

**ANALYSING GREAT POWER BEHAVIOUR:  
UNITED STATES AND THE GLOBAL  
CLIMATE CHANGE DEBATE**

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DECLARATION

I declare that the dissertation entitled “Analysing Great Power Behaviour: United States and the Global Climate Change Debate”, submitted by me in partial fulfillment for the award of the degree of Master of Philosophy of Jawaharlal Nehru University is my own work. The dissertation has not been submitted for any other degree of this University or any other university.

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## List of Abbreviations and Acronyms

AOSIS	Alliance of Small Island States
BRIC	Brazil Russia India China
Btu	British thermal units
CDM	Clean Development Mechanism
CH <sub>4</sub>	methane
CO <sub>2</sub>	Carbon dioxide
COP	Conference of the Parties
EP	European Parliament
EPE	Energy Policy of Europe
ETS	Emissions Trading Scheme
EU	European Union
G77	Group of 77
GHG	greenhouse gas
HFC	hydrofluorocarbons
IEP	International Environmental Politics
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IPE	International Political Economy
IR	International Relations
LDC	Least Developed Countries
LDP	Liberal Democratic Party
METI	Ministry of Economy, Trade, and Industry
MNC	multinational corporations
MOE	Ministry of Environment
MOFA	Ministry of Foreign Affairs
N <sub>2</sub> O	nitrous oxide
NGO	non-governmental organisation
NNSA	non-nation-state actor
ODA	Overseas Development Assistance
PFC	perfluorocarbons
ppm	parts per million
SF <sub>6</sub>	sulfur hexafluoride
TNC	transnational corporation
UK	United Kingdom
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WCRP	World Climate Research Programme
WPIEI/CC	Working Party on International Environmental Issues/Climate Change
WTO	World Trade Organisation

## **Introduction**

Climate change is a mainstream global political issue today. However, the international community has not been able to formulate an effective institutional solution as yet. In this paper, I attempt to explain the behaviour of the United States in the area of global climate change politics. The main argument of this paper is that the United States takes predominantly rational economic decisions when it comes to climate change issues at the global level. This is a short run analysis and it is assumed, among others, that states are constrained by the institutional context of the day.

Climate change poses an unprecedented challenge in the twenty-first century. In the first chapter, I discuss why the problem of climate change has become significant over the past two decades. In the ensuing section, I look at how the problem has become an international relations (IR) issue today. Various IR theories are being used to analyse the phenomenon of global climate change politics. I discuss the main IR theories and approaches in the context of the climate change challenge. In the third section, I look at the role of the United States in international politics today. Although it is indisputably the most powerful nation in terms of resources, a great power, it has not been able to take the lead in terms of resolving global crises, including that of climate change. In the final section of the first chapter, I discuss the methodology that I intend to adopt in analysing US behaviour.

In the second chapter, I discuss where the United States is situated in the global politics of climate change. A fossil-fuel-based, high energy using society, the United States is one of the biggest contributors to the problem of anthropogenic climate change. Its per capita energy use is almost double of that in Europe, and even 15 times as high as that of India. This is due to a number of factors such as the vehicle fleet and car dependence, the size and type of buildings, and the constellation of the fossil fuel sector. At the same time, because the United States is such a large emitter of greenhouse gases (GHGs), any international policy to mitigate climate change is closely connected to its domestic political scenario. In this context, I discuss the significance of domestic politics

in the United States with regard to international climate change policy. In the second part of the chapter, I discuss the role of other major players in the global climate change debate, such as, the EU, Japan, China and India.

In the third chapter, first, I present the main factors that make the problem particularly challenging in the area of international politics. I then put forward my main arguments in explaining US behaviour. I argue that US decisions in the sphere of climate change are based on rational assessments of its national interests. I make a short run analysis and long term factors may not hold good. This applies not only to US behaviour but also other actors in the global climate change politics. I assume states as important actors, with limited capabilities that are acting under constraints imposed by the predominant economic institutions of the day. In the end, I analyse the case of EU and Japan in a similar context.

