4.2, specific commitments) and to specific groups (such as EITs and developing countries). According to the principle of common but differentiated responsibilities, the most stringent mitigation commitments are provided for Annex I parties as follows: enactment and coordination of mitigation policies and measures (PAMs), achievement of specific reduction targets within an established time-frame, joint achievement of mitigation commitments, consideration of specific needs and circumstances of developing countries vulnerable either to climate change impacts or to mitigation policies, reporting on all measures taken (Yamin and Depledge 2004, 105). The Kyoto Protocol imposes ‘quantified emission limitation and reduction commitments’ to all parties listed in Annex B. In addition to quantified emission reduction targets, the Protocol sets forth innovative market-based mitigation mechanisms.

The main mitigation instruments comprised in the Protocol are the flexible (or Kyoto) mechanisms: the international emissions trading (ET), the Clean Development Mechanism (CDM) and Joint Implementation (JI). They are aimed to facilitate the design and implementation of policies and measures intended to limit and reduce GHG emissions. The international emissions trading is a classic example of ‘cap-and-trade’ system. The most advanced model of ET is the EU ETS. A global ET, however, has not yet been developed, leaving the international emissions market fragmented, despite the considerable intensity of regional trading (Lecocq and Capoor 2005, cited in IPCC, WG III, 2007, 778). The difference between the international ET and the EU ETS consists in two dimensions: first, unlike the EU variant, the international ET allows trading only between governments, excluding private investors; second, the EU ETS is directed at operators of certain installations in the EU, which are also private entities (EEA 2007b, 85). Furthermore, the EU ETS is a EU measure intended to curb CO<sub>2</sub> emissions and not part of the Kyoto mechanisms. In order to assure the consistency between the two types of trading systems, ‘a transfer of an EU ETS allowance from one Member State to another is backed by a simultaneous transfer of one Kyoto allowance between the two countries’ (idem).

Based on GHG emissions reduction or removal, the CDM and the JI are both project-based mechanisms. The CDM is an international ‘baseline-and-credit’ trading system which ‘is intended to help channel private sector investment towards climate friendly projects that might not otherwise have taken place’ (Yamin and Depledge 2004, 160). The CDM allows emissions reductions from projects based in non-Annex I countries to be used by Annex I countries to achieve their respective targets (European Parliament 2007, 8). The purpose of the CDM is to help developing countries achieve sustainable development while helping industrialised countries meet their emissions targets. This Kyoto mechanism enables a country to increase its emissions provided it finances an emissions reduction project in another

country. The CDM is becomes operational through a five-step project cycle: design; validation and registration; monitoring; verification and certification; and issuance of Certified Emissions Reductions (CERs). As of November 2007, 827 CDM projects were registered, of which the majority are in the renewables sector and illustrate an uneven regional distribution: 90% of the CERs have been issued for India, China, South Korea and Brazil (ibidem, 12). The Joint Implementation mechanism functions for the same purpose as the CDM, but between Annex I countries. However, its institutional structure is still in the development phase, with 197 projects on their way (1 registered, 88 in the determination phase and the rest in early phases) (European Parliament 2007, 13).

Among the EU member states, eleven have decided to use Kyoto mechanisms to meet their burden-sharing targets: Austria, Belgium, Denmark, Finland, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Slovenia and Spain. Of EU-15, France, Germany, Greece, Sweden and the United Kingdom plan to achieve their Kyoto targets without government use of the Kyoto mechanisms, although they allow companies to trade emissions allowances under the EU ETS (EEA 2007b, 86). 'In the first trading period of the ETS, the project-based mechanisms are not expected to be used much, if at all, mainly due to low allowance prices in 2006 and 2007 and the outstanding link of the EU registries system to the Independent Transaction Log of the Kyoto Protocol (ITL). The use of CDM and JI is expected to gain importance in the second trading period' (ibidem, 85).

#### *1.4. Adaptation*

Although neither the Convention nor the Kyoto Protocol define adaptation, they consist of a number of provisions on adaptation measures. In their commitments under Article 4.1(b) of the Convention, Parties are required to 'formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to [...] facilitate adequate adaptation to climate change'. Annex II Parties are bound to 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' (Article 4.4). Special attention should be given to least developed countries in terms of funding and transfer of technology (Article 4.9).

As it is the case with European adaptation strategies, international efforts have also been scarce. A schematic guideline related to adaptation measures at international level lists (UNFCCC 2006, 93-94):

- collecting, compiling, synthesizing and disseminating information on effects, vulnerability and adaptation, including information on methodologies, technologies and activities reported in national communications and national adaptation programmes of action;
- facilitating support for capacity-building and enabling activities;
- developing mechanisms to disseminate information and increase public awareness – including clearing houses, information systems and workshops;
- facilitating the exchange of information and sharing experiences and views among Parties on practical ways of helping implement the Convention;
- cooperating with international and other United Nations organisations;
- implementing concrete adaptation actions.

Although adaptation is widely recognised to be a key element of an effective climate policy strategy, its represents a small proportion of attention from policy-makers.



## 2. EU's performance in the international climate change regime

In discussing the international representation of the EU, it is necessary to make the legal distinction between the European Community (represented by the Commission) and the member states that coordinate their activity as members of the EU (Vogler and Stephan 2007, 394, note 6). From 1979 onwards, the Community has been conferred the special and unique status of Regional Economic Integration Organisation (REIO), which allows it to sign and participate in multilateral environmental agreements alongside with the EU member states (Vogler 2005, 839, 15). Within the UN framework, however, the Community has the status of observer – inherently ‘incomplete and ambivalent’ (Bretherton and Vogler 2005, 91), although it has succeeded to negotiate its representation at Earth Summits (Vogler 2005, 845). As far as the European Union is concerned, it does not have juridical personality under the present legislation, and therefore cannot be a member of international organisations. However, for the overall coherence of the work, I will refer to the ‘EU’ as an actor in the international arena.

The EU has subscribed to the climate regime as a group (EU-15), but also in terms of individual commitments (for all 27 current member states). Thus, while the EU bubble has a common 8% reduction target (‘burden-sharing’), countries inside and outside the bubble have also individual commitments. Despite this domestic institutional arrangement, inevitable divergences among member states and its inadequate status at the UN, the EU has managed to speak in one voice and articulate a common position at the table of climate change negotiations. How can EU’s international actorness in the environmental arena be described and explained? Is EU’s environmental leadership an accurate description of its role as an international player, or is it rather an empty rhetorical device?

In an attempt to provide an answer to these questions, I proceed in three steps: first, I clarify EU’s institutional setup in international climate negotiations; second, I inquire into EU’s international actorness in the climate arena as a condition for its proclaimed environmental leadership; third, I examine EU’s environmental leadership status from both a theoretical and a empirical perspective. The evaluation of EU’s degree of international actorness and, if applicable, of its environmental leadership will be based on a multi-factor analysis. Particularly, I will select a number of variables relevant for the Union’s role as an international actor in the climate regime: (a) formal policy commitments; (b) key actors (institutions, member states and other participants); (c) multi-level governance; (d) resources; (e) the external context; and (f) rhetoric. Before embarking on this exploration, I will remind the reader that the relevance of this endeavour stands in providing a comprehensive overview of EU’s strategy on climate change that accounts for both the domestic and external dimensions. I argue that the internal and external facets of the climate policy are linked through a causal logic that works both ways: the international commitments constitute a pull factor for domestic policy implementation and development, which, in their turn, contribute to EU’s international standing as a credible player.

### 2.1. EU representation in international climate negotiations

In contrast with decision-making on domestic measures on climate change, where the Community method applies, in multilateral climate negotiations the institutional setup is organised along intergovernmental lines (Groenleer and van Schaik 2007, 971; van Schaik and Egenhofer 2005, 2). Specifically, the EU is represented by the current six-month rotating Presidency, which negotiates on behalf of the EC and the EU member states (Yamin and Depledge 2004, 43). Together with the incoming Presidency and the Commission (DG Environment), it forms a ‘troika’. The troika plays an ambassadorial role, representing the EU at meetings not only within the climate regime, but also in bilateral agreements (idem)<sup>58</sup>.

This specific institutional configuration for the negotiation of the climate regime is different from the setup of multilateral negotiations in other environmental areas. Most multilateral environmental agreements are based on the principle of division of competence between the Commission and the member states, provided by article 174.4 EC which refers to article 300 EC (van Schaik and Egenhofer 2005, 2). According to the latter, the Commission is authorised to negotiate in international agreements with third countries when a Community policy is concerned (such as the environmental policy). Article 174.4 EC also stipulates that ‘The previous subparagraph shall be without prejudice to Member States’

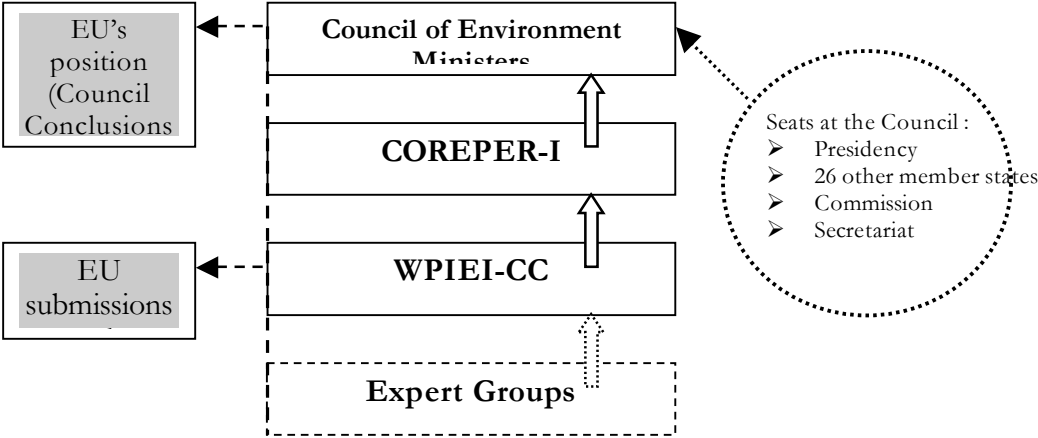
competence to negotiate in international bodies and to conclude international agreements' (see Annex 1). However, climate change negotiations do not comply with the division of competences principle of article 174.4 EC, as the EU Council of Ministers has not authorised the Commission to conduct negotiations in the name of the member states (*idem*).

The troika model is the specific architecture designed for international climate change negotiations. The common position agreed on by the troika is the result of a complex decision-making process. The position for the climate regime begins to be shaped within the EU Council Working Party on International Environmental Issues – Climate Change (WPIEI-CC)<sup>59</sup> which is comprised of experts from all member states plus the Commission and receives input from informal Expert Groups whose number and topics are established according to the issues addressed in the regime (flexibility mechanisms, sinks, policies and measures, etc.) (Yamin and Depledge 2004, 44). The Expert Groups prepare technical statements and positions which are then considered for approval by the WPIEI-CC<sup>60</sup>. The rotating Presidency is in charge of preparing meetings with relevant groups (NGOs, lobbies) at the beginning of their period in office in order to define the overall direction of EU climate policy (*idem*). Before any round of international negotiations the common position is established by the Council of Environmental Ministers through formal conclusions<sup>61</sup> decided by consensus (*idem*). During negotiations the troika meets in daily coordination sessions to agree statements and proposals and to decide on EU's strategies in accordance with other parties' positions, also by consensus (Yamin and Depledge 2004, 44; van Schaik and Egenhofer 2005, 3; Jung et al 2007).

The implications of this specific institutional architecture of EU's representation in multilateral climate negotiations will be developed in the subsequent sections of this chapter. For the time being, I will turn to the analysis of EU's international actorness in the climate arena.

**Figure 5.4. EU institutional configuration in the international climate regime**

Source : van Schaik and Egenhofer 2005, 3



## 2.2. EU's international actorness in the global climate regime

To characterise the EU as a global environmental leader implies to consider its status as an international actor. However, 'the quality of the EU actor capability in international politics cannot be taken for granted' (Sjöstedt 1998, 228). This statement compels me to question whether 'in the case of the EU a *wanting* actor capability is sometimes a normal feature'<sup>62</sup> or whether the EU is an international actor in its own right.

Before providing a key to this dilemma, let me specify what I take actorness to stand for. For this definition, I follow Vogler and Stephan (2007, 392), who estimate that 'Being an actor thus implies the ability to make policy, to interact formally and informally with other actors in the international system and to exert influence in various ways including the use of policy instruments'. This definition is particularly useful for my endeavour, as it synthesises the core elements of multi-level policy-making that I have been trying to capture throughout this work. The relevance of asking whether the EU behaves as an international actor in the climate regime is that the concept of actorness 'provides us with a theoretical perspective which can incorporate both the internal dynamics of institutional development [...] and the changing nature of the international environment in which it has to operate' (Hill 1993, 309).

Several theoretical frameworks attempt to lay out the distinctive features of actorness. Among the many, I will rely on Jupille and Caporaso's analysis of actor capacity in global politics. Jupille and Caporaso (1998) develop an analytical framework to assess the degree of EU international actorness articulated by four interdependent dimensions: recognition, authority, autonomy and cohesion. *Recognition* is defined as acceptance of and interaction with the entity by other actors; *authority* stands for an actor's legal competence to act; *autonomy* refers to the institutional distinctiveness and independence from other actors (namely, the member states); finally, *cohesion* is conceived as the degree to which an entity is able to formulate and articulate internally consistent policy preferences.

First, is the EU *recognised* as an international actor? Recognition is either *de jure* or *de facto* (Jupille and Caporaso 1998, 215-216). The first type implies diplomatic recognition under international law or formal membership in international organisations and it is automatically conferred to states. In the case of the EU, however, *de jure* recognition is discretionary, given that it is not a sovereign state. Formal OI membership is also problematic for the EU, with third parties being often confused about whether it is the EU or its member states that have competences in the issue at stake. On the contrary, EU *de facto* recognition means that a third party chooses to interact with the EU rather than with the individual member states (*idem*). EU's instrumentality for third parties is, the authors conclude, a sufficient condition that the EU be recognised as an international actor. The preliminary considerations on the institutional setup in international climate negotiations have disclosed a hybrid situation: on one hand, the European Community has been conferred a special status of Regional Economic Integration Organisation (REIO), which enables it to participate in multilateral environmental agreements alongside with the EU member states; on the other hand, however, the EC enjoys a mere observer status within the UN structure. This state of affairs indicates a paradoxical situation where the ambivalent role of the Union has not prevented it to be active in multilateral negotiations.

It is beyond any doubt that the EU is recognised as an international actor in the climate change discussions. It has acted as a leading one in the UNFCCC and Kyoto negotiations, convincing other third parties to join the agreement. Moreover, the EU is a recognised actor by a myriad of environmental non-governmental organisations (ENGOS), private-interest groups and the media that make use various access channels to further their interests relative to climate change. In this respect, the partnership of the EU with major ENGOS like Greenpeace or WWF has been essential for the 'saving' of the Kyoto Protocol (Groenleer and van Schaik 2007, 987-88).

Second, is the EU endowed with the *authority* to act internationally? Authority meaning legal competence in a particular area, the EU has competence as far as the Treaties confer it. In the environmental sector, the EU gained authority to act externally in three ways: (a) by including environmental issues in related policy domains, like trade policy; (b) through the European Court of Justice's activist jurisprudence that established a parallelism between EU's internal and external powers; (c) through EU's express authority

offered by the treaties to conclude environmental agreements with third parties (Jupille and Caporaso 1998, 216-17). As analysed earlier, the Council has been delegated to conduct international climate change negotiations, assisted by the Commission and the incoming Presidency.

Third, is the EU *autonomous* to act internationally? When autonomy is taken to signify both institutional distinctiveness and independence from others (member states), it implies that one needs to evaluate the degree in which the EU acts as a coherent ‘corporate’ actor rather than the sum of its parts (ibidem, 217). Although at a first glance EU autonomy might look unproblematic – given its institutional setup, treaty-based competences, etc. – the key difficulty is to grasp the nature and extent of its real political authority in a given context. To be more specific, take the environmental mixed agreements (between the EC, one or more member states and one or more third parties) for which the exact actors are not established ahead of time and which often lead to negotiation-within-negotiation in order to address the exact competences of each actor. This situation is also replicated in climate change negotiations, where the EU delegation is composed of the 26 member states representatives headed by the Presidency and assisted by the Commission. The delegation has first to agree over a common position among its members and subsequently negotiate with the other interlocutors. Inconsistencies between the interests and preferences of the 27 member states may lead to time-consuming and inflexible behaviour that more often than not spells difficulty in evaluating the EU as a unitary actor (Vogler 2005). Beyond the negotiation phase, the pre-negotiation institutional setup as well as the post-negotiation mechanism of domestic transposition and implementation imply a multi-level representation of interests where the autonomy of the EU is difficult to grasp with precision.