While making the analysis, I work with a number of assumptions, which are as given below:

1. There is a broad scientific consensus that anthropogenic activities such as carbon (and related) emissions have dramatically increased the concentrations of GHGs in the atmosphere. These increased concentrations will have dire consequences for the world's climate and hence for the global ecological system.
2. Addressing climate change means that GHG emissions need to be reduced drastically so as to stabilise GHG concentrations. Reductions in carbon emissions are, therefore, an urgent policy imperative.
3. The impacts of climate change are uncertain and hence the global community must adopt the precautionary principle to deal with the problem.
4. States are important actors in the global politics of climate change and are capable of taking calculated decisions even though the ability to do so may be limited. For



example, states are acting with incomplete information and under uncertainty of the impacts of climate change.

5. States are acting under constraints posed by the institutional context of the day. I refer to the definition of institution as given by March and Olsen (2006, pg. 3), i.e. 'a relatively enduring collection of rules and organized practices, embedded in structures of meaning and resources that are relatively invariant in the face of turnover of individuals and relatively resilient to the idiosyncratic preferences and expectations of individuals and changing external circumstances'.
6. Industrialised countries have to undertake action (regardless whether it is domestically or through an international agreement on a different location and irrespective of action by developing countries).
7. The Kyoto Protocol setting binding targets for industrialized countries and the European community for reducing GHG emissions placing a heavier burden on developed nations under the principle of common but differentiated responsibilities is a positive development in global climate change politics.
8. Reducing emissions to a level that sufficiently addresses climate change involves costs.
9. The analysis is a short term one spanning say, a few decades, and may not hold in the long run, due to various factors, such as, technological development and dissemination.
10. Actors in the climate change negotiations behave rationally and therefore for any solution to the problem of climate change at the global level, it will be necessary to take into consideration the costs and benefits of the actors, notwithstanding the realisation of global public good.

# **1. International Politics and Climate Change**

## **Introduction**

Climate Change is a complex multi-dimensional issue. Unlike most environmental concerns, it has trade, geostrategic and security implications. It also raises serious development and livelihood related questions for a majority of the world's population. The nature of the problem makes it a classic case where a global problem requires global solutions corresponding with policy implementation at the local level. It demands co-operation from the entire global community, not to mention the varying levels of costs attached to policy implementation, be it global or local. As a result, not only in the case of climate change but also, advances in international environmental policy is part of the general process of an understanding as well as a growing consciousness of the global community (Wilenius 1996).

In this chapter, I discuss the significance of the issue of climate change. Next, I will take a look at why the problem of climate change is an important issue in International Relations (IR). I also briefly discuss various IR theories and the way these approaches consider the problems of global environmental degradation including climate change, and whether they can explain the phenomena. Finally, I advance the methodology that I use in making my analysis.

## **Climate Change – The Global Problem of the Twenty First Century**

Climate change is constituted by a rise in global temperatures as a result of increased concentration of GHGs in the atmosphere due to anthropogenic activities. Apart from such activities, the greenhouse effect is not new as it is a natural geophysical process. During the past century, the greenhouse effect became the greenhouse problem as human activities enhanced the natural greenhouse effect through the release of billions of tonnes of carbon dioxide (CO<sub>2</sub>) and other GHGs to the atmosphere. The effects of climate change, such as melting glaciers or changing weather patterns, only become visible over

time. If current trends in anthropogenic emissions of CO<sub>2</sub> and other GHGs continue, it is widely expected that the average annual surface temperature of the earth including the sea surface temperature will increase. A warmer world will lead to massive food and water shortages, devastating natural disasters, and deadly disease outbreaks. However, the effects will not be uniform in all the regions. Locally observable phenomena are actually the net effect of various factors, and individual behaviour cannot be isolated. Some of the changes will be uniform world wide, others will be generally similar and some will be region specific (Mintzer and Leonard 1994).