Finally, does the EU have the internal *cohesion* that allows it to act internationally? Cohesion is a mobile virtue and a slippery concept. It can be understood in three separate ways: (a) as value cohesion, similarity of basic goals; (b) as procedural cohesion, consensus on the rules and procedures used in the decision-making process (like the qualified majority voting; and (c) as output cohesion, the success of formulating policy outcomes (it depends on the first two types, and when present, it enhances them) (Jupille and Caporaso 1998). The analysis of EU’s domestic climate policy allows a positive evaluation of the first two elements; the EU burden-sharing commitment stand as the best illustration. Concerning output cohesion, however, the situation is problematic as the 27 EU member states display different levels of performance in their complying with the Kyoto targets imposed. Although the current low level of harmonisation of the climate policy at EU level may spell a feeble degree of output cohesion, it should be kept in mind that the implementation of most mitigation measures are still in their early years.

Several of the abovementioned considerations will be further discussed in order to provide a more nuanced perspective of EU’s international actorness and environmental leadership. Although a systematic evaluation underpinned by a multi-factor grid will be provided for EU’s environmental leadership, it should be taken as read that all factors are applicable to EU’s international actorness as well. The conclusion of the section will indicate the degree in which the EU performs as a mere international player or as an actual leader.

### 2.3. *Types of environmental leadership: A conceptual clarification*

Environmental leadership is a multi-faceted concept that has been pinned down by a growing body of literature in International Relations. Authors have attempted to encapsulate the plurality of dimensions within various typologies. Five categories emerge: *structural* leadership, *directional* leadership, *instrumental* leadership, *entrepreneurial* leadership and *intellectual* leadership<sup>63</sup>. Arguably, what these dimensions have in common is their relative and positive connotation. Therefore, leadership in climate change exists insofar as an actor’s action ‘leads into the direction of strengthened climate protection, which is increasingly accepted as a commonly shared objective of humankind’ (Oberthür 2007, 78).

*Structural* (or power-based) leadership ‘relies on the ability to deploy threats and promises, affecting the incentives of others to accept one’s own terms’ (Andresen and Agrawala 2002, 42). Insofar as a structural leader follows its own interest, it ‘has to go together with some notion of common interest to qualify as leadership’ (idem).

The *directional* leader uses the ‘teach by example’ strategy. In so doing, this type of leader ‘demonstrates through domestic implementation that a goal is achievable and attempts to shape how negotiators perceive the issues under consideration and think about solutions’ (Gupta and Ringius 2001, 282). However, symbolic action cannot be taken as a sign of directional leadership, as ‘some sacrifice has to be made to make it credible’ (Underdal 1991, cited in Andresen and Agrawala 2002, 42).

An *instrumental* leader seeks to find solutions to common problems and tries to convince the others about the merits of a particular choice (Underdal 1991, *idem*). The instrumental leader ‘uses issue-linkage and coalition-building and puts emphasis on integrative rather than distributive bargaining’ (Gupta and Ringius 2001, 282). *Entrepreneurial* leadership can be understood as a variant of instrumental leadership. The entrepreneurial leader employs ‘negotiating skills to cast issues in ways that facilitate integrative bargaining and to broker interests so as to build consensus around the choice of a preferred institutional arrangement’ (Young 1994, 45; Oberthür 2007, 78).

*Intellectual* leaders ‘provide systems of thought that offer a coherent analytic framework within which to think about the formation of regimes to deal with international problems’ (Young 1994, 45). Intellectual leadership is reserved to members of the scientific community, such as the Intergovernmental Panel on Climate Change or the European Environment Agency. The EU does not qualify as an intellectual leader *per se*, but its role as an instrumental leader is enhanced by its reliance on scientific expert groups.

Which type of leader would the EU embody? To be sure, EU leadership in international climate policy is a dynamic, context-dependent and composite reality. In order to detect the degree and the type of leadership that the EU may exert in the climate arena, a range of factors will be analysed.

#### 2.4. Factors behind EU’s proclaimed environmental leadership

In this section I intend to challenge the statement that ‘EU leadership in international climate policy over the past 15 years or so has remained largely unrivalled’ (Oberthür 2007, 79). In so doing, I have selected the most relevant variables that indicate to which extent the EU can be labelled ‘the world’s greenest diplomat’: (a) formal policy commitments; (b) key actors (institutions, member states and other participants); (c) multi-level governance; (d) the external context; (e) resources and (f) rhetoric.

##### 2.4.1. Formal policy commitments

Having ratified both the UNFCCC and the Kyoto Protocol and subscribed to a burden-sharing agreement in order to reach the emissions reduction ceiling, the EU has not been hesitant to develop its own mitigation instruments. Although this factor is the very first indicator of the EU’s willingness to play an important role on the climate agenda, it needs no further development here, its specific commitments and achievements are evident by now.

##### 2.4.2. Key actors

One commentator notes that the ‘pro-climate alliance’ that has formed ‘across all decision-making levels of the EU system’ is ‘an important factor that makes the current EU climate policy difficult to reverse’ (Hovi et al 2003, 12). This section will analyse the composition of this pro-climate alliance in terms of the EU institutional structure and of the plurality of actors that revolve around it.

###### 2.4.2.1. Institutional actors

Insofar as the institutional architecture in international climate negotiations has been analysed previously, it is now time to inquire into its implications on EU’s standing as an international actor/ leader.

First of all, the complexity of the institutional setup in climate negotiations has often triggered coordination difficulties between the members of the delegation. There are two levels of negotiation within the EU group: the first is between the member states, headed by the Presidency, who need to agree on a common position before attending negotiations with third parties. Agreeing on a common position

has been biased by conflicting interests, spelling an intricate, time-consuming and inflexible style of negotiation (Elgström and Strömvik 2005, 119). The process of reaching internal agreement in Council sessions relies on consensus. More often than not, internal bargaining has yielded a lowest common denominator position, meaning that the EU has been ‘a convoy moving at the speed of the slowest vessel’ (Vogler 1999, 40, cited in Elgström and Strömvik 2005, 119). Second, negotiations between the EU troika and third parties have not been always smooth. Despite its common position agreed, there have been ‘temptations for individual member states to indulge in unofficial bilateral contacts with negotiating partners’ (Vogler 2005, 841). Such was the case of the British representatives that attempted to use their affinities with the United States to obtain the latter’s acceptance to join the climate regime (idem; Grubb and Yamin 2001, cited in Lacasta et al 2007, 217). Furthermore, as the bargaining process is extremely dynamic and to a certain extent unpredictable, the EU has to adjust its position quickly according to the positions adopted by other parties. This had a negative impact on the sometimes fragile equilibrium of the delegation.

A key factor in the success of international climate negotiations is the country holding the Presidency. History has shown that small member states are more efficient in reaching consensus with the EU delegation; such was the case within the Swedish and Belgian Presidencies in the 2001 round of negotiations (Lacasta et al 2007, 216). Conversely, bigger states are inclined to prioritise their own national interests and display an inflexible attitude towards the other member states’ interests and positions. This was the case of France in 2000, which not only pushed for its own agenda, but it also ‘reluctantly watched the UK unilaterally enter into tentative negotiations with the US’ (ibidem, 217).

Another impediment for the efficiency of EU’s position as a negotiating partner is the system of rotating Presidency. The six-month rotating configuration of the delegation has a negative impact on the internal dimension of EU’s position in terms of coherence and stability. It also impacts negatively on the external dimension, insofar as it prevented the EU to form stable coalitions with negotiating partners (Ott and Oberthür 1999; Lacasta et al 2007).

Last but not least, the domestic climate policy setup is a driving force of EU’s international standing. As agenda-setter, the Commission (DG Environment) has been the engine of the internal development of the climate policy. With the exception of climate change, it is the Commission that leads international negotiations on behalf of the Community and member states in environmental agreements. In climate change, it has an auxiliary role, being part of the troika, which enables it to pursue its proactive agenda and assure the coherence of the climate policy. The European Parliament has also been active in supporting the climate regime. In January 2005, it passed a resolution translating the goal of keeping global warming above 2°C into concrete targets. The EU Council adopted these goals in March 2005. The Parliament’s proactive role has been a direct result of the growing representation of green parties in all member states over the last decades. As two authors note, ‘The green movement in Europe has helped create a milieu conducive to environmental leadership. Interestingly, though, it is not just green parties or social democratic parties that have accepted the need for action on climate change, but also the more conservative parties’ (Schreurs and Tiberghien 2007, 29).

In a nutshell, these considerations on EU’s institutional setup as a factor for its environmental leadership yield a contrasting evaluation. On one hand, history has proven that the EU acted as a unitary interlocutor in multilateral negotiations despite inherent internal difficulties and succeeded to translate international regime advancements into domestic policy strategies. On the other, the plurality of interests that meet behind closed doors and at the table of negotiations has served as an obstacle to the coherence and efficiency of EU’s bargaining position.

#### 2.4.2.2. Member states

The national dimension is the key that deciphers not only the heterogeneity of individual positions with the EU group, but it also accounts for the latter’s overall performance. Analysing the EU position on climate change through a magnifying glass reveals a dissonant image rather than uniform paintwork. The sheer size and composition of the EU obviously translate into a variety of economic settings that equals disparities in emissions characteristics and reduction capability and costs; a variety of natural

characteristics and infrastructure configurations that spells differences in climate impacts, vulnerability and adaptive capacities; and a variety of political interest that bias agreements on a common goal. Furthermore, in terms of external representation, the EU does not represent an entirely unitary block as several EU member states belong to other groups and coalitions under the UN framework. To be precise, Cyprus and Malta are non-Annex I parties, whereas the rest of the EU members are all Annex I countries; Cyprus also belongs to the Asian Group; furthermore, Annex I group includes the EIT (economies in transition) subgroup that roughly corresponds to the new entrants.

The historical record of EU's performance in international climate negotiations allows for a behavioural typology of its member states: 'lead states', 'support states', 'swing states' and 'veto states' (Manners 2000, cited in Lacasta et al 2007, 219). These categories are by no means static: countries have altered their behaviour over time, from veto positions to leadership behaviour. Such was the case of the UK, whose behaviour shifted from convinced Eurosceptic under Major to a lead state under Blair (Lacasta et al 2007, 219).

#### 2.4.2.3. Other participants

*Experts.* Science forms the backbone of the climate change regime, as it has provided elements of understanding on the phenomenon of global warming, on its causes and impacts. The creation of the Intergovernmental Panel on Climate Change has marked an essential step in the development of the climate regime. As one author remarks, 'the level of political involvement by scientists in the climate change issue is unprecedented in international politics' (Litfin 1994, cited in Newell 2000, 42). However, the degree of scientific uncertainty that still surrounds climate change, especially for predictions, triggered a hesitant policy response. With the accumulation of information on global warming and with technological advances that allow more accurate estimations, there is a fairly strong scientific consensus on the causes of global warming. Therefore, scientific data has been integrated with less suspicion into the policy agenda. Nevertheless, the scientific community should not be regarded as being deaf to political voices. The intrinsic uncertainties that still revolve around this issue allow, more often than not, for political bias. Climate change may be one of the best examples where the thin line between the objectivity of science and the subjectivity of political views is sometimes difficult to grasp.

*NGOs* have traditionally been supportive of concrete action in the climate change policy, but their real contribution to its development may sometimes be overstated. Although they have been formally acknowledged as interlocutors in policy-making, as they have been accepted as observers in climate negotiating sessions, NGOs participate in the regime rather through informal channels. NGO constituencies can be divided into five major groups: environmental NGOs (ENGOs), business and industry NGOs (BINGOs), local government and municipal authorities (LGMAs), indigenous peoples organisations (IPOs) and research and independent NGOs (RINGOs) (Yamin and Delpledge 2004, 49). The members of the ENGO community compose the Climate Action Network (CAN), established in 1989 and recognised by the UN Secretariat as the ENGO coordinator (ibidem, 50). Organised in regional offices (CAN Europe, for instance), and with some 340 members from more than eighty countries, CAN contributes to the development of the climate regime through providing policy advice and information, lobbying government representatives at negotiations, making interventions at debates, holding side events and working with the media, monitoring commitments and delegations, assisting the process of implementation, and organising public awareness campaigns (ibidem, 51; Raustiala 1997, 2001). In Europe, the so-called Green 9 Group of environmental NGOs<sup>64</sup> has gained advisory status in EU decision-making.

*Industrial and business lobbies* are informally divided into two categories: 'green' and 'grey' lobbies. Whereas 'green' lobbies are represented by insurance companies or industries that deal with renewable energy, 'grey' lobbies comprise fossil fuel industries, such as automobile, coal, and other energy intensive companies (Yamin and Delpledge 2004, 52). Naturally, the 'grey' lobbies have been strong supporters of weak mitigation policies and contributed to governmental hesitation towards emissions cuts. Their influence has been notable 'because of the crucial role boards and managers exercise over the production, investment and employment decisions which shape the economic and political environment in which governments make policy'<sup>65</sup>. Industrial and business groups are also recognised as participants in the

climate regime: in the EU, the European Climate Change Programme was designed as ‘a multi-stakeholder consultative process’ designed to ‘identify and develop all those elements of a European Climate Change Strategy that are necessary for the implementation of the Kyoto Protocol’ (Commission 2000, Annex 2, 8).

*Public opinion.* In terms of the European public perception on environmental issues, the quasi-totality of Europeans attaches great importance to the protection of the environment, as the 2008 Special Eurobarometer illustrates (Commission 2008; see also Annex 6). A hierarchy of global environmental concerns places climate change on a leading position (57%), followed by water (42%) and air (40%) pollution. Europeans tend to ascribe the EU with a high level of responsibility for environmental protection, as 82% agree that European environmental legislation is necessary, 80% believe that the EU should assist non-EU countries to improve their environmental standards and 78% would accept increased EU funding for environmental protection even if it came at the expense of other areas (Commission 2008, 48). These figures indicate that Europeans are in favour of common policies aimed at tackling common issues, such as climate change. Furthermore, as the state of the environment has a great impact on their quality of life, Europeans prioritise environmental preservation over economic aspects. Insofar as a crashing majority of Europeans feel that they are personally responsible for the fate of the environment, their actual behaviour shows rather the contrary, with only a feeble majority proving greenly active: 17% use their car less and opt for environmentally sensible consumption (in terms of buying environmentally friendly products or locally produced products).

#### *2.4.3. Multi-level governance*

The EU is a multi-level system which implies a wide range of actors (public and private, institutional and non-institutional, national and transnational, political, social and economic) interacting on various levels (regional, national and transnational). The interactions and relationships that are established are rather fluctuant than stable, interest-based rather than constant, issue-focused and sectoral. Another essential feature of the EU is that it provides a unique instance of network governance. A key attribute of networking is informality, defined as ‘the operation of networks of individual and collective, public and private actors pursuing common goals [...] through regular though non-codified and not publicly sanctioned exchanges in the institutional context of the European Union’ (Christiansen et al. 2003, 7). Transcending institutional boundaries and formal codes, networks are the glue that links the levels of interaction and assures constant exchanges between participants. Therefore, negotiation is a constant feature of the EU system of governance, which can be pictured as ‘multilateral inter-bureaucratic negotiation marathon’ (Kohler-Koch 1995, 181).

The multi-level governance configuration of the EU allows for a number of advantages for its Euro-representatives in international climate negotiations: their skills are formed within a culture of bargaining, networking and informality. As one author explains, ‘All the skills of coalition-building, of balancing and shifting alliances, of bartering, of persuasion and of manipulation are essential in the postmodern diplomatic garden-party of the EU’ (Janning 2005, 822). Furthermore, the multi-level character of EU governance allows for competitive leadership and mutual reinforcement insofar as multiple leaders work to reinforce each other’s goals and actions (Schreurs and Tiberghien 2007, 21). The shared competence in the domestic climate policy breeds competitive governance, where actors seek multiple points to exercise their power.

#### *2.4.4. Resources*

The economic weight of the EU is one of the prerequisites of its presence on the international stage. The EU is the world’s largest exporter and second largest importer of merchandise goods and the world’s lead aid donor. This empowers the EU with a structurally based power to negotiate and act internationally.

#### *2.4.5. External factors*

The external environment has been determinant of EU’s actorness in the climate regime. Although the external factors that shaped EU’s position in multilateral negotiations are multiple, there is one major



condition that allowed the EU to take the lead: the reluctant position of the United States that culminated with its withdrawal from the Kyoto Protocol in 2001. The reservations of the US with regard to the global climate agreement provided the EU with a ‘window of opportunity’ for EU leadership (Bang et al 2005a, 5). The exit of the US has prompted the EU to seek further support for the ratification Kyoto agreement, especially from the hesitant ‘Gang of Four’: Australia, Canada, Japan and Russia.

The declared reasons for the US rejection of Kyoto polarised along two lines: concerns that mitigation policies would have a negative economic impact for the largely fossil fuel-based industry and the requirement that developing countries (G77 and China) should also take commitments under the Protocol. Therefore, US approaches to climate change rely on research and development policies, dynamic targets (as opposed to Kyoto absolute targets) and safety valves (an unlimited number of emissions permits are offered by the government when the market price for permits reaches a predetermined level, at the same price) (Bang et al 2005b).

The transatlantic climate divide represents a major challenge to the EU leadership ambitions. Insofar as EU’s domestic performance on the Kyoto Protocol will have symbolic effects in terms of credibility, its diplomatic effort to bring the US into the climate deal will provide the test case of its actual leadership qualities.

#### 2.4.6. *Discourse*

The EU has always made use of a strong green rhetoric with respect to climate change action. A recent Commission Communication proposes that the EU should pursue the objective of 30% emissions reduction by developed countries by 2020. Furthermore, it states that the EU should take on a firm independent commitment to achieve at least a 20% reduction of GHG emissions by 2020. (Commission 2007c, 2). The Commission is convinced that ‘this approach will allow the EU to demonstrate international leadership on climate issues’ (idem) and ‘will allow the EU to show the way in the international negotiations’ (Commission 2007c, 5). Commissioner Dimas, responsible for the environment policy area, also pleads for European leadership in climate talks: ‘We have clear political commitments from Europe’s leaders to make the fight against climate change a top priority’ (Dimas 2007, 3). Rhetoric may prove a valuable diplomatic asset for the EU, but the gap between discourse and reality, however, may turn against EU’s noble aspirations, revealing nothing but ‘self-congratulatory talk’ over its climate leadership (The Economist, March 19 2008).

#### 2.5. *Environmental leader or paper tiger?*

All things considered, is EU’s environmental leadership an accurate description of its role as an international player, or is it rather an empty rhetorical device? The premise from which my analysis departed was that EU’s prospects for environmental leadership in the climate regime were conditioned by its international actorness. Underpinned by four elements – recognition, authority, autonomy and cohesion – EU’s international actorness appears to be an accurate account of the Union’s standing in world politics. The variables against which I have attempted to measure EU’s leadership in the climate arena disclose a rather contrasting picture. To be sure, environmental leadership is a dynamic, context-dependent and composite reality, and the EU has taken up this position in a non-linear fashion. However, a synthetic image captures the EU in three leadership instances: structural, directional and instrumental.

The EU can be understood as a *structural* leader due to its economic and political weight in international affairs. Being recognised as an autonomous actor that is able to use incentives – ‘carrots and sticks’ – to induce compliance, the EU’s structurally based power is translated into perceived influence. ‘The ecological and economic presence of the European Union has provided the basis for extensive influence in the politics of the global environment’ (Vogler 2005, 848).

The EU can also qualify as a *directional* leader insofar as it is willing to set an example by adopting a clear climate change strategy. EU’s directional leadership is supported by the fact that it deploys the most advanced domestic climate policy in the world, in accordance with the international agreement. However,

the accomplishment of this role can be adequately assessed against EU's actual performance in observing its commitments.

The EU fits the *instrumental* leadership category as it has successfully employed environmental diplomacy to drive the climate agreement forward. According to an author, 'It was important that the EU took the lead. Otherwise, the fate of the Protocol would have been far more uncertain' (Hovi et al 2003, 19). Two points of doubt overshadow its performance as an instrumental leader: one, its manifest difficulty to forge consensus quickly within its own courtyard due to institutional complexity and interest diversity; and two, its failure to persuade the US, the single greatest emitter, to join the climate club.

The EU has undoubtedly been the keenest supporter of the climate regime and managed to transmit a coherent message about its willingness to transpose its commitments into policy action. Nevertheless, there is a 'capability-expectations gap' (Hill, 1993) that indicates a mismatch between EU's willingness and aspiration as an environmental leader and its actual performance. According to optimistic estimations, the EU is on track to meet its commitments provided it implements existing and additional measures fully and quickly (EEA 2007b, 6), but the past and current situation indicates the contrary. EU's aspiration to lead by example constitutes a serious incentive to carry on with strict policy implementation. EU's delivery or failure will be of symbolic importance for its position in world politics.

The most obvious implication of EU's environmental leadership on its climate policy is the interdependence of the domestic and international dimensions. Particularly, not only has the internal climate policy developed as a response to EU's international commitments, but also the international standing of the EU depends to a great extent on its domestic performance. In this respect, climate policy is a hybrid policy issue, where the classical division of 'high' and 'low' politics no longer operates with precision. Environmental policy is a classical example of 'low' politics, where the competence belongs to the European Community, the Commission being in charge both of the initiation of domestic legislation and of international representation. The climate change policy represents a special case, where internal competences are shared and external representation is intergovernmental, and the domestic performance is causally linked to the external dimension.

Furthermore, EU's climate leadership qualifies as a foreign policy instrument. EU's representation in multilateral climate negotiations is intergovernmental, with member states seeking consensus on a common position. Although the EU often appears as a paradoxical actor – due to its internal complexity and disunity – it has, more often than not, yielded notable advances on the international agreement. As one author notes, 'It was important that the EU took the lead. Otherwise, the fate of the Protocol would have been far more uncertain' (Hovi et al 2003, 19). For this reason, EU's perceived leadership in climate fora may spillover on EU's generic presence in world affairs. The proclaimed EU climate leadership must nevertheless not be taken for granted, as it largely depends on its actual performance. While at present it is difficult to assess the effectiveness of its climate policy (the first Kyoto commitment period being 2008-2012), estimations show that the EU should press for further measures in order to meet its Kyoto targets.

Nevertheless, while climate leadership is an important element of EU's international presence, the latter can by no means be confined to the former. Arguably, it is critically difficult for the EU to impose itself as a global actor with overarching capabilities. Militarily, the EU hardly counts as a credible partner. Politically, it has rarely found a single voice, the most facile example having been provided by the insurmountable divisions in the cases of the Kosovo independence or the Iraq war. Economically, it is an influential player, as it is the world's largest exporter and second largest importer of merchandise goods, but this status is seriously challenged by emerging economic powers, such as China. Given the unequal balance of EU's capabilities in various policy areas, the EU has been keen on its climate policy as an instrument to exert influence internationally. Taking advantage of its current 'climate authority', the EU might be shaping its next big project. As one author notes, 'The EU has for some time entertained the desire to assume a bigger role as a global actor. Given its limited 'hard', military capabilities as well as economic power resources, it is not in a position to realise its global aspirations in all political fields alike. In this context, assuming a leadership position on climate change may be particularly suitable and strategically beneficial' (Oberthür 2007).

# CHAPTER 6

## Assessment: The EU Climate Change Strategy under the Lens of Multi-level Governance

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### OVERVIEW

This chapter is intended to draw the conclusions from the overall analysis of EU's climate change governance under two angles: (a) the *integrated approach* of the climate change policy that accounts for both the internal and external dimensions; and (b) the evaluation of EU's climate change policy as a *multi-level governance* model. First, by adopting an integrated approach of the climate policy, I argue that the internal and external facets of the climate policy are linked through a causal logic that works both ways: the international commitments constitute a driving factor for domestic policy implementation and development, which, in their turn, contribute to EU's international standing as a credible player. Second, I demonstrate that EU's climate change policy represents a multi-level governance model par excellence. In so doing, I select the most important postulates of the multi-level approach as evaluation variables: (a) the plurality of levels and participants; (b) policy networks; (c) epistemic communities; and (d) the soft modes of governance.

## 1. An integrated approach of the EU climate change policy

In order to offer a synthetic overview of the EU climate change strategy analysed in Chapters 4 and 5, I allow for three pivotal considerations to emerge:

(1) *An integrated approach of the EU climate change policy.* Placing the EU climate change strategy in an integrated approach signifies that the domestic and the external dimensions of the climate policy are the two facets of the same coin. It is evident from the preceding analysis that the internal climate policy of the EU developed as a consequence of the Union's commitments to the international climate regime. The European Community and its member states have ratified the UN Framework Convention on Climate Change without the EU having a concrete internal policy of its own. It was with the coming into being of the Kyoto Protocol that the EU found its motivation to transform the patchy work on climate change into a coherent policy strategy. The EU climate policy has developed within the European Climate Change Programme (ECCP), a multi-stakeholder consultative process designed to identify and develop the necessary measures for the implementation of the Kyoto Protocol. Build around two dimensions – mitigation and adaptation – the EU climate policy can be viewed as a policy mix that illustrates the shift from traditional command and control regulation to soft governance modes, incarnated by new environmental policy instruments (NEPI). The prototype of this hybrid architecture is the EU Emissions Trading System (EU ETS) which, relying on a binding legal foundation, is essentially a market-based initiative aimed to assist the EU member states to achieve their Kyoto commitments.

The integrated approach of the climate change policy that emphasises the interdependency of domestic and international dimensions assumes that a high degree of policy diffusion operates from the international to the internal realm. International agreements are vehicles of policy diffusion through the specific commitments that need to be transposed domestically by the parties; through the provision of incentives to implement particular measures and policies or to employ a specific policy instrument (such as CDM or JI, as discussed previously); or simply through their ability to induce learning processes at national level (Oberthür and Tänzler 2007, 256). For this reason, the international climate regime exerts a 'compliance pull' on its participants, either through compulsory commitments or through flexible options, both of which operating to assure compliance.

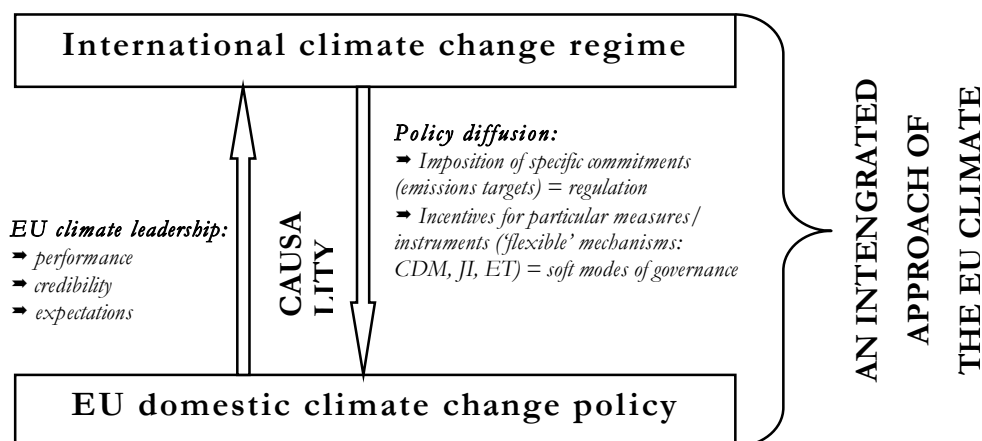


Figure 6.1. An integrated approach of the EU climate change strategy

*(2) EU's leadership in the global climate change regime.* The EU can be rightfully acknowledged as a leading actor in the development of the international climate regime. This conclusion is supported by the preponderantly positive evaluation of a range of variables relevant for its international climate actorness: first, the EU has ratified all major multilateral climate agreements and employed its specific diplomatic assets to convince other countries to join; second, the EU transposed its international commitments into domestic policies; third, EU's proactive attitude has been supported by a wide range of actors that operate within its multi-level governance architecture. Conversely, the effectiveness and credibility of the Union's actorness has been at times hindered by the complex, multi-level, multi-actor and multi-interest institutional setting where internal consensus on a common position has proved time-consuming and inflexible.

*(3) Transgressing the 'low' and 'high' politics divide.* Given its international actorness in the climate regime, EU's climate change policy has developed less as a classical 'low' politics issue like the other environmental sectors. Closely linked to the international climate regime, the EU climate policy has a strong 'high' politics character. For this reason, EU's climate strategy is a hybrid policy issue, where the classical division of 'high' and 'low' politics no longer operates with precision. Environmental policy is a classical example of 'low' politics, where the competence belongs to the European Community, the Commission being in charge both of the initiation of domestic legislation and of international representation. The climate change policy represents a special case, where internal competences are shared and external representation is intergovernmental, and the domestic performance is causally linked to the external dimension. From this perspective, it constitutes a counter-argument case for the statement that the multi-level governance approach is sound if applied to areas of 'low' politics and not to the realm of 'high' politics.

## 2. The EU climate change policy under the lens of multi-level governance

As discussed in the first chapter, the multi-level governance approach focuses on systems and processes of governance involving institutions and actors belonging to different levels (regional, national, supranational, transnational). It captures institutional relationships under a network perspective, emphasizing a negotiating and deliberative order. This approach lends it attention to the activity of non-state actors (private or public interest-oriented) that take part in governance process; it also accounts for the variable constellations of coalitions that these groups may form. Multi-level governance rejects solely intergovernmental relations as the engine of policy-making and is opposed to a strictly hierarchical order of governance. It prefers a broad understanding of the policy-making rules, taking also into account the informal character of actor interactions, the flexibility of governance instruments and permeability of arenas.

This section is intended to superpose the climate change policy on the theoretical framework examined in the first chapter of this research. In so doing, I have selected the most relevant features of the multi-level governance approach: (a) the plurality of levels and participants; (b) policy networks; (c) epistemic communities; (d) soft modes of governance. The purpose is to address the question, Is the multi-level governance model an accurate description of the climate change policy?

### 2.1. *Plurality of levels and participants*

The proponents of the multi-level governance approach single out the plurality of levels and participants as the essential feature of EU governance. The multi-tiered system implies tremendous complexity, with a diverse set of actors (public and private, institutional and non-institutional, national and transnational, political, social and economic) interacting on various levels (regional, national, transnational). These relationships are rather fluctuant than stable, interest-based rather than constant, issue-focused and sectoral.

Is the multi-level and multi-actor architecture characteristic of the EU climate change policy? Decidedly so, as the climate policy is articulated along all levels of governance:

- (a) *International:* in accordance with the global climate regime, and more precisely with the UNFCCC and the Kyoto Protocol;

- (b) *European*: in accordance with the Community policy that needs to be implemented by member states;
- (c) *National, regional and local*: in accordance with international and Community commitments, as member states (EU-15) have common commitments (burden-sharing) as well as and individual ones under the UNFCCC and Kyoto; additionally, national climate policies may vary among member states depending on their respective political choices, natural, economic and social conditions, as well as on their specific vulnerabilities to climate variations.

When discussing levels of climate governance, the logic of ‘Think globally and act locally’ becomes evident: insofar as climate change is a global phenomenon, its impacts localised. Extreme weather events, temperature rise or decline, species extinction, ice melt, etc. are phenomena that take place across multiple but relatively restraint areas. For this reason, mitigation and adaptation policies must be designed in accordance with conditions and vulnerabilities specific for precise locations. In this respect, regional and local design, implementation and monitoring are vital for the success or failure of measures taken. With its focus on the roles of subnational actors, the multi-level approach has a high explanatory value in the case of climate change policy.