While the various impacts of climate change are beginning to be evident as put forward by the Intergovernmental Panel on Climate Change (IPCC) and other scientific studies, the threat of climate change unfortunately does not attract the urgency that other global crisis command, such as, a global economic downturn. Nearly two decades ago in 1992, in the Earth Summit held in Rio de Janeiro, heads of 160 countries and international organisations came together to co-operate on measures to reduce the risk of rapid climate change. The nature of the problem makes it imperative for countries to come together and work out an agreement based on consensus, and the Rio Declaration might have set the agenda on global environmental issues. However, the international community is yet to reach any serious commitments to date in terms of legally binding agreements. The blurred lines between national or domestic and the international make the matter all the more complicated and uncertain. Cooperation in addressing the issue has to overcome multiple collective action problems associated with the pervasive economic implications of regulating fossil fuels, incentives to free-ride, necessity to invest resources now for the benefit of future generations, and reliance on complex and evolving scientific understandings of earth systems.

Without any doubt the differences among the parties trying to work out a climate change agreement are too huge considering the varying levels of costs as well as vulnerability involved. What makes the issue formidable is the fact that those facing the highest risk to climate change and the disadvantaged have a much lesser role to play in abetting the problem than some of the least vulnerable who are the biggest perpetrators.

This brings to the issue the question of global justice. Unless this is taken into account, a global instrument will not win the participation of developing nations, and without which it will fail, as has been the case so far. Various theories of global justice intend to provide action-guiding frameworks for addressing issues of justice that arise in the global sphere. In this context, Hartzell (2006) discusses how a Rawlsian framework can be extended to address climate change. He focuses on both the ways in which Rawls' Law of Peoples is able to address certain aspects of climate change and those aspects that the theory does not seem able to address. He extends Rawls' Law of Peoples to argue that since preserving the environmental integrity of a local environment generally entails contributing to preserving the global environment, societies that have contributed to and/or are contributing to climate change are required to address the harmful local effects of climate change within their territories as well as to contribute to addressing the causes of climate change. He also argues that, able societies are required to address the effects of climate change insofar as these effects cause anyone's human rights to be violated. This requires that societies honour human rights and able societies assist people whose human rights are being violated (Hartzell 2006).

However, the relationship between a society's contribution to climate change and its obligation to address the causes of climate change is far from straightforward. Like most economic and environmental changes that are occurring on a global scale, the effects of climate change are also distributed unequally both within and across national boundaries. Six of the largest economies in the world—the United States, the European Union (EU), which now consists of 27 member states, China, Russia, Japan and India—account for approximately 60 percent of the global emissions of the six major GHGs, making the rest of the world responsible for only about 40 percent of global emissions. Some countries have enjoyed long periods of unrestrained fossil-fuel-based industrial development, whereas others are just emerging from poverty and growing rapidly. As already noted, the negative impacts of climate change are very likely to fall disproportionately on the least-developed countries. Not only international, but also questions relating to intergenerational equity are being raised which makes the issue much more complex. As compared to the scientific and economic aspects of climate

change, very less work has been done with regard to climate justice. In an interesting analysis Posner and Sunstein (2007) look at the issue from a corrective justice and a distributive justice angle. With regard to the United States, principles of corrective justice might require that it owes compensations to those most harmed as well as vulnerable to climate change. And with this are entwined questions of distributive justice. The United States is the richest nation in the world and because of this it seems that it is obliged to help reduce the damage done by climate change around the world. However, they come up with a significant observation that arguments from distributive and corrective justice fail to provide any strong justification for imposing climate change obligations on the United States, which have significant implications in the context of international law and international agreements. According to Posner and Sunstein (2007) that the United States needs to participate in international climate change agreements is unquestionable but contrary to widespread beliefs, there are real problems in attempting to justify them by reference to distributive or corrective justice. For example, one problem from the standpoint of distributional justice is that nations are not people; they are collections of people, ranging from very rich to very poor. A wealthy country such as the United States, have many poor people, and developing or poor countries have rich people (Posner and Sunstein 2007).