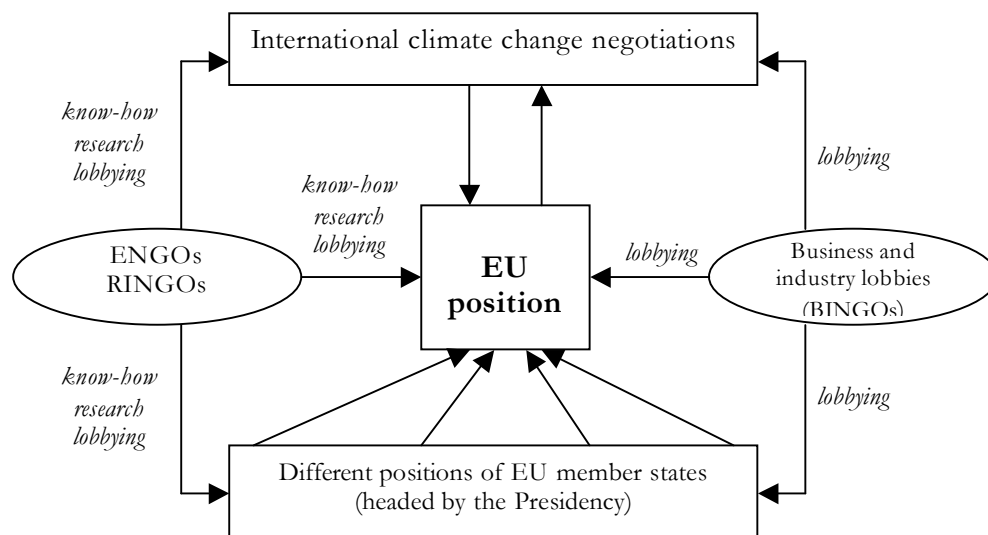
Concerning climate governance participants, this work has offered broad insight about the interactions between institutional and non-institutional actors in the domestic and international realms. In a synoptic overview, the participants that shape the EU climate change policy are:

- (a) *Institutional actors*: The domestic climate change policy falls under the shared competence of member states and European institutions. The proliferation of institutional actors in European environmental governance has been a gradual and cumulative process, brought by the Single European Act that instituted three major principles: subsidiarity, proportionality and shared responsibility. With the subsequent revisions of the Treaties, the institutions have become increasingly important in the development of EU’s environmental agenda. As the formal agenda-setter, legislation initiator and implementation supervisor, the *Commission* (DG Environment) plays a crucial role on the configuration of environmental policy. The importance of the *European Parliament* (Environment Committee) has been enhanced with the expansion of qualified majority voting on environmental issues in the Council. Although there are a number of areas where unanimity is required, the codecision procedure with qualified majority now constitutes ordinary practice. The Parliament’s ability to alter environmental legislation reflects its role as ‘conditional agenda-setter’ (Weale et al 2003, 92-93), strengthened by the increasing green party activism both at European and at national level. Together with the formal competences it acquired over time, the Parliament makes use of informal channels at its disposal to influence the policy-making process: ‘a shared inter-institutional ethos between Committee members and Commission staff has served to enhance the informal exercise of parliamentary influence over the EC environmental legislation’ (Judge et al 1994, 33, cited in Weale et al 2003, 93). The *Council of Ministers* is the last chain in the environmental legislating process which it approves either by unanimity, either by qualified majority. The Council represents the ‘battle ground’ of national interests. It is national preferences that influence the pace of the climate change policy. Given the heterogeneity of natural and economic conditions that breed diverging political options, it is reasonable to assume that the development of EU’s climate policy has been influenced by the tensions and the competition between leading member states: ‘the European system of environmental governance provides a stage on to which various national concerns are displaced. Although statehood is being transformed, it still remains central to our understanding of European environmental policy’ (Weale et al 2003, 447).

The EU *foreign* climate change policy is articulated by an intergovernmental logic, as member states are in charge of negotiating a common position. The six-month rotating Presidency is in charge of the coordination of the EU delegation and the representation of the European Community and its member states in multilateral negotiations. Assisted by the Commission and the incoming Presidency, it forms a ‘troika’. As analysed in Chapter 5, the complexity of the institutional setup in climate negotiations has often triggered coordination difficulties between the members of the delegation. Negotiations on a common position take place at two levels: between

the member states and between the delegation and third parties. Agreeing on a common position has been biased by conflicting interests, spelling an intricate, time-consuming and inflexible style of negotiation that has often yielded a lowest common denominator position. Given the dynamics and the unpredictable character of the bargaining process, the EU has to adjust its position quickly according to the positions adopted by other parties, which has impacted upon the sometimes fragile equilibrium of the delegation. A key factor in the success of international climate negotiations is the Presidency; its performance and preferences on the climate agenda are therefore essential for the developments that are achieved. The system of rotating Presidency has not been favourable in terms of the coherence and stability of EU's position. It also impacts negatively on the external dimension, insofar as it prevented the EU to form stable negotiating coalitions.

- (b) *Non-state actors*: The multi-level environmental governance opens a multiplicity of opportunity channels for non-state actors to participate in the design of the climate regime. The most common non-state participants are environmental NGOs (grouped under umbrella groups like the Climate Action Network, at international level, or the Green 9, at European level), business and industrial lobbies (BINGOs) and research institutes (think tanks). The NGO community is recognised as a constitutive element of international and European climate governance, as most NGOs have consultative status in the climate regime. For its part, the Commission has been relatively supportive of the integration of non-state stakeholders into EU policy-making. Although NGOs make use of the official channels at their disposal to further their interests, it is the 'corridor diplomacy' that they excel at. According to their respective resources and priorities, non-state actors have the capacity to build coalitions or networks around key issues on the table of negotiations; these arrangements will be further analysed in the next section. In relation to the multiplicity of levels of the climate regime, it must be noted that non-state actors activate at the local and the national levels (supervising and assisting policy implementation; providing assessment reports; raising public awareness), the European and the international levels (lobbying the EU institutions – the Commission and the Parliament – in early stages of the policy making process, during agenda-setting and policy-shaping; providing policy recommendations and assessment reports; monitoring international negotiations and government commitments; organising side events during international summits and briefing in the media).



**Figure 6.2. Multi-level international climate change negotiations**

Adapted after Jung et al 2007, 240

## 2.2. Policy networks

Policy networks have been conceptualised as models or tools for the analysis of the relationships, dependencies and dynamics between actors that co-ordinate their actions through interdependencies of resources and interests. According to Benson, policy networks represent 'a cluster or complex of organisations connected to each other by resource dependencies and distinguished from other clusters or complexes by breaks in the structure of resource dependence' (1982, 182). At EU level, policy networks become increasingly active in the policy-shaping phase of the policy cycle. A key attribute of networking is informality, defined as 'the operation of networks of individual and collective, public and private actors pursuing common goals [...] through regular though non-codified and not publicly sanctioned exchanges in the institutional context of the European Union' (Christiansen et al. 2003, 7). Informal interactions take place outside official arenas, 'around the edges' of the EU institutions (Wincott 2003, 233), bypass institutional practices, and are pursued 'in the shadow of hierarchy'. At international level, policy networks are formed during climate negotiations around issue areas and according to interests for particular policy options.

In the case of climate change governance, both at European and international levels, policy networks tend to polarise around two main positions: (a) favourable to stringent commitments and (b) favourable to the broadest approach possible, culminating with 'non-decision-making', that is, the absence of political action altogether (Newell 2000, 118). While governments are the principal actors of the confrontation, their interests are supported and strengthened – or opposed and weakened – by complex policy networks that bring together ENGOs, industrial and business lobby groups, research organisations and the media.

Policy networks that have traditionally been supportive of the climate regime, and in particular of the specific commitments set out in the Kyoto Protocol, are composed of ENGOs, research institutes and the media. Their activities revolve around the decision-making centres, namely EU institutions or the multilateral negotiations fora. The climate change agenda remains a contested policy area, where scientific uncertainty lingers and where powerful economic interests dominate decision-making. Against this background, the pro-climate policy networks are by no means unitary in their vision and solutions. The most important division line is between groups from North and South who stand for divergent approaches to commitments, responsibilities, equity considerations, etc. and underline the same North-South division that characterises governmental negotiations. Furthermore, the sheer breadth of the global warming agenda determines difficulties for the effectiveness of coverage for NGOs. With a view to coordinate their actions and to represent the widest range of interests, NGO networks such as CAN work on the basis of regional offices. Additionally, CAN members may be specialised in particular issues that relate to climate change: the World Wide Fund for Nature (WWF) climate campaign focused on biodiversity loss and Greenpeace emphasised the human dimension of climatic impacts (Newell 2000, 127).

The most important contribution of NGO policy networks resides in their ability to function as middle-ground transmitters of information. On climate change agenda, this role is bidirectional: (a) from science to politics – NGOs are able to politicise an issue not previously considered for political action or that received little political attention; in this respect, NGOs contribute to the setting of the policy agenda, pushing a policy issue for further institutionalisation; (b) from science/ politics to the public – NGOs serve as translators of scientific insight and political discourse and assist in informing and educating the public. To conclude, NGOs contribute to the formation of policy issues, generating political pressure and providing technical expertise; they monitor, assess and report commitment compliance of national governments; they inform other participants and the general public about the regime development. Consequently, NGO networks qualify as the watchdogs of the climate regime. But is their action effective or are they rather barking at the wrong tree? Although NGO contributions have been at times essential for the development of the climate regime and their constant lobbying has kept key issues on the negotiation table, their effectiveness must not be overstated. The relative uncertainty that floats around the climate change debate, the government resilience to take concrete action backed up by powerful industrial lobbies and the apparent disconnection between scientific insight and observable phenomena contribute to a low impact of NGO pro-climate activism.



The sceptical policy networks that activate in the climate regime are dominated by industrial and business lobby groups. It is evident that any mitigation measures designed to limit or abate GHG emissions have direct impacts on their activities. For this reason, industrial lobbies focus their discourse on the scientific uncertainties that characterise the climate change agenda and the negative impacts on economic activities produced by mitigation policies. The positions that compose sceptical policy networks are not uniform, as they vary along a continuum from the most conservative attitudes that seek to preserve the status quo to the more liberal approaches focusing on alternative energy technologies. The 'grey' NGOs have benefited from a 'comparative advantage' over other climate regime participants that allowed for their preferences to be better integrated in negotiation outputs. Among the factors that provided the industrial lobbies with a privileged position one author mentions (Newell 2000, 98-100): the ability to apply political pressure at every scale their interest is threatened; the relative dominance of the industry perspective by fossil fuel lobbies; the considerable experience and networking at international level facilitated by their activism in multilateral organisations such as the International Chamber of Commerce; the traditional cooperative relationships between fossil fuel lobbies that are able to subscribe easily to and support full-heartedly a common agenda; the channels of access to the highest decision-making levels; the ability to influence political decisions structurally, as 'national governments recognise their structural dependence on the economic health of key sectors' (Levy 1997, cited in Newell 2000, 100); the greater facility to stall the advancement of the climate regime in contrast with seeking an agreement under conditions of conflict of interest; the financial resources that endow lobbies with further power.

Against this background, it is reasonable to conclude that industry and business lobbies exert a considerable influence on the evolution of the climate policy, at national, European and international levels alike. To be sure, there is a certain degree of variability concerning their opposition to mitigation measures reflected by the national interests they serve, the industry they represent, the costs they may incur and the benefits they may enjoy.

### *2.3. Epistemic communities*

Policy network analysts make use of the term 'epistemic communities' to refer to 'networks of professionals with recognized expertise and competence in a particular domain, who define problems, identify compromises and supply expert arguments to justify political choices (Paterson and Bomberg 2003, 329). Valuable providers of information and technical input that is often unreachable through other channels, the members of such epistemic communities become strong players in the governance game. They can go as far as influencing state interests 'either by directly identifying them for decision-makers or by illuminating the salient dimensions of an issue from which the decision-makers may then deduce their interests' (Haas 1992, 5 cited by Richardson 2006, 18). The policy network analysis emphasizes the importance of ideas, knowledge and expertise, rather than pure interest.

The epistemic community that activates in the climate arena is identifiable with the Intergovernmental Panel on Climate Change, especially with its Working Group I (the physical science basis) and Working Group II (impacts, vulnerability and adaptation). According to the Haas model discussed in Chapter 1, epistemic communities present four specific elements: (a) a shared set of normative and principled beliefs; (b) shared causal beliefs which serve as the basis for linking possible policy actions and desired outcomes; (c) shared notions of validity; and (d) a set of common practices associated with a set of specific problems relating to their professional competence (Haas 1992, 3, cited in Richardson 2006, 17-18). Applied to the IPCC, the four-factor grid of evaluation reveals: (a) the existence of a normative consensus that mitigation measures should be taken despite remaining uncertainties and that they should be guided by the principle of differentiated responsibility; (b) the consensus on causal beliefs that global warming is largely caused by increasing anthropogenic concentrations of GHGs in the atmosphere and that, in its turn, it causes climatic changes at the surface of the Earth; (c) the common notions of validity expressed by methodologies of measuring, calculating and modelling climate change; (d) the common policy project, illustrated in the work of Working Group III (mitigation) that echoes the shared values and beliefs (Paterson 1996, 140-143).

Haas famously conceded that 'Knowledge can speak volumes to power' (2004, 587, cited in Richardson 2006, 20), and the climate change policy is the foremost illustration of how policy is built, political

discourse is shaped, consensus is created and divergences are perpetuated in an issue area that relies heavily on scientific insight. The scientific uncertainty that characterises climate change allows not only for competing, but contradictory policy options. More often than not, in the climate change debate truth seems to be in the eye of the beholder. In other words, scientific discourse can become ‘a strategic tool for policy-makers, both informing and justifying positions’ (Paterson 1996, 154). Scientific uncertainty allows for a relatively large freedom of choice for policy options from the part of the governments, from drastic measures that illegitimately impede on economic activities according to sceptics, to laissez faire attitudes that spell irresponsibility according to environmentalists.

If scientific uncertainty allows for a great variation between policy preferences, it also endows the scientific community with a special status. Over the last three decades, the science of climate change has gone through tremendous change: explanations of past and current phenomena and predictions of potential impacts are increasingly accurate due improvements in technological devices that produce data collection, measurements, estimations and scenarios. The international scientific community has therefore reduced uncertainty about global warming considerably; nevertheless, ‘grey’ areas persist. Furthermore, the epistemic community that activates in the climate regime has not only an informative role, but also a formative function: by providing scientific explanations and predictions, scientists are able to offer accurate and realistic guidance to decision-makers and facilitate consensus on the most appropriate policy options. However, as science does not emerge in a vacuum, epistemic communities are politically motivated and goal-seeking (Paterson 1996, 136). Against a blue-eyed view that scientists are a-political and neutral, it is realistic to presume that once they become part of the policy-making process they tend to develop a self-interest in maintaining their power position: ‘Since transnational contacts enhance the professional status of participants, they create strong incentives for continuing and expanding international agreements’ (Sand 1990, cited in Paterson 1996, 136).

#### *2.4. The soft modes of governance*

EU governance operates through a number of specific modes of governance, referred to throughout this work as soft modes of governance. The soft modes of EU governance are characterised by a heterarchical setup in which they emerge (as opposed to hierarchy), non-formalised, open, voluntary, cooperative, deliberative and informative procedures that secure consensual agreements (rather than majoritarian decisions), a problem-solving capacity, and a plurality of participants to their application. The emergence and development of the soft modes of governance are closely linked to the evolution of the EU as a multi-level system. Against this background, they appear as ‘non-coercive processes based on the will of the participants to agree, by way of collective deliberation, on procedural norms, modes of regulation and common political objectives and, at the same time, to preserve the diversity of national and even local experiences’ (Bruno et al. 2006, 520 cited by Caporaso and Wittenbrinck 2006, 472-3).

The soft modes governance characteristic for the environmental policy represent a group of policy approaches referred to as ‘new environmental policy instruments’ (NEPI). The most common NEPIs are market-based instruments like emissions trading, eco-taxes, environmental subsidies and incentives, liability and compensation systems, green public procurement, voluntary agreements, and environmental management and audit schemes. The increasing preference for soft governance instruments does not render regulation obsolete, as elements of regulation form the backbone of several environmental policy tools. The increased preference for incentive-based instruments is a direct consequence of EU’s institutional setup as a decentralised political system, where competences are shared between supranational institutions and national authorities, but also of the international competition and general trend toward markets that the EU has been exposed to since the 1980s (Egenhofer 2003). Similarly, mitigation efforts have developed into integrated, cross-cutting policies which combine a set of instruments with the view to create an ‘optimal’ policy mix.

In their turn, the Kyoto mechanisms also rely on the use of soft modes of governance, as the international climate regulation establishes a wide framework for mitigation measures, leaving the governments the freedom to achieve their commitments by the means of their choice. Particularly, both CDM and JI are project-based instruments that enable industrialised countries to diminish their emissions by financing the

implementation of environmentally friendly projects either in developing countries (CDM) or in other Annex I countries (JI).

### *2.5. Concluding remarks*

The scrutiny of these four elements proper to the multi-level governance conceptualisation of the EU policy-making yields a positive evaluation in terms of the compatibility between this specific theoretical framework and the EU climate policy. To be sure, the four defining features are not only interconnected, but they also hint at other elements that form the backbone of the multi-level governance approach: the diffusion of authority across scales of governance, the problem-solving capacity of the EU, the non-hierarchical decision-making, etc.

There is one argument that needs further attention: the devolution of state authority in the context of European integration. Although multi-level governance partisans do not plead for the demise of the state, they nevertheless emphasise the growing importance of other actors in the proximity of national governments that attenuate their influence and total control over the policy process. In other words, the repositioning of the nation state in the context of European integration does not imply its obsolescence, but rather its recasting from the role as the single significant player to the role as one of the team members. In the case of climate change policy, how has the role of the state been recast? The analysis provided in the preceding chapters allows me to consider that member states preserved their power over the development of the climate policy to a greater extent than preached by multi-level governance defenders.