### **Climate Change – An International Relations Issue**

Today, there is no doubt that climate change poses a real and serious threat to mankind due to anthropogenic causes. However no effective solution is yet in sight, at least not at the global level which is closely linked to the domestic. Any simplistic solution, mostly pertaining to emissions reduction, would strike at the very heart of nations' political, economic and even social structures. Because of its wide scope and magnitude, among all the major environmental threats, global climate change is most likely to affect international politics (Gleick 1989). The global nature of the problem and the obvious but controversial solutions, mainly related to mitigation, makes climate change an important area of study under the discipline of IR. Although international environmental politics as a sub-field is not entirely new, as a discipline IR has mostly dealt with questions related

to war, security, states and the like. IR needs to evolve not only with respect to emerging global issues but also in terms of its methodological orientation. Methodological issues are different when studying international environmental politics as compared to IR generally and the most significant distinction is that the former is organically linked to the natural world. Other IR issues such as sovereignty, human rights, security and the like are not linked to the natural sciences in a similar and direct manner. The researcher of climate change policies may need to grapple with complex scientific data and may have to engage in a dialogue with the natural scientist (Hochstetler and Laituri 2006). The stark line of distinction is however beginning to blur with close connections being established between, say, human conflicts and natural resources. Traditionally, international politics and more specifically realist analysis have looked into issues of anarchy and security dilemma, which inevitably lead states into conflict. Then the concept of transnational relations undermined the centrality of the state as the unit of analysis. Neoliberal institutionalism, later argued that even if the state is a unitary actor, institutions can overcome the obstacles to cooperation that arise from anarchy. Strategic interaction among states was studied using the rational choice method of economic theories and game theory. However, IR scholars, specifically international environmental political scholars are increasingly beginning to engage in dialogues with natural scientists that bring their discipline and approaches with them to issues of international political nature. The issue of climate change poses such a challenge.

Before the 1980's climate change was purely a concern of the scientific community. After several comprehensive reports that were published by the National Academy of Sciences (National Research Council 1983, 2001), IPCC (1990, 1995, 2001, 2007), and World Climate Programme (1985), a robust international consensus about the reality and seriousness of the issue has emerged. Soon the environmental community in various countries succeeded to get the issue on the national agenda along with receptive public opinion. Today the claims of mainstream climate science are beyond challenge. This was evident in the coming together of delegations from 160 nations in 1992 to the Earth Summit in Rio de Janeiro, a near universal membership of the United National Framework Convention of Climate Change (UNFCCC), and ratification of the Kyoto

Protocol adopted in 1997 at Kyoto. The facts of the matter are now fairly clear. Scientific consensus is also expressed in the reports published by the IPCC. It is widely agreed that severe consequences will occur if global concentrations of carbon are allowed to exceed 450–550 parts per million (ppm) by 2050. Keeping emissions below this level will require 50–85 percent reductions in carbon dioxide emissions by 2050 from current levels (Haas 2007).

The Kyoto Protocol is considered to be the most important international agreement on climate change as it sets legally binding targets for 37 industrialised countries and the European Community for reducing GHG emissions. While the EU took the leadership in climate change mitigation and spearheaded the Kyoto Protocol, the United States refused to ratify it. Also claims about the science of global warming became more contested in the United States than anywhere else. In 1997, the Senate notified the administration by passing the non-binding Byrd-Hagel resolution 95–0, that it would not ratify any treaty that imposed mandatory GHG emission reduction targets - without similar targets being imposed on the developing countries (including India and China) those that would harm the US economy. On the other hand, the major developing countries refused to commit to any international regulation stating that unless United States, the largest emitter of GHGs historically and currently, accepted mandatory emission reduction targets, they would not do so.

Today, while there is international consensus on the existence of the threat posed by climate change, no agreement seems to prevail on the ways and means to counter it, and not the least on international regulations. Adaptation and mitigation are the most common methods of dealing with the problem at the implementation level, but controversies abound in relation to these activities as they question the foundations of societies' political and industrial structure. Even if a country undertook adaptation and mitigation, which involve high costs, it would not make much of a difference in the total carbon space unless the biggest emitters reduce emissions. Most decisions to abate climate change need to take place outside the climate policy community, for example, trade and investment, energy security and development co-operation. Ultimately

therefore, climate change is connected to a wider social, economic and geopolitical agenda. It is thus an important area of study in the field of IR. Any effort to tackle climate change will have implications for other developments on the global agenda and vice versa. The issue is today one of the biggest challenges for global politics be it at the foreign policy or international negotiations level. Currently, although efforts are being made to arrive at a global consensus at international summits, whether any agreements will be reached is yet to be seen. The issue, at the same time, provides ample opportunities for research at the academic sphere. Are traditional IR theories well placed to explain such emerging global challenges? Or do we need a fresh perspective to be able to understand the complex issues related to climate change, a situation where there is evidently no 'hostile' enemy and a problem that recognises no national boundaries?

### **Climate Change and IR Theories**

IR theories have dealt with and attempted explanations of various issues that are of political as well as socio-economic in nature and which are global in scope. In general, most theories have dealt with issues of power, state behaviour, war and security, inter-state relations, and the like. With time, new problems in the global space posed new policy, theoretical as well as academic challenges. Issues that were hitherto unknown demanded a fresh way of looking at things. Environment is one area which has traditionally been outside the scope of politics. At the same time, it must be conceded that there have been some attempts to explain the climate change debacle and other environment related political issues with the help of theories. A quick literature survey reveals that climate change policy related analysis abound.

The study of international environmental issues gained recognition among IR scholars in the late 1980s. Research publishing and scholarly articles on International Environmental Politics (IEP) has grown since then. Theoretical perspectives of IEP, are commonly framed around the IR theories of realism, liberalism/institutionalism/pluralism, structuralism/Marxism and critical theories (Paterson 2006). Although, so far the study of the issue of climate change has been



mostly done under the subfield of IEP, it is important to note that climate change is much wider in scope from most other transnational or regional environmental issues. It needs to be looked at from a global politics perspective as it is no longer a purely environmental issue. Some of the most important theoretical approaches in IR are being discussed in this section with regard to the issue of climate change.

### *The International Regime Perspective*

In terms of theoretical analysis, the issue of climate change has mostly been analysed from an international regimes perspective. It is a reflection of what has been taking place at the global level so far – an attempt to form international consensus on what needs to be done to tackle climate change and thereby build an international climate change regime. Most part of the analytical writing is therefore theoretically and methodologically oriented towards the international regimes framework approach. Much policy analysis has also been done with regard to why the agreements have not yet been successful and what needs to be done to make them so. Some scholars have used a two-level game theoretic model to pinpoint how domestic constraints affect the outcome of an international bargaining game. For example, in 1997 the United States Senate tried to constrain the Clinton Administration during the Kyoto climate change negotiations. The crucial feature of a two-level game is that the government plays two games but it makes only one move, which determines its payoff in both of the two games (Kroll and Shogren 2008). Theoretically, it can be said that liberal institutionalism has been the mainstay of much analysis in IEP as well as climate change. In the regime theory approach the significant role of institutions in forging co-operation between states is not only emphasised but assumed as given. This perspective was started as a critique of realism with which liberal institutionalism shares some of the assumptions but not the fact that inter-state co-operation is possible.

### *The Realist Approach*

The theory usually referred to as the predominant approach in IR is realism. Realists, who are some of the early IR theorists, have largely written off the possibility of international environmental co-operation, not to mention in the area of climate change which is a newly emerging global challenge. Their preoccupation with states as relative gains maximisers with survival as its primary goal and environment as a 'low politics' issue leave no scope for much analysis in the area of climate change politics. Since states are considered to be the primary actors, unless climate change issues get nationalised and are understood in terms of 'security', the issue will remain outside the assumptions of realist theory and therefore its claims. In realist explanations, the problem of climate change is less urgent for states whose prime concerns are security issues. As in the case of most other aspects of world politics which cannot be bounded to territorial states, realist theory will remain inadequate to examine the problem of climate change. Mere structural power and material interests may not explain issues related to either the environment or those of climate change.