In my view, there are at least two elements of explanation for this situation. First, the EU climate policy is hardly harmonised. The EU ETS establishes a broad framework and vague guidelines for implementation that impedes on the overall efficiency of the scheme. To be precise, there is an important asymmetry of information between industry and regulators that allowed for national governments to favour their own industries. Also, there have been differentiated implementation responses to the Emissions Trading Directive from member states, from strict implementation to protectionist positions that hindered the efficiency of the ETS. Furthermore, the different legal frameworks and procedures across member states meant that the allocation of allowances, the monitoring, validation, reporting and verification of emissions reduction did not follow the same pattern, leading to unavoidable discrepancies affecting the degree of harmonisation of the ET Directive transposition. The EU climate policy is not restricted to the EU ETS; it includes soft governance mechanisms such as voluntary agreements, environmental management systems and the like, which are well embedded in the national systems in which they operate. Concerning adaptation measures, it is likely that their pronounced local focus should enforce the local authority level and implicitly the national, to the detriment of the European level. Therefore, the low level of harmonisation of climate policy measures at EU level allows national governments to maintain a large basis of freedom in choosing the policy options they consider appropriate.

The second line of explanation builds on the 'high' politics character of the EU climate policy. As discussed, the internal climate policy developed as a result of the Union's international commitments, negotiated along intergovernmental lines. It is the member states' respective performance and interests that shape the EU's global commitments and guide the internal development of the climate policy. The high degree of intergovernmentalism that characterises the EU international climate negotiations implies a decisive role for national governments. Furthermore, the European Commission has differentiated influence in the domestic and international spheres. Whereas at Community level it proposes legislation and supervises its implementation, at international level the Commission occupies a secondary position, as it only assists the Presidency during negotiations.

It is therefore reasonable to conclude that the member states are the drivers of the climate process, both in terms of EU's common position and in terms of internal policy harmonisation and development. Going back to a theoretical argument analysed in the first chapter (Bache and Flinders 2004, 201-202), it is evident that governments remain in charge of metagovernance, as they establish the rules of the game; they control how and to what extent power should be allocated upwards, downwards or sideways to other

institutions or actors; they shape the outcomes of policy decisions by being in charge of their implementation; and they impose institutional reforms in order to alter (enhance) their strategic capacity.

## Conclusion

This research was intended to provide an analysis of the EU climate change strategy that comprises both the domestic policy and the international commitments to the global climate regime. The preceding examination has allowed three pivotal considerations to emerge:

*(1) The EU climate change strategy is a hybrid policy that can be accurately accounted for by an integrated approach.* The climate policy has principally developed as a consequence of the EU's international commitments to the UN Framework Convention on Climate Change and its Kyoto Protocol. The internal and external facets of the climate policy are linked through a causal logic that works both ways: the international commitments constitute a pull factor for domestic policy implementation and development; in its turn, effective domestic performance contributes to EU's international standing as a credible player. The hybrid nature of the EU climate policy implies that the classical division of 'high' and 'low' politics no longer operates with precision, as the internal and external dimensions are intertwined.

*(2) The EU has been developing into an environmental leader on the international climate change agenda.* The EU can be adequately comprehended as a structural, directional and instrumental leader. The EU is a structural leader due to its economic and political weight that enable it to employ incentives ('carrots and sticks') to induce compliance from other (potential) regime participants. The EU exercises directional leadership by the bias of its advanced domestic climate policy, thus seeking to teach by example. Nevertheless, the accomplishment of directional leadership highly depends on EU's concrete policy performance. The EU is an instrumental leader insofar as it makes use of its environmental diplomacy. This evaluation is supported by the preponderantly positive evaluation of a range of variables relevant for its international climate leadership: the ratification of all major multilateral climate agreements, the internal transposition of its international commitments, the wide support from the participants to its multi-level governance, the pronounced green rhetoric and a favourable external context. A clear-eyed observer would, however, not ignore the variables that impede on EU's performance as a climate leader. Arguably, the complexity of its institutional structure and the heterogeneity of interests often hinder the efficiency and optimality of the common position adopted by the EU. The diversity of national economic and political configurations, contribution and vulnerability to climate change are structural factors that encumber the harmonisation of climate policies at EU level. Furthermore, the impact of external variables on EU's climate leadership is difficult to predict. A current challenge that the EU faces is the transatlantic climate divide, whose evolution highly depends on the future US administration's willingness to join the international agreement. In an unbalanced multipolar world, the position of emerging economic 'superpowers' such as China, India or Brazil is decisive for the climate engagement. EU's willingness to implement an efficient climate strategy is of Lilliputian impact in the absence of global-scale commitments, especially from the largest emitters. Furthermore, humanitarian concerns of which the present food crisis is an instance are closely linked to how climate policy is designed, addressed and prioritised. Energy security and energy efficiency considerations largely impact on how climate mitigation is designed.

*(3) The EU climate strategy embodies an appropriate model of multi-level governance.* The multi-level governance approach singles out the plurality of levels and participants as the essential feature of EU climate governance. The multi-tiered system implies tremendous complexity, with a diverse set of actors (public and private, institutional and non-institutional, national and transnational, political, social and economic) interacting on various levels (regional, national, transnational). Relationships between levels and actors are established along formal and informal channels and often result in policy networks and coalitions. Epistemic communities are essential for the development of the climate policy, as they provide the scientific basis for policy options. Furthermore, the EU climate change policy relies heavily on 'soft' modes of governance as a preponderant alternative to regulation. However, contrary to multi-level governance postulates, the national state preserves its central role, as member states are the drivers of the climate process, both in terms of EU's common position and in terms of internal policy harmonisation and development.

Where do we go from here? Actually, we are bound to stay in place. The only thing we can do in order to provide ourselves and the future generations with a secure living place is to translate scientific insight into efficient policy options, to convert ignorance into rational awareness, and to transform political divergences into alternatives for a common solution to this global threat. Can the EU carry on with its glorious climate strategy in spite of internal and external pressures? How can the EU preserve its credibility in the face of mounting public discontentment stirred by the unprecedented peak oil prices and a recessional economy? Given the near-failure of the Lisbon Treaty after the Irish rejection, is the European project on the brink of falling apart? Can its climate activism constitute a functional legitimising argument for further political European integration? To make the case anew, this research has pleaded for an authentic potential for success of EU’s climate governance. As one author notes, ‘The EU has for some time entertained the desire to assume a bigger role as a global actor. Given its limited ‘hard’, military capabilities as well as economic power resources, it is not in a position to realise its global aspirations in all political fields alike. In this context, assuming a leadership position on climate change may be particularly suitable and strategically beneficial’ (Oberthür 2007). Acknowledging the perils of institutional frailty and exogenous impediments, the optimistic verdict that this work aims at put forth is that tackling climate change may be Union’s new *raison d’être*.

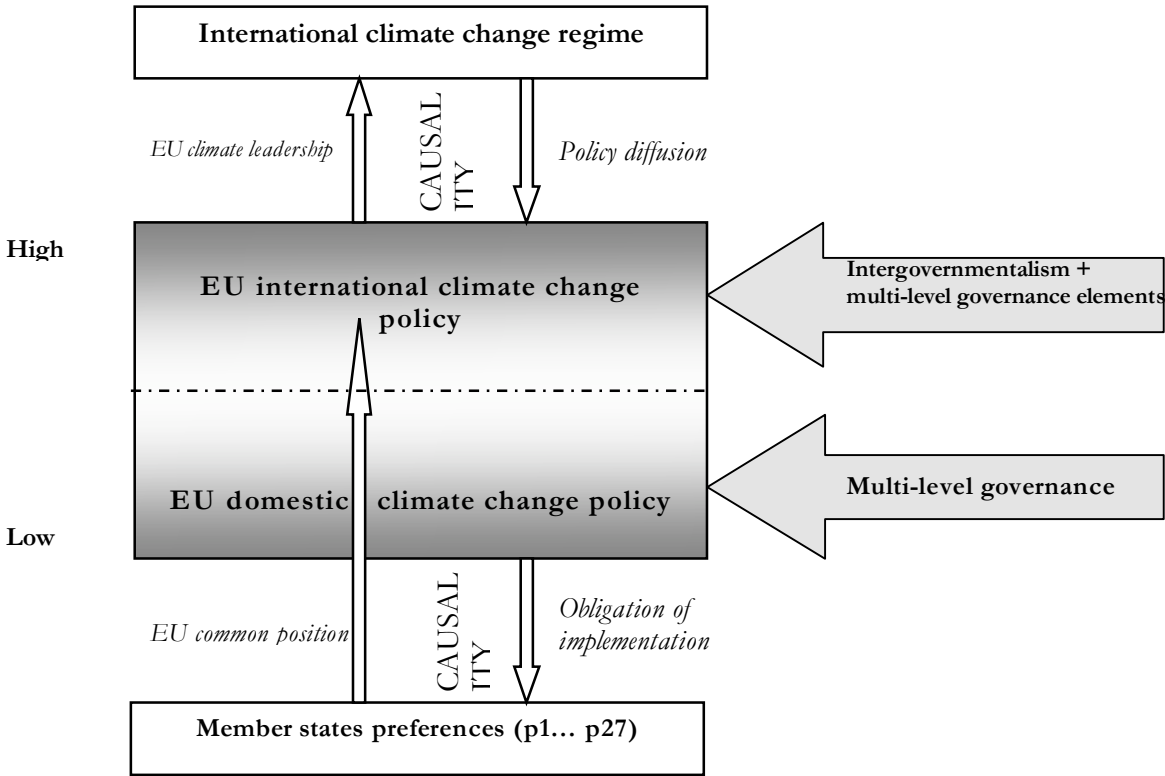


Figure 7. The EU climate change strategy under the lens of multi-level governance

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# ANNEX 1

## Excerpts from the Treaty Establishing the European Community

### TITLE XIX - ENVIRONMENT

#### *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 utilisation of natural resources,
  - promoting measures at 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.

In this context, harmonisation measures answering environmental protection requirements shall include, where appropriate, a safeguard clause allowing Member States to take provisional measures, for non-economic environmental reasons, subject to a Community inspection procedure.
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 organisations. 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.

#### *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;
  - (b) measures affecting:
    - town and country planning,
    - quantitative management of water resources or affecting, directly or indirectly, the availability of those resources,
    - land use, with the exception of waste management;
  - (c) measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply.

The Council may, under the conditions laid down in the first subparagraph, define those matters referred to in this paragraph on which decisions are to be taken by a qualified majority.

3. In other areas, general action programmes setting out priority objectives to be attained shall be adopted by 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.

The Council, acting under the terms of paragraph 1 or paragraph 2 according to the case, shall adopt the measures necessary for the implementation of these programmes.

4. Without prejudice to certain measures of a Community nature, the Member States shall finance and implement the environment policy.

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.

#### *Article 176*

The protective measures adopted pursuant to Article 175 shall not prevent any Member State from maintaining or introducing more stringent protective measures. Such measures must be compatible with this Treaty. They shall be notified to the Commission.

## ANNEX 2

### Selected examples of mitigation technologies, policies, constraints and opportunities

Source: Intergovernmental Panel on Climate Change. 2007. *Fourth Assessment Report. Climate Change 2007: Synthesis Report*. Topic 4, 5-6.

	Mitigation technologies and practices commercially available	Policies, measures and instruments shown to be environmentally effective	Constraints and opportunities
	<i>In italics: mitigation technologies and practices projected to be commercialised before 2030</i>		Normal font = constraints <i>Italics = opportunities</i>
<b>ENERGY SUPPLY</b>	<p>Improved supply and distribution efficiency; fuel switching from coal to gas; nuclear power; renewable heat and power (hydropower, solar, wind, geothermal and bioenergy); combined heat and power; early applications of Carbon Dioxide Capture and Storage (CCS) (e.g. storage of removed CO<sub>2</sub> from natural gas);</p> <p><i>CCS for gas, biomass and coal-fired electricity generating facilities; advanced nuclear power; advanced renewable energy, including tidal and wave energy, concentrating solar, and solar photovoltaics.</i></p>	<p>Reduction of fossil fuel subsidies; Taxes or carbon charges on fossil fuels</p> <p>Feed-in tariffs for renewable energy technologies; Renewable energy obligations; Producer subsidies</p>	<p>Resistance by vested interests may make them difficult to implement</p> <p><i>May be appropriate to create markets for low emissions technologies</i></p>
<b>TRANSPORT</b>	<p>More fuel efficient vehicles; hybrid vehicles; cleaner diesel vehicles; biofuels; modal shifts from road transport to rail and public transport systems; non-motorised transport (cycling, walking); land-use and transport planning;</p> <p><i>Second generation biofuels; higher efficiency aircraft; advanced electric and hybrid vehicles with more powerful and reliable batteries</i></p>	<p>Mandatory fuel economy, biofuel blending and CO<sub>2</sub> standards for road transport Taxes on vehicle purchase, registration, use and motor fuels, road and parking pricing Influence mobility needs through land use regulations, and infrastructure planning; Investment in attractive public transport facilities and non-motorised forms of transport</p>	<p>Partial coverage of vehicle fleet may limit effectiveness</p> <p>Effectiveness may drop with higher incomes</p> <p><i>Particularly appropriate for countries that are building up their transportation systems</i></p>
<b>BUILDINGS</b>	<p>Efficient lighting and daylighting; more efficient electrical appliances and heating and cooling devices; improved cook stoves, improved insulation; passive and active solar design for heating and cooling; alternative refrigeration fluids, recovery and recycling of fluorinated gases;</p> <p><i>Integrated design of commercial buildings including technologies, such as intelligent meters that provide feedback and control; solar photovoltaics integrated in buildings</i></p>	<p>Appliance standards and labelling</p> <p>Building codes and certification</p> <p>Demand-side management programmes</p> <p>Public sector leadership programmes, including procurement</p> <p>Incentives for energy service companies (ESCOs)</p>	<p>Periodic revision of standards Needed <i>Attractive for new buildings. Enforcement can be difficult</i></p> <p>Need for regulations so that utilities may profit</p> <p>Government purchasing can expand demand for energy efficient products <i>Success factor: Access to third party financing</i></p>

<b>INDUSTRY</b>	<p>More efficient end-use electrical equipment; heat and power recovery; material recycling and substitution; control of non-CO<sub>2</sub> gas emissions; and a wide array of process-specific technologies;</p> <p><i>Advanced energy efficiency; CCS for cement, ammonia, and iron manufacture; inert electrodes for aluminium manufacture</i></p>	<p>Provision of benchmark information; Performance standards; Subsidies, tax credits Tradable permits</p> <p>Voluntary agreements</p>	<p><i>May be appropriate to stimulate technology uptake. Stability of national policy important in view of international competitiveness</i></p> <p>Predictable allocation mechanisms and stable price signals important for investments</p> <p>Success factors include: clear targets, a baseline scenario, third party involvement in design and review and formal provisions of monitoring, close cooperation between government and industry</p>
<b>AGRICULTURE</b>	<p>Improved crop and grazing land management to increase soil carbon storage; restoration of cultivated peaty soils and degraded lands; improved rice cultivation techniques and livestock and manure management to reduce CH<sub>4</sub> emissions; improved nitrogen fertiliser application techniques to reduce N<sub>2</sub>O emissions; dedicated energy crops to replace fossil fuel use; improved energy efficiency; <i>Improvements of crop yields</i></p>	<p>Financial incentives and regulations for improved land management, maintaining soil carbon content, efficient use of fertilisers and irrigation</p>	<p><i>May encourage synergy with sustainable development and with reducing vulnerability to climate change, thereby overcoming barriers to implementation</i></p>
<b>FORESTRY</b>	<p>Afforestation; reforestation; forest management; reduced deforestation; harvested wood product management; use of forestry products for bioenergy to replace fossil fuel use;</p> <p><i>Tree species improvement to increase biomass productivity and carbon sequestration. Improved remote sensing technologies for analysis of vegetation/ soil carbon sequestration potential and mapping land use change</i></p>	<p>Financial incentives (national and international) to increase forest area, to reduce deforestation, and to maintain and manage forests; Land-use regulation and enforcement</p>	<p>Constraints include lack of investment capital and land tenure issues.</p> <p><i>Can help poverty alleviation</i></p>
<b>WASTE</b>	<p>Landfill CH<sub>4</sub> recovery; waste incineration with energy recovery; composting of organic waste; controlled waste water treatment; recycling and waste minimisation;</p> <p><i>Biocovers and biofilters to optimise CH<sub>4</sub> oxidation</i></p>	<p>Financial incentives for improved waste and wastewater management Renewable energy incentives or obligations</p> <p>Waste management regulations</p>	<p><i>May stimulate technology Diffusion</i></p> <p>Local availability of low-cost fuel</p> <p>Most effectively applied at national level with enforcement strategies</p>