### *The Constructivist Focus*

Both realism and liberal institutionalism arise out of the anarchy problematic. And so does constructivism. But with regard to an actor's behaviour the latter has a different take. On most issues, actor's preferences are less clear and certain and this is more so in an issue area such as climate change. Although in IR, constructivism asserts the centrality of states to their analysis, it emphasises ideational forces as determining outcomes. It therefore focuses on states as agents that do not have clearly defined goals but act on the basis of the intersubjective understanding of their actions. Constructivists argue that the global norm of environmentalism has spread steadily. These common global values, according to them, have in turn created a social system that includes the international political world, in the traditional as well as the contemporary sense (Roberts et al 2004). In the issue area of climate change, constructivism has been used to explain the formation and development of international norms. Betsill (2000) for example examines the role of

the United States in the development of international climate change norms and argues that international climate change norms are altering the identity of the United States in global climate change politics and will ultimately enhance prospects for future international cooperation in the area.

### *An International Political Economy Perspective*

The abovementioned IR theories place the concept of state and sovereignty at the centre of their analysis. In applying these theories to the issue of climate change most studies emphasise the state centric point of view. Another way of studying the global politics of climate change is to look at the issue from an international political economy (IPE) perspective where business entities are the most important international actor. The IPE perspective to climate change could be a compelling theoretical approach as business and industry across the globe are some of the biggest emitters of greenhouse gases. In this context Clack and York (2005) argue that the interrelationship between human and nature under a system of industrial and social relations is closely linked to global climate change. Therefore understanding the forces and operations of capitalism is necessary. Newell and Paterson (1998) challenge accounts of global environmental politics which come from a liberal institutionalist position. They attempt at reorientation of the study of international environmental politics towards 'a political economy approach rooted broadly in historical materialism' (Newell and Paterson 1998, pg. 679) They challenge the dominant international regime framework approach which is based on a statist analysis, and which looks at states and markets as separate concepts. Their analysis of the role of companies involved primarily in the extraction and processing of fossil fuels in the global politics of climate change suggest that such a focus offers a better and adequate explanation of outcomes in climate politics. The authors argue that a perspective which starts from the role of the state in promoting capital accumulation can much better explain the content both of state policies and of particular international agreements. In doing so they outline the way fossil fuel companies have been able to secure their interests in state policies on global warming. They then provide their

explanation in terms of the structural power of capital, deriving from the role of the state within capitalist societies.

### *The Importance of Non-Nation-State Actors*

IEP in general and climate politics in particular is an issue area in which it is no longer sufficient to take the statist approach due to the nature of the problem. The assumption of anarchy ceases to hold ground vis-à-vis most issues in the context of climate change. The emergence of new actors in the international system and the explanation of their role in global politics required the assumption of international interdependence, signifying not just the mutual dependence of states but also the interaction and interdependence of multiple new actors. These new actors are, for example, trans-national corporations (TNCs), multi-national corporations (MNCs) and non-governmental organisations (NGOs). In the sphere of IEP and climate change, the role of NGOs has become significant and in many cases is still the basis of theoretical analysis as they are considered to be affecting inter-state regimes, producing new forms of governance as well as providing new models of politics. In addition to attracting media attention, their effectiveness is also reflected in their ability to, raise, promote and advocate discussions of difficult issues such as justice and equity, lend a voice to the neglected sections of society, and provide thoughtful analyses and substantive research and alternative approaches, all of which enrich the debate and are necessary to achieve an effective agreement (Carpenter 2001). However, for many who still consider state as the central site of governance, are of the opinion that there is nothing in the role of the NGOs that is fundamentally transformative of major global political structures. They may be able to nudge government policies but they cannot determine outcomes. In this context, Hass (1992) discusses about epistemic communities and who belong to these communities to whom states turn to for advice. He examines how these knowledge experts play an important role by helping states identify interests, impacting these interests and proposing policies and agenda. Thus the control over information and knowledge, in this case the epistemic community, forms an important dimension of power and can lead to new

patterns of behaviour, especially state behaviour thereby shaping international policy coordination (Haas 1992).