## ANNEX 3

### Selected examples of planned adaptation strategies

Source: Source: Intergovernmental Panel on Climate Change. 2007. *Fourth Assessment Report. Climate Change 2007: Synthesis Report. Topic 4, 2.*

	Adaptation strategy	Policy framework	Constraints and opportunities (Normal font: constraints, <i>Italics</i> : <i>opportunities</i> )
<b>WATER</b>	Expanded rainwater harvesting; water storage and conservation techniques; water re-use; desalination; water-use and irrigation efficiency	National water policies and integrated water resources management; water-related hazards management	Financial, human resources and physical barriers; <i>integrated water resources management; synergies with other sectors</i>
<b>AGRICUL TURE</b>	Adjustment of planting dates and crop variety; crop relocation; improved land management, e.g. erosion control and soil protection through tree planting	R&D policies; institutional reform; land tenure and land reform; training; capacity building; crop insurance; financial incentives, e.g. subsidies and tax credits	Technological & financial constraints; access to new varieties; markets; <i>longer growing season in higher latitudes; revenues from 'new' products</i>
<b>INFRASTRUC TURE</b>	Relocation; seawalls and storm surge barriers; dune reinforcement; land acquisition and creation of marshlands/ wetlands as buffer against sea level rise and flooding; protection of existing natural barriers	Standards and regulations that integrate climate change considerations into design; land use policies; building codes; insurance	Financial and technological barriers; availability of relocation space; <i>integrated policies and managements; synergies with sustainable development goals</i>
<b>HUMAN HEALTH</b>	Heat-health action plans; emergency medical services; improved climate sensitive disease surveillance and control; safe water and improved sanitation	Public health policies that recognise climate risk; strengthened health services; regional and international cooperation	Limits to human tolerance (vulnerable groups); knowledge limitations; financial capacity; <i>upgraded health services; improved quality of life</i>
<b>TOURISM</b>	Diversification of tourism attractions & revenues; shifting ski slopes to higher altitudes and glaciers; artificial snowmaking	Integrated planning (e.g. carrying capacity; linkages with other sectors); financial incentives, e.g. subsidies and tax credits	Appeal/marketing of new attractions; financial and logistical challenges; potential adverse impact on other sectors (e.g. artificial snow-making may increase energy use); <i>revenues from 'new' attractions; involvement of wider group of stakeholders</i>
<b>TRANSPOR T</b>	Realignment/relocation; design standards and planning for roads, rail, and other infrastructure to cope with warming and drainage	Integrating climate change considerations into national transport policy; investment in R&D for special situations, e.g. permafrost areas	Financial & technological barriers; availability of less vulnerable routes; <i>improved technologies and integration with key sectors (e.g. energy)</i>
<b>ENERGY</b>	Strengthening of overhead transmission and distribution infrastructure; underground cabling for utilities; energy efficiency; use of renewable sources; reduced dependence on single sources of energy	National energy policies, regulations, and fiscal and financial incentives to encourage use of alternative sources; incorporating climate change in design standards	Access to viable alternatives; financial and technological barriers; acceptance of new technologies; <i>stimulation of new technologies; use of local resources</i>

## ANNEX 4

### Overview of implemented and planned EU policies and measures under the European Climate Change Programme (ECCP)

Source: adaptation after Commission of the European Communities. 2006. *EU Action against Climate Change. The European Climate Change Programme*, 10-21.

	Policies/ Measures	Description	Implementation
<b>CROSS-CUTTING MEASURES</b>	<b>EU emissions trading scheme</b> ( <i>Directive 2003/87/EC</i> )	An emissions trading system limiting CO <sub>2</sub> emissions from 11,500 installations in the EU's 25 Member States through the allocation of emission allowances by Member States. The allowances are tradable in order to reduce compliance costs.	Operational since 1 January 2005
	<b>Use of CDM and JI credits under the EU ETS</b> ( <i>Directive 2004/101/EC</i> )	Companies falling under the scope of the EU emissions trading scheme can use credits from the Kyoto project-based mechanisms CDM (Clean Development Mechanism) and JI (Joint Implementation) to comply with their emission limits.	Implementation due by 13 November 2005
	<b>Mechanism for monitoring GHG emissions and implementing the Kyoto Protocol in the EU</b> ( <i>Decision 280/2004/EC</i> )	New mechanism, replacing the 1993 mechanism, for monitoring and reporting greenhouse gas emissions and removals by sinks in the EU. It allows to evaluate progress accurately and regularly and to comply with the requirements under the UNFCCC and the Kyoto Protocol.	In force since 10 March 2004
<b>ENERGY SUPPLY</b>	<b>Promotion of electricity produced from renewable energy sources</b> ( <i>Directive 2001/77/EC</i> )	Member States are required to promote electricity produced from non-fossil renewable energy sources (such as wind, solar, geothermal, wave, tidal, hydroelectric, biomass, landfill gas, sewage treatment gas and biogas energies) with an indicative target of 21% in the share of EU gross electricity consumption to be reached by 2010 (currently: 14%).	Implementation due by 27 October 2003
	<b>Promotion of bio fuels for transport</b> ( <i>Directive 2003/30/EC</i> )	Member States are required to promote bio-fuels (liquid or gaseous fuels used for transport and produced from biomass) with an indicative target of 5.75% in the share of fuels sold to be reached by 2010.	Implementation due by 31 December 2004
	<b>Promotion of cogeneration of heat and electricity</b> ( <i>Directive 2004/8/EC</i> )	Establishment of an EU-wide framework to facilitate and support the installation of cogeneration where heat demand exists. The European Commission will set harmonised efficiency reference values by 21 February 2006 for separate production of electricity and heat.	To be implemented by 21 February 2006
	<b>'ALTENER' component of 'Intelligent Energy - Europe' funding programme</b> ( <i>Decision 1230/2003/EC</i> )	The 'Intelligent Energy - Europe' programme is a funding scheme with a budget of € 250 million for 2003-2006 to promote intelligent energy use and more renewables. There are four areas of activity: ALTENER supports the use of renewable energy sources; energy efficiency, sustainable transport and the use of renewables in developing countries.	2003-2006
<b>ENERGY DEMAND</b>	<b>Energy performance of buildings</b> ( <i>Directive 2002/91/EC</i> )	Buildings account for around 40% of EU energy demand. EU governments have set minimum performance standards, which will apply to all new constructions and large old buildings undergoing major refurbishment from January 2006.	Implementation due by 4 January 2006
	<b>Framework for setting eco-design requirements for energy-using products</b> ( <i>Directive 2005/32/EC</i> )	This initiative aims at improving the environmental performance, including energy efficiency, of products during their entire life cycle. It requires systematic integration of environmental aspects at the earliest stage of their design. The Directive makes it possible to adopt binding measures (based on common conditions and criteria defined in the Directive) or to conclude voluntary agreements with manufacturers.	To be implemented by 11 August 2007

	<b>Action plan on energy efficiency</b> <i>(Green Paper on Energy Efficiency COM (2005) 265)</i>	The action plan will encompass a variety of actions and measures to be taken by governments at all levels, industry and consumers. It will harness cost-effective energy savings equivalent to 20% of the EU's current energy use by 2020.	March 2006
	<b>Motor Challenge Programme</b>	A voluntary programme with a budget of € 1 billion for 2003-2004 and €1.8 billion for 2005-2006 run by the European Commission. It aids companies in improving the energy efficiency of motor driven systems (e.g. compressed air, fan and pump systems), which account for close to 70% of industrial electricity consumption in Europe.	Operational since 2003
	<b>'SAVE' component of 'Intelligent Energy - Europe' funding programme</b> <i>(Decision 1230/2003/EC)</i>	The 'SAVE' component of 'Intelligent Energy - Europe' funding programme supports energy efficiency, in particular in industry and buildings. The other three components of the programme deal with renewable energy sources, sustainable transport and the use of renewables in developing countries.	2003-2006
TRANSPORT	<b>EU strategy to reduce CO<sub>2</sub> emissions from new passenger cars</b>	This EU strategy launched in 1995 aims to reduce CO <sub>2</sub> emissions from new passenger cars rests on three pillars: (1) voluntary commitments by European, Japanese and Korean carmakers to reduce CO <sub>2</sub> emissions from cars sold in the EU; (2) information for consumers about the fuel-economy and CO <sub>2</sub> emissions of new cars to encourage them to buy fuel-efficient models; (3) proposal to base car taxation rates on CO <sub>2</sub> emissions to further influence consumer behaviour.	(1) Agreements concluded in 1998/ 9 for a ten-year period; (2) Mandatory since 2001; (3) In adoption procedure
	<b>'STEER' component of 'Intelligent Energy - Europe' funding programme</b> <i>(Decision 1230/2003/EC)</i>	The 'STEER' component supports fuel diversification, biofuels and energy efficiency in transport systems. The other three components deal with energy efficiency as well as renewables in the EU and in developing countries.	2003-2006
	<b>'Thematic' strategy on the urban environment</b>	This cross-cutting long-term strategy seeks to improve the quality of the urban environment in the EU by promoting an integrated approach to the environmental management of cities, in particular the management of urban transport and urban energy needs.	Launched in January 2006
INDUSTRY	<b>Prevention of emissions of greenhouse gases from industrial and agricultural installations</b> <i>(Directive 96/61/EC)</i>	Under the 1996 Directive on Integrated Pollution Prevention and Control (IPPC) the national authorities issuing permits to the installations falling under the scope of the Directive can impose emission limit values in relation to greenhouse gases, except for those installations covered by the EU emissions trading scheme.	New installations: since 30 October 1999; existing installations: by 30 October 2007
	<b>Reductions of methane emissions from landfills</b> <i>(Landfill Directive 1999/31/EC)</i>	Under the Landfill Directive, Member States are required to gradually reduce the amount of biodegradable waste that they landfill to 35% of the 1995 level by 2016. Biodegradable waste produces methane emissions, which currently account for around 3% of EU greenhouse gas emissions.	Implementation due by 2001
	<b>'Thematic' strategy on waste prevention and recycling</b> <i>(COM (2005) 666 and 667)</i>	This long-term strategy will modernise EU waste legislation. It promotes recycling (resulting in energy savings compared to production from virgin materials), waste prevention (less methane emissions) and incineration with energy recovery (energy gains).	Launched in December 2005
AGRICULTURE	<b>Integration of climate change into the EU's Rural Development Policy</b>	Part of the EU's Common Agricultural Policy is rural development with a budget of around € 7 billion per year for 2000-2006. It aims to strengthen the agriculture and forestry sectors, to improve the competitive position of rural areas and to help safeguard the environment. Co-financing is available for over 20 measures that include environment-friendly farming and investments in forests to improve their ecological value.	2000-2006 2007-2013: in adoption

	<p><b>Support scheme for energy crops under the EU's Common Agricultural Policy</b> <i>(Regulation 795/2004/EC)</i></p>	<p>The Regulation makes available € 45 per hectare in aid to producers of energy crops - crops intended for the production of biofuels or electric and thermal energy.</p>	<p>Operational since 2003</p>
RESEARCH & DEVELOPMENT	<p><b>Climate-change related R&amp;D</b> <i>(Decision 1513/2002/EC and 2002/668/Euratom)</i></p>	<p>The EU's sixth R&amp;D framework programme (2002-2006) allocates roughly €2 billion to research that directly or indirectly deals with climate change. Another €1.2 billion are being spent on nuclear research. The aims are to understand, observe and predict climate change and its impacts; to provide tools to analyse the effectiveness and costs &amp; benefits of different policy options; and to improve existing climate-friendly technologies and develop the technologies of the future. The Commission's proposal for the seventh R&amp;D framework programme (2007-2013) envisages more than € 11 billion for research relevant to climate change. Another € 4.2 billion is proposed for nuclear research.</p>	<p>2002-2006 2007-2013: in adoption</p>
	<p><b>LIFE funding programme</b> <i>(Regulations No. 1655/2000/EC and 1682/2004/EC)</i></p>	<p>An environmental funding scheme with a budget of € 957 million for 2000-2006. LIFE Environment, the component of LIFE most relevant to climate change, co-finances innovative environmental demonstration projects. Beneficiaries include enterprises, national and local authorities, NGOs, research institutions and inter-governmental bodies. Since 2000, more than 100 projects that directly or indirectly deal with climate change have received an estimated € 50 million.</p>	<p>2000-2006 In adoption procedure</p>



## ANNEX 5

### Excerpts from the United Nations Convention on Climate Change (1992)

The Parties to this Convention,

Acknowledging that change in the Earth's climate and its adverse effects are a common concern of humankind,

Concerned that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind,

Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs,

Aware of the role and importance in terrestrial and marine ecosystems of sinks and reservoirs of greenhouse gases,

Noting that there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof,

Acknowledging that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions, [...]

Reaffirming the principle of sovereignty of States in international cooperation to address climate change,

Recognizing that States should enact effective environmental legislation, that environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply, and that standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries, [...]

Recognizing that steps required to understand and address climate change will be environmentally, socially and economically most effective if they are based on relevant scientific, technical and economic considerations and continually re-evaluated in the light of new findings in these areas,

Recognizing that various actions to address climate change can be justified economically in their own right and can also help in solving other environmental problems,

Recognizing also the need for developed countries to take immediate action in a flexible manner on the basis of clear priorities, as a first step towards comprehensive response strategies at the global, national and, where agreed, regional levels that take into account all greenhouse gases, with due consideration of their relative contributions to the enhancement of the greenhouse effect,

Recognizing further that low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems are particularly vulnerable to the adverse effects of climate change,

Recognizing the special difficulties of those countries, especially developing countries, whose economies are particularly dependent on fossil fuel production, use and exportation, as a consequence of action taken on limiting greenhouse gas emissions,

Affirming that responses to climate change should be coordinated with social and economic development in an integrated manner with a view to avoiding adverse impacts on the latter, taking into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty,

Recognizing that all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development and that, in order for developing countries to progress towards that goal, their energy consumption will need to grow taking into account the possibilities for achieving greater energy efficiency and for controlling greenhouse gas emissions in general, including through the application of new technologies on terms which make such an application economically and socially beneficial,

Determined to protect the climate system for present and future generations,

Have agreed as follows:

## **Article 1 DEFINITIONS**

For the purposes of this Convention:

1. “Adverse effects of climate change” means changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.
2. “Climate change” means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
3. “Climate system” means the totality of the atmosphere, hydrosphere, biosphere and geosphere and their interactions.
4. “Emissions” means the release of greenhouse gases and/or their precursors into the atmosphere over a specified area and period of time.
5. “Greenhouse gases” means those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation.
6. “Regional economic integration organization” means an organization constituted by sovereign States of a given region which has competence in respect of matters governed by this Convention or its protocols and has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve or accede to the instruments concerned.
7. “Reservoir” means a component or components of the climate system where a greenhouse gas or a precursor of a greenhouse gas is stored
8. “Sink” means any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.
9. “Source” means any process or activity which releases a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere.

## **Article 2**

### **OBJECTIVE**

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

## **Article 3**

### **PRINCIPLES**

In their actions to achieve the objective of the Convention and to implement its provisions, the Parties shall be guided, *inter alia*, by the following:

1. The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.
2. The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.
3. The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.
4. The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.
5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

## **Article 4**

### **COMMITMENTS**

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:

(a) Develop, periodically update, publish and make available to the Conference of the Parties, in accordance with Article 12, national inventories of anthropogenic emissions by sources and removals by

sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties;

(b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change;

(c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors;

(d) Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems;

(e) Cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods;

(f) Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of

the environment, of projects or measures undertaken by them to mitigate or adapt to climate change;

(g) Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system and intended to further the understanding and to reduce or eliminate the remaining uncertainties regarding the causes, effects, magnitude and timing of climate change and the economic and social consequences of various response strategies;

(h) Promote and cooperate in the full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies;

(i) Promote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations; and

(j) Communicate to the Conference of the Parties information related to implementation, in accordance with Article 12.

2. The developed country Parties and other Parties included in Annex I commit themselves specifically as provided for in the following:

(a) Each of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention, recognizing that the return by the end of the present decade to earlier levels of anthropogenic emissions of carbon dioxide and other greenhouse gases not controlled by the Montreal Protocol would contribute to such modification, and taking into account the differences in these Parties' starting points and approaches, economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances, as well as the need for equitable and appropriate contributions by each of these Parties to the global effort regarding that objective. These Parties may implement such policies and measures jointly with other Parties and may assist other Parties in contributing to the achievement of the objective of the Convention and, in particular, that of this subparagraph;

[...]

3. The developed country Parties and other developed Parties included in Annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1.

They shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this Article and that are agreed between a developing country Party and the international entity or entities referred to in Article 11, in accordance with that Article. The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties.