The role of NGOs within or outside the epistemic community of climate change is quite significant at the global political level and cannot be undermined. Gough and Shackley (2001), for example, examine how NGOs as part of an epistemic community could exert considerable political influence. They do this by including a wide range of actors who could (otherwise) disrupt policy development. They observe that some of the ideas of those outside such a community are actually beginning to have more influence on the community. Okereke et al (2009) looks at how the increasing visibility and influence of non-nation-state actors (NNSAs) in global climate politics continues to pose important theoretical challenges in how we conceptualize and understand the nature of global governance. They look at how although regime approaches provide interesting insights, there are significant aspects of climate change governance that lie beyond the regime and are in some cases clearly incompatible with the basic ontological assumptions of the existing approaches. They highlight that the neo-Gramscian and Foucauldian schools of thought could be particularly productive in addressing the theoretical challenges associated with a changing global order.

#### *Other Structural Explanations*

The other theoretical approach in IR is the one that consider relations among groups as structured i.e. the world is politically organised in terms of structural inequalities of class, core/periphery, gender, race, etc. Marxists, dependency theorists, feminists and the Greens belong to this category. Inequalities are the starting point of analysis for these theorists. Such an approach has also brought about the concept of distributive justice to discourses on environment, including climate change. The north-south divide is a highly controversial area in the sphere of climate change where the industrialised north is the historical perpetrator of CO<sub>2</sub> emissions, although this does not render insignificant the fact that the big developing countries are today some of the leading CO<sub>2</sub> emitters. O'Brien and Leichenko (2003) discuss that the concept of winners and losers due to

global change is widely accepted in the common discourse, but without much systematic analysis of what the terms actually imply. The main point to note here is that the structural inequality perspective has a lot to offer in terms of analysis in the debate related to the global politics of climate change because any analysis or response strategies that does not take into account the structural inequalities and the disproportionate burdens on the disadvantaged is sure to fail as has been evident already in the international efforts to chart out a global climate change regime. The north-south debate leading to the impasse in climate change agreements is a case in point. As Parks and Timmons (2008) argue that mistrust has proven to be a major obstacle to north-south cooperation, and that this is attributable to long-standing patterns of inequality and opportunism. Inequality makes it harder for developing and developed countries to trust each other and establish mutually acceptable policies.

So far we have discussed some of the major IR theoretical perspectives with respect to climate change. This is not to say that these are the only ways of analysis or world views related to the issue of climate change politics. It is a multi-dimensional problem and probably no one way of analysis will be able to explain every aspect of the crisis in its entirety. In this paper, as already mentioned only the global politics aspect of the climate change debate will be looked into, and within that the main focus will be on the United States of America, the largest contributor to the problem of climate change and a nation that has held centre stage in international politics and international relations theory in the 20<sup>th</sup> century and beyond.

### **The Role of the United States in International Politics**

The United States was on its way to becoming the global superpower as early as in the first half of the 20th century. By the 1990's, after the end of the Cold War, its position was firmly established as the sole superpower. While some IR theorists had predicted a multilateral global structure post Cold War, some spoke of America's decline. With American power growing in an unprecedented manner in every sphere, soon it became evident there was no other rival that could match its dominance be it military, economic,

technological, cultural and political. This is also referred to as the American unipolarity. A decade ago structural realists predicted that the United States would soon be counterbalanced by other major powers. New research on the subject suggests that such great power counterbalancing is far from inevitable (Dueck 2004). With the new global order becoming more complex than ever, the extreme disparity between United States and other major powers in terms of capability unsettled the rest of the world. This reality has also dominated and shaped IR thinking for most part of the past century.

Some spoke of a unilateral world led by the United States and followed by the rest. How the United States would use its power and for what ends? Will it be a responsible and restricted great power? How would a unipolar world operate? What are the implications of United States' power with regard to use of force, alliances, sovereignty, interventionism, weapons of mass destruction? These and related questions engaged governments, policy makers, and theorists alike. At the same time numerous analytical writings and books speculating America's strategic options were published in the past two decades.