4. The developed country Parties and other developed Parties included in Annex II shall also 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.

5. The developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies.

6. In the implementation of their commitments under paragraph 2 above, a certain degree of flexibility shall be allowed by the Conference of the Parties to the Parties included in Annex I undergoing the process of transition to a market economy, in order to enhance the ability of these Parties to address climate change, including with regard to the historical level of anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol chosen as a reference.

7. The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.

[...]

### **Excerpts from the Kyoto Protocol to the United Nations Convention on Climate Change (1998)**

[...]

#### **Article 2**

1. Each Party included in Annex I, in achieving its quantified emission limitation and reduction commitments under Article 3, in order to promote sustainable development, shall:

(a) Implement and/or further elaborate policies and measures in accordance with its national circumstances, such as:

- (i) Enhancement of energy efficiency in relevant sectors of the national economy;
- (ii) Protection and enhancement of sinks and reservoirs of greenhouse gases not controlled by the Montreal Protocol, taking into account its commitments under relevant international environmental agreements; promotion of sustainable forest management practices, afforestation and reforestation;
- (iii) Promotion of sustainable forms of agriculture in light of climate change considerations;
- (iv) Research on, and promotion, development and increased use of, new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative environmentally sound technologies;
- (v) Progressive reduction or phasing out of market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors that run counter to the objective of the Convention and application of market instruments;

- (vi) Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol;
  - (vii) Measures to limit and/or reduce emissions of greenhouse gases not controlled by the Montreal Protocol in the transport sector;
  - (viii) Limitation and/or reduction of methane emissions through recovery and use in waste management, as well as in the production, transport and distribution of energy;
- (b) Cooperate with other such Parties to enhance the individual and combined effectiveness of their policies and measures adopted under this Article, pursuant to Article 4, paragraph 2 (e) (i), of the Convention. To this end, these Parties shall take steps to share their experience and exchange information on such policies and measures, including developing ways of improving their comparability, transparency and effectiveness. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session or as soon as practicable thereafter, consider ways to facilitate such cooperation, taking into account all relevant information.

2. The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively.

3. The Parties included in Annex I shall strive to implement policies and measures under this Article in such a way as to minimize adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties and in particular those identified in Article 4, paragraphs 8 and 9, of the Convention, taking into account Article 3 of the Convention. The Conference of the Parties serving as the meeting of the Parties to this Protocol may take further action, as appropriate, to promote the implementation of the provisions of this paragraph.

4. The Conference of the Parties serving as the meeting of the Parties to this Protocol, if it decides that it would be beneficial to coordinate any of the policies and measures in paragraph 1 (a) above, taking into account different national circumstances and potential effects, shall consider ways and means to elaborate the coordination of such policies and measures.

### **Article 3**

1. The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.

[...]

6. Taking into account Article 4, paragraph 6, of the Convention, in the implementation of their commitments under this Protocol other than those under this Article, a certain degree of flexibility shall be allowed by the Conference of the Parties serving as the meeting of the Parties to this Protocol to the Parties included in Annex I undergoing the process of transition to a market economy.

[...]

10. Any emission reduction units, or any part of an assigned amount, which a Party acquires from another Party in accordance with the provisions of Article 6 or of Article 17 shall be added to the assigned amount for the acquiring Party.

11. Any emission reduction units, or any part of an assigned amount, which a Party transfers to another Party in accordance with the provisions of Article 6 or of Article 17 shall be subtracted from the assigned amount for the transferring Party.

12. Any certified emission reductions which a Party acquires from another Party in accordance with the provisions of Article 12 shall be added to the assigned amount for the acquiring Party.  
[...]

#### **Article 4**

1. Any Parties included in Annex I that have reached an agreement to fulfil their commitments under Article 3 jointly, shall be deemed to have met those commitments provided that their total combined aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of Article 3. The respective emission level allocated to each of the Parties to the agreement shall be set out in that agreement.  
[...]

6. If Parties acting jointly do so in the framework of, and together with, a regional economic integration organization which is itself a Party to this Protocol, each member State of that regional economic integration organization individually, and together with the regional economic integration organization acting in accordance with Article 24, shall, in the event of failure to achieve the total combined level of emission reductions, be responsible for its level of emissions as notified in accordance with this Article.

#### **Article 5**

1. Each Party included in Annex I shall have in place, no later than one year prior to the start of the first commitment period, a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. Guidelines for such national systems, which shall incorporate the methodologies specified in paragraph 2 below, shall be decided upon by the Conference of the Parties serving as the meeting of the Parties to this Protocol at its first session.  
[...]

#### **Article 9**

1. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall periodically review this Protocol in the light of the best available scientific information and assessments on climate change and its impacts, as well as relevant technical, social and economic information. Such reviews shall be coordinated with pertinent reviews under the Convention, in particular those required by Article 4, paragraph 2 (d), and Article 7, paragraph 2 (a), of the Convention. Based on these reviews, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall take appropriate action.  
[...]

#### **Article 12**

1. A clean development mechanism is hereby defined.

2. The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.

3. Under the clean development mechanism:

- (a) Parties not included in Annex I will benefit from project activities resulting in certified emission reductions; and
- (b) Parties included in Annex I may use the certified emission reductions accruing from such project activities to contribute to compliance with part of their quantified emission limitation and reduction commitments under Article 3, as determined by the Conference of the Parties serving as the meeting of the Parties to this Protocol.

4. The clean development mechanism shall be subject to the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to this Protocol and be supervised by an executive board of the clean development mechanism.

5. Emission reductions resulting from each project activity shall be certified by operational entities to be designated by the Conference of the Parties serving as the meeting of the Parties to this Protocol, on the basis of:

- (a) Voluntary participation approved by each Party involved;
- (b) Real, measurable, and long-term benefits related to the mitigation of climate change; and
- (c) Reductions in emissions that are additional to any that would occur in the absence of the certified project activity.

6. The clean development mechanism shall assist in arranging funding of certified project activities as necessary.

**Annex B: Party Quantified emission limitation or reduction commitment** (percentage of base year or period)

\*Countries that are undergoing the process of transition to a market economy.

Australia 108; Austria 92; Belgium 92; Bulgaria\* 92; Canada 94; Croatia\* 95; Czech Republic\* 92; Denmark 92; Estonia\* 92; European Community 92; Finland 92; France 92; Germany 92; Greece 92; Hungary\* 94; Iceland 110; Ireland 92; Italy 92; Japan 94; Latvia\* 92; Liechtenstein 92; Lithuania\* 92; Luxembourg 92; Monaco 92; Netherlands 92; New Zealand 100; Norway 101; Poland\* 94; Portugal 92; Romania\* 92; Russian Federation\* 100; Slovakia\* 92; Slovenia\* 92; Spain 92; Sweden 92; Switzerland 92; Ukraine\* 100; United Kingdom of Great Britain and Northern Ireland 92; United States of America 93.

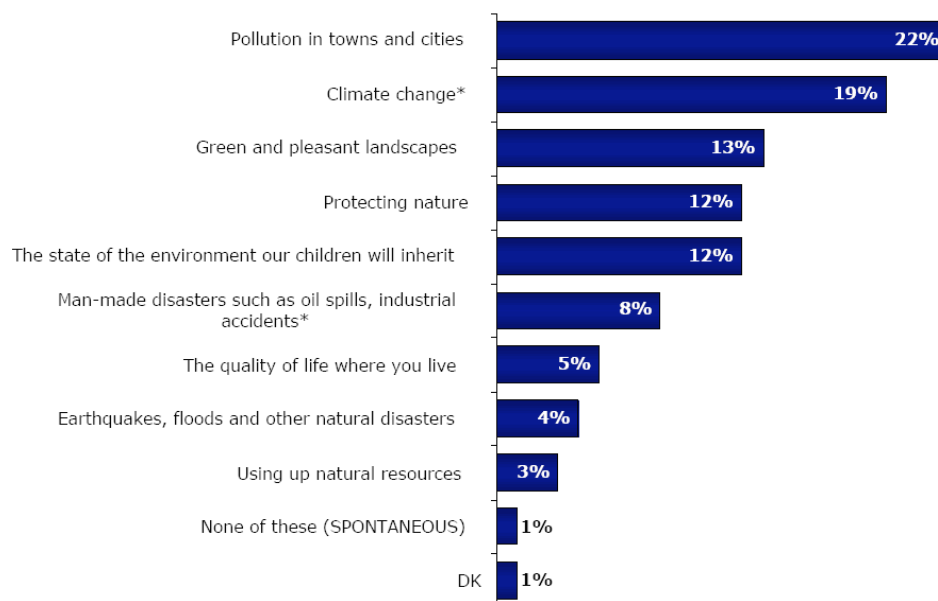


## ANNEX 6

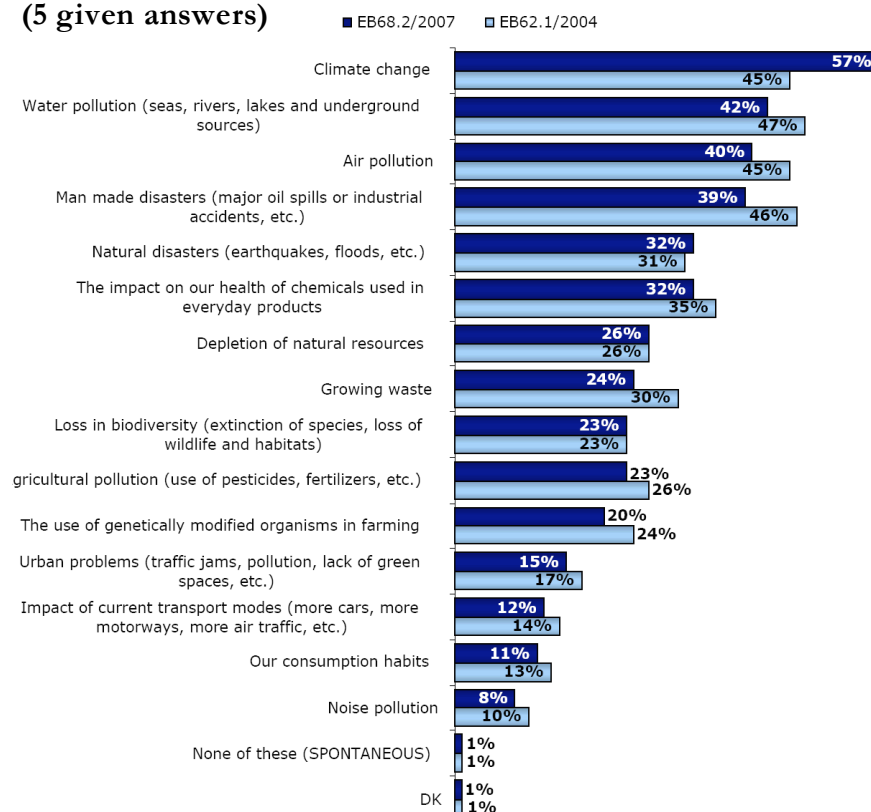
### Attitudes of the European citizens towards the environment

Source: Commission of the European Communities (DG Environment and DG Communication). 2008.  
*Special Eurobarometer 296: Attitudes of European citizens towards the environment.*

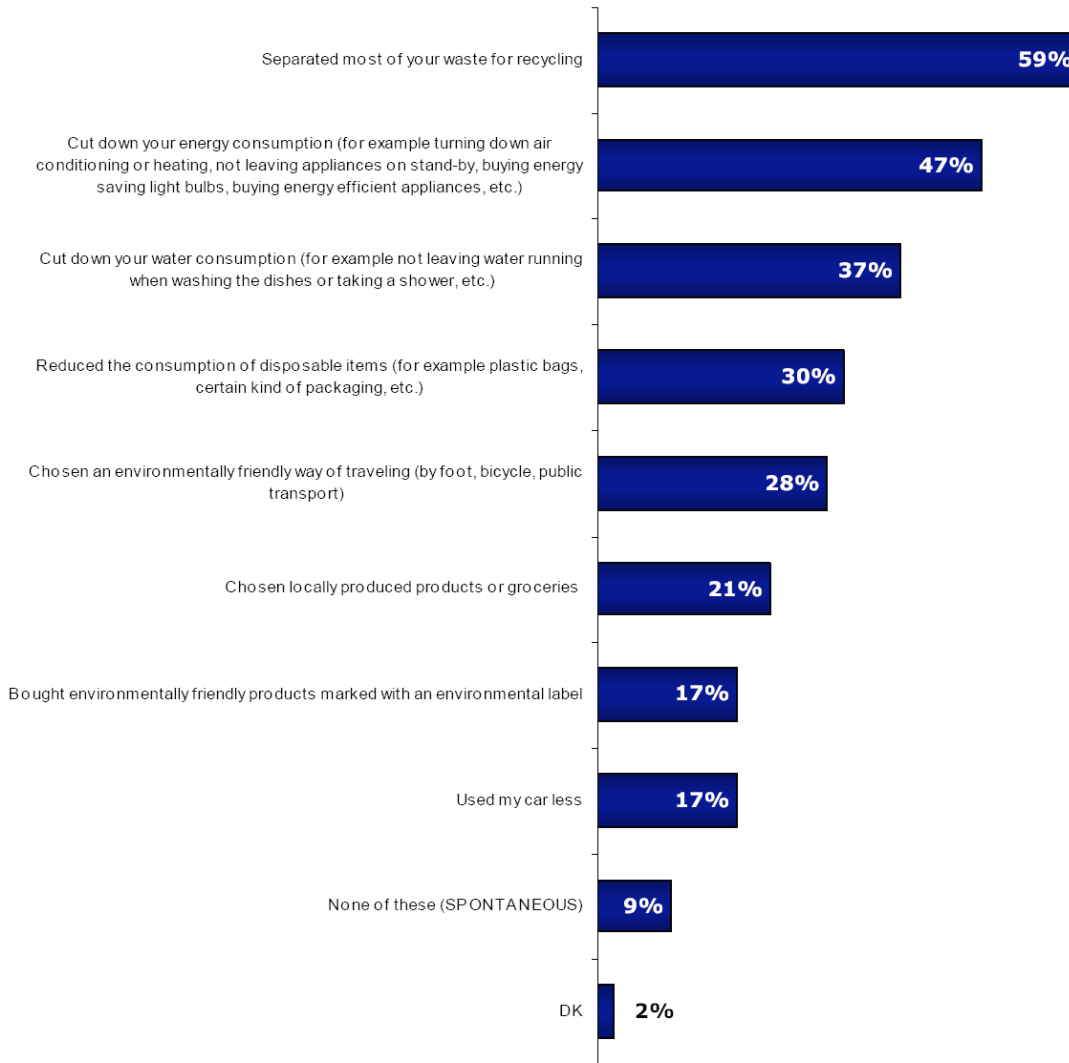
#### When people talk about the 'environment', which of the following do you think of first ? (% EU-27)



#### Which are the main environmental issues that you are worried about ? (5 given answers)

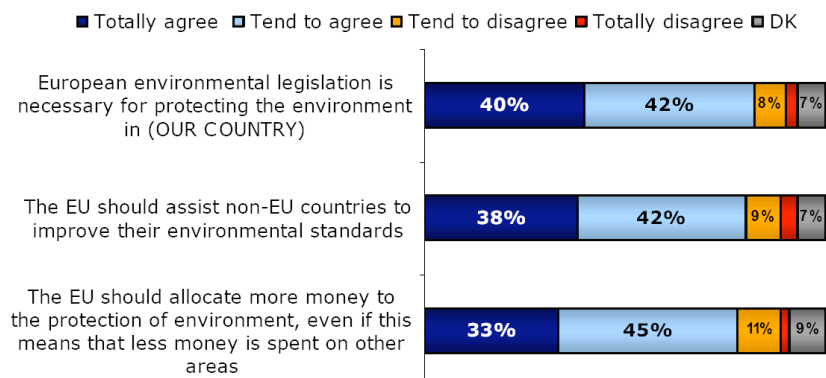


**Have you done any of the following in the past month for environmental reasons?  
(multiple answers possible, % EU-27)**

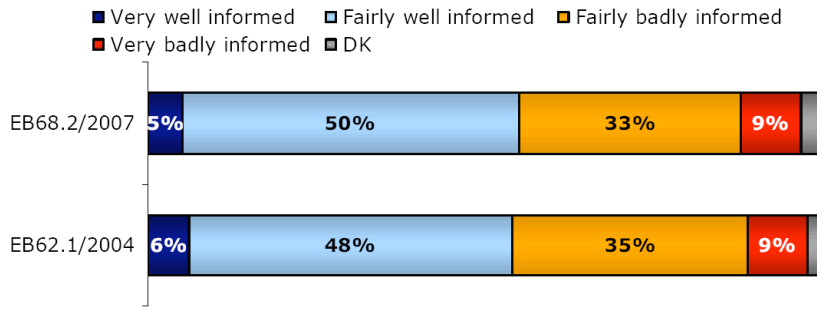


**Are you ready to buy environmentally friendly products even if they cost more?**

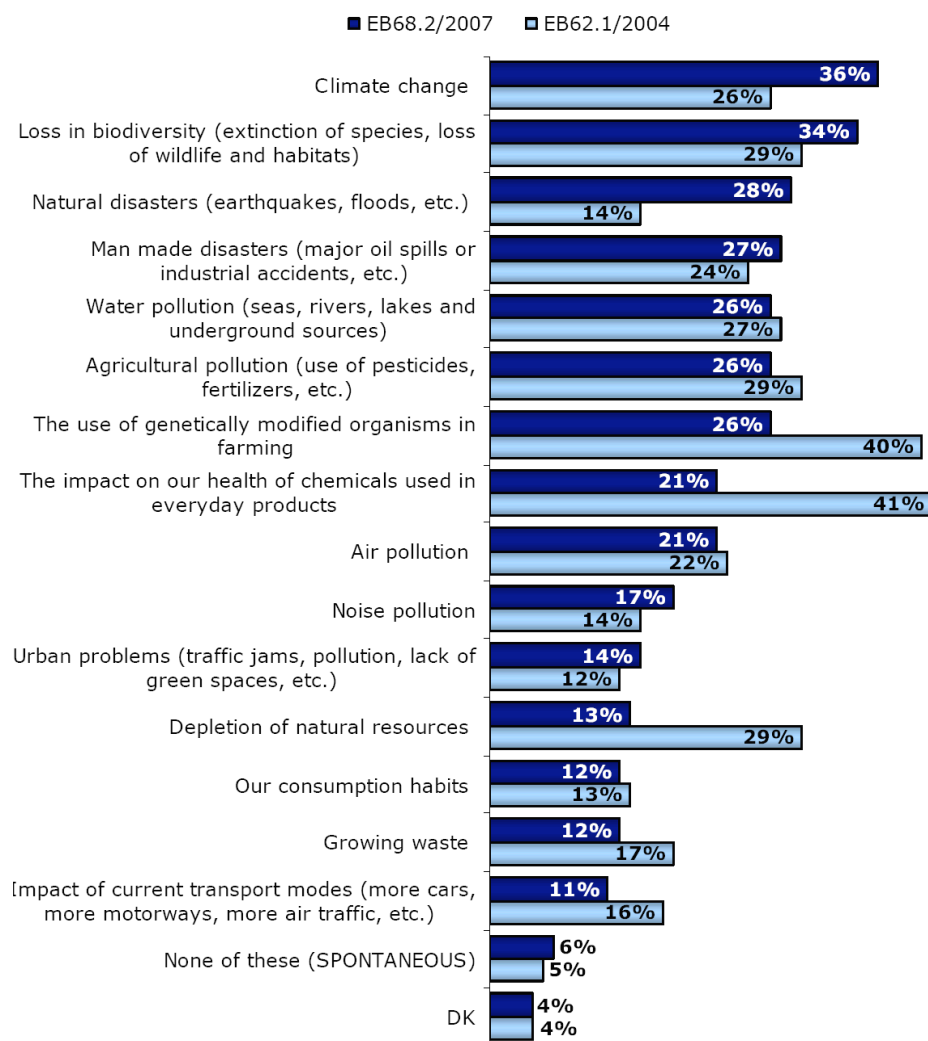
**For which of the following statements do you...?**



## How informed do you feel about environmental issues?



## Which are the five main issues you feel you lack information about?



## Endnotes

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<sup>1</sup> Multi-level governance as an analytic framework is distinguished here from its normative acceptance. As stated from the very title of the section, this work will employ the term as an analytic model, one that attempts to describe and explain how the Euro-polity functions, namely how it produces policy output. In the normative sense, the multi-level governance approach preaches this type of political organisation as a normatively superior mode of exerting authority. It dwells with questions relating to efficiency, democratic legitimacy and accountability.

<sup>2</sup> According to Majone 1995, cited in Jachtenfuchs and Kohler-Kohl 1995, 7.

<sup>3</sup> As viewed by Scharpf 1988, cited in Jachtenfuchs and Kohler-Kohl, idem. Interlocking politics (*Politikverflechtung*) is defined as 'the establishment of intermediating structures linking the politics – namely, the decision processes – and policies – the substantive responsibilities – of initially autonomous organizations' (Lehmbruch 1989 cited by Risse-Kappen 1996, 61).

<sup>4</sup> Illustrating the opinions of Scharpf 1993 and Graf Kielmansegg 1996 cited by Jachtenfuchs and Kohler-Kohl, idem.

<sup>5</sup> It should be noted that one of the responsibilities of Commission's DG for External Relations is improving global governance. The Commission's DG for External Trade also lends it attention to the link between governance and globalisation. Furthermore, in October 2003, the Commission adopted a Communication on governance and development which addressed the necessity of increased effectiveness in eradicating poverty and promoting sustainable development.

<sup>6</sup> A number of characteristics of the soft governance modes can be inferred from the features of multi-level governance, as previously analysed.

<sup>7</sup> Examples of co-regulation in the environment policy are environmental agreements between the Commission and car makers for the reduction of CO<sub>2</sub> emissions for new cars that set out cooperation guidelines for common evaluation and monitoring (Usui 2005, 4).

<sup>8</sup> Self-regulation pertains to energy efficiency agreements of private companies within the EU climate change policy. Examples are voluntary agreements, codes of conduct, voluntary programmes, voluntary energy labelling and eco-labels (Usui 2005, 4).

<sup>9</sup> A complete list reads: Communications, Green Papers, White Papers and special reports by the Commission; Resolutions, Presidency Conclusions and Declarations by the Council and the European Council; Resolutions by the Parliament.

<sup>10</sup> 'Some external influences, such as changes in solar radiation and volcanism, occur naturally and contribute to the total natural variability of the climate system. Other external changes, such as the change in composition of the atmosphere that began with the industrial revolution, are the result of human activity.' (IPCC 2007, WG I, 667).

<sup>11</sup> The main six greenhouse gases responsible for global warming are: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O) and the F-gases hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>).

<sup>12</sup> The climate system is composed of five elements - the atmosphere, the hydrosphere, the cryosphere, the land surface and the biosphere - as well as the interaction between them. The climate system is in constant transformation, influenced internally by its own dynamics, and externally either by natural forcings (volcanic eruptions, solar variations, etc.) or by anthropogenic forcings (change of the atmospheric composition, land use, etc.) (IPCC 2007, Appendices, 5).

<sup>13</sup> The atmospheric concentration of CO<sub>2</sub> increased from 280 ppm in the pre-industrial period to 379 ppm in 2005, and it had an increased value during the last 10 years (1995-2005). The atmospheric concentration of CH<sub>4</sub> (methane) increased from 715 ppb to 1.732 ppb in the early 1990s, and up to 1.774 in 2005. The atmospheric concentration of N<sub>2</sub>O (nitrous oxide) increased from 270 ppb to 319 ppb in 2005.

<sup>14</sup> For a conceptual overview of vulnerability, please refer to the last section of this chapter.

<sup>15</sup> Buzan, 1983, cited in Soroos, 1994, 321.

<sup>16</sup> Soroos, 1994, 321.

<sup>17</sup> Idem.

<sup>18</sup> For a theoretical overview of vulnerability and related concepts, see Section 4.

<sup>19</sup> The IPCC's definition reads as follows: 'Sensitivity is the degree to which a system is affected, either adversely or beneficially, by climate variability or climate change. The effect may be direct (e.g., a change in crop yield in response to a change in the mean, range, or variability of temperature) or indirect (e.g., damages caused by an increase in the frequency of coastal flooding due to sea level rise).' (IPCC 2007, Appendices, 13).

<sup>20</sup> The environmental policy falls under the shared competence of the European Community and the member states, and not under the competence of the European Union, as it belongs to the first pillar (in the current Treaty architecture). However, for reasons of overall coherence, I will at times refer to the 'EU' domestic climate change policy.

<sup>21</sup> The UNFCCC and its Kyoto Protocol have been ratified both by the EC (first 15 members) and by all member states individually. Thus, according to Kyoto, the EC has a different emissions reduction target (8% below 1990 levels) than the member states which have differentiated quota according to their respective emission levels.

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<sup>22</sup> Article 2 of EC Treaty reads as follows : ‘The Community shall have as its task, by establishing a common market and an economic and monetary union and by implementing common policies or activities referred to in Articles 3 and 4, to promote throughout the Community a harmonious, balanced and sustainable development of economic activities, a high level of employment and of social protection, equality between men and women, sustainable and non-inflationary growth, a high degree of competitiveness and convergence of economic performance, a high level of protection and improvement of the quality of the environment, the raising of the standard of living and quality of life, and economic and social cohesion and solidarity among Member States.’

<sup>23</sup> An important role in the expansion of the environmental legislation during the period of no explicit Treaty references was played by jurisprudence. The European Court of Justice confirmed that article 308 was sufficient for environmental protection, as it represented one of the Community’s ‘essential objectives’ (Case 240/83 *Procureur de la République v Association de Défense des Bruleurs d’huiles Usagées*, 1983) and thus allowed for certain limitations in the free movement of goods. This meant that environmental protection measures were possible independently of the internal market functioning (Lee 2005, 16).

<sup>24</sup> Article 95 EC is also important, as it sets out the competences of EC institutions regarding measures that relate to the completion of the internal market. By the means of qualified majority voting rather than unanimity, the cooperation procedure (article 252 EC) provides the European Parliament with increased powers (Davies 2004, 5).

<sup>25</sup> Also known as the Maastricht Treaty (1992), amended by the Treaty of Amsterdam (1997) and the Treaty of Nice (2001).

<sup>26</sup> Environmental-related measures have been taken on the basis of other articles as well, such as article 37 EC (Common Agricultural Policy), article 71 EC (Common Transport Policy), article 166 EC (Research and Development) (Davies 2004, 11).

<sup>27</sup> Protocol to the EC Treaty on the Application of the Principles of Subsidiarity and Proportionality (introduced by the Treaty of Amsterdam), cited in Davies 2004, 23.

<sup>28</sup> European Parliament and Council of the European Union, Decision 1600/2002/EC of 22 July 2002 laying down the Sixth Community Environment Action Programme, [http://eur-lex.europa.eu/LexUriServ/site/en/oj/2002/l1\\_242/l1\\_24220020910en00010015.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/oj/2002/l1_242/l1_24220020910en00010015.pdf) (retrieved December 2007).

<sup>29</sup> The EC adopted the first Environmental Impact Assessment (EIA) in 1985, through the Council Directive 85/337/EEC of 27 June 1985, amended by the more detailed Council Directive 97/11/EC of 3 March 1997. The objective of the Directive instituting the EIA is to assess the environmental effects of public and private projects that are likely to have an impact on the environment. These projects are required to be based on development consent and benefit from a proper assessment at member state level (Louka 2004, 101).

<sup>30</sup> The Strategic Environment Assessment (SEA), introduced by Directive 2001/42/EC of the European Parliament and of the Council, was designed to address the shortcomings of the EIA (absence of analysis of alternative projects, weak mitigation measures, lack of monitoring and implementation, and public participation). The two instruments differ in one major element, namely the policy stage they apply to. While EIA follows the implementation of a policy, as it is focused on the evaluation of the programme output, the SEA takes place at the policy formulation level, before a programme is submitted to legislation (Louka 2004, 103-4).

<sup>31</sup> Sixth EAP webpage: <http://ec.europa.eu/environment/newprg/intro.htm>.

<sup>32</sup> As an example, the combination of emissions trading with voluntary agreements in the form of negotiated environmental agreements (NEA).

<sup>33</sup> Belonging to different Directorates General: Environment, Energy, Agriculture, Research and Development, Transport, etc.

<sup>34</sup> Usui cites the climate protection industry COGEN Europe (2005, 22).

<sup>35</sup> Climate Action Network (Europe), which brings together environmental NGOs such as Greenpeace, WWF, Friends of the Earth, etc.

<sup>36</sup> 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.

<sup>37</sup> An installation is defined as ‘a stationary technical unit where one or more activities listed in Annex I (industry sectors covered by the trading program) are carried out and any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions and pollution’ (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).

<sup>38</sup> One allowance represents the right to emit one tonne of CO<sub>2</sub> (Commission, 2005a, 9). The total number of allowances represents the installation’s emission cap.

<sup>39</sup> Once surrendered, allowances are cancelled and cannot be used again (Commission, 2005a, 12).

<sup>40</sup> Once a NAP approved, neither the total quantity of allowances, nor the number of allowances per installation can be changed (Commission, 2005a, 11).

<sup>41</sup> There are two trading periods: 2005-2007 and 2008-2012.

<sup>42</sup> The latter case is rather the exception.

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- <sup>43</sup> For the first EU ETS phase, the fine is equal to EUR 40 per tonne; for the second, to EUR100. Member states are also obliged to set penalties for infringements of the scheme at national level (Commission, 2005a, 12).
- <sup>44</sup> The further emissions reduction is obtained by deducting the effect of the EU ETS already included by certain Member States in their Projections from the estimated total EU ETS effect.
- <sup>45</sup> For these first two points of criticism I consulted Anderson et al 2007, 6.
- <sup>46</sup> For this comment and the previous one, I consulted Eritja 2006, 69-71.
- <sup>47</sup> Schmitt-Rady 2006, 93.
- <sup>48</sup> Ibidem, 94.
- <sup>49</sup> The primary source is Mountondo 1999, cited in EEA 2006, 13, retained by Herodes 2007, 12.
- <sup>50</sup> Although Bomberg's typology includes EMAS in the informational tools category (Bomberg 2007, 252-3).
- <sup>51</sup> [http://cordis.europa.eu/fp7/environment/about-env\\_en.html](http://cordis.europa.eu/fp7/environment/about-env_en.html).
- <sup>52</sup> The information provided in this paragraph from: [http://cordis.europa.eu/fp7/environment/int-cooperation\\_en.html](http://cordis.europa.eu/fp7/environment/int-cooperation_en.html).
- <sup>53</sup> The factors responsible for the development of climate regime are presented in a random order.
- <sup>54</sup> This element is analysed by Young 1994, 52-54.
- <sup>55</sup> According to the UNFCCC Status of Ratification Report of 22 August 2007, [http://unfccc.int/files/essential\\_background/convention/status\\_of\\_ratification/application/pdf/unfccc\\_conv\\_rat.pdf](http://unfccc.int/files/essential_background/convention/status_of_ratification/application/pdf/unfccc_conv_rat.pdf).
- <sup>56</sup> According to the Kyoto Protocol Status of Ratification Report of 13 May 2008, [http://unfccc.int/files/kyoto\\_protocol/status\\_of\\_ratification/application/pdf/kp\\_ratification.pdf](http://unfccc.int/files/kyoto_protocol/status_of_ratification/application/pdf/kp_ratification.pdf).
- <sup>57</sup> Between COP 1 in 1995 and COP 11 in 2005, 221 decisions were adopted (UNFCCC 2006, 28).
- <sup>58</sup> Current practice in international negotiations has seen individual member states appointed as spokespersons for the EU in bilateral agreements (Yamin and Depledge 2004, 43).
- <sup>59</sup> The WPIEI has different configurations according to several policy areas: climate change, biodiversity, biosafety, chemical products and the global section within the UNEP (UN Environment Programme) and UNCSD (UN Commission on Sustainable Development). The WPIEI-CC has been formerly named 'The Ad-hoc Group on Climate Change' (up to the year 2000).
- <sup>60</sup> The statements issued by the informal Expert Groups are 'second track positions' and are considered an integral part of EU's official position (van Schaik and Egenhofer 2005, 3).
- <sup>61</sup> The WPIEI-CC is in charge of drafting the climate change section of the Council conclusions.
- <sup>62</sup> Sjöstedt 1998, 228; original italics modified.
- <sup>63</sup> The typology I sketch here is inspired from: Young (1994); Underdal (1991) cited in Andresen and Agrawala (2002); Gupta and Ringius (2001) and Oberthür (2007).
- <sup>64</sup> BirdLife International, Climate Action Network Europe, European Environmental Bureau, EPH Environmental Network, the European Federation for Transport and Environment, Friends of the Earth Europe, Greenpeace, International Friends of Nature, WWF European Policy Office.
- <sup>65</sup> Double citation: Marsh and Locksley, cited in Grant 1993c, 32, cited in Newell 2000, 99.