The crucial point in the abovementioned debates is the significance of America's role in international politics. It is far ahead of the rest in terms of material as well as soft power. Its military spending is more than the next fourteen spenders, its output equals one fourth of the world and it is the highest exporter of films and television. Having mentioned its power resources, it is important to note here that power also always depends on context. In this case power is the ability to influence others to produce the outcomes one wants (Nye 2008). In explaining this, Nye mentions of power resembling a complex three dimensional chess game. In his view, while the United States is predominant in military power - the top board, it is not a hegemon in the economic sphere - middle board as it must often bargain as equal in economic and trade issues. The bottom chessboard, he mentions, is the realm of transnational relations that involve actors crossing borders outside of government control which includes ecological threats, such as pandemics and global climate change, which can do large scale damages. At this level,

according to Nye, power is widely dispersed and concepts like Great Power become redundant.

While questions related to American grand strategy and the consequences of the world as a multipolar system were the major debates that ensued with the United States emerging as the sole superpower in the early 1990s, Nye (1990) was of the opinion that the United States is likely to remain the only country with a leading position in both economic and military power. However, it will have to cope with unprecedented problems of interdependence that no great power can solve by itself. He further adds that the United States would remain the leading power, but being at the top will not be what it used to be as many of the new issues in international politics - ecology, drugs, AIDS, terrorism - involve a diffusion of power away from states to private actors and require organising states for cooperative purposes. If international politics is analysed considering only power as it has been done in the past, then it will be difficult to look at newer issues of international politics of the present and the future (Nye 1990).

Here, I will analyse the behaviour of the United States in the realm of a non-traditional issue area i.e. climate change and the implications thereof. Climate change is one area where the United States plays a significant role in terms of, be it total and per capita energy consumption, historical or current levels of emissions, policy issues or global politics. However, the United States has chosen to take a different stance with regard to the issue of global climate change, as compared to other industrialised nations such as the EU and Japan. It refused to accept mandatory targets on GHG emissions despite being one of the largest CO<sub>2</sub> emitters and having some of the largest resources to tackle climate change. The behaviour of the United States thus raises some pertinent questions relating to international politics in general and international environmental politics in particular.

As already noted, American power and capability is the reality of today's international politics. It is unprecedented and unique among all previous great powers. The thick and deep globalisation that started in the 20<sup>th</sup> century has only reinforced its



economic and political dominance. After the end of the Cold War, two important questions posed were - whether United States will resist formal rule-based institutions or will there be continuity in its global posture? American power has since not only acquired pre-eminence but also grown more complex along with global changes taking place in every sphere throughout the past two decades. With regard to climate change it acknowledges the seriousness of the issue but refuses to take the lead. The stated policies of the United States often go well with notions of fairness and equity, but the actual behaviour of the US government and its agencies is more difficult to assess (Harris 2000).

Today, the spectre of large-scale environmental degradation and the destructive effects of climate change loom large. What makes the phenomena political is that the causes are mostly locally induced and the effects are to be borne globally. Some even predict that climate change would very likely lead to armed-conflict and hence security issues in the near future. As R. K. Pachauri, Chairman of IPCC, noted, "The impacts of climate change would be disproportionately severe on some of the poorest regions and communities of the world. My own analysis suggests that at least 12 countries are likely to tend towards becoming failed states and communities in several other states would show potential for serious conflict due to scarcity of food, water stress and soil degradation". Some scholars are of the opinion that we cannot talk of the environment and environmental problems separate from society since these problems are not outside society but within. In other words, ecological problems stem ultimately from the institutional crisis of the contemporary society (Wilenius 1996). In this context, the behaviour of the United States as the most powerful state makes for an interesting study.

### **Methodology**

Why is the United States going slow on the climate change issue? This is the major question around which my analysis will evolve. What explains behaviour of the United States? Much has been written on various dimensions of the issue but it is only in the recent years that writings on IR theories dealing with climate change are being published.

One main factor, as already discussed, is also because IR theories due to their intellectual tradition have primarily dealt with inter-state problems such as security, causes of war and the like. However, questions related to fairness, equity and sovereignty are also part of the challenge of climate change agreements. Even a casual observer of the Earth Summit and Kyoto treaties would be struck by the vast differences in how states respond to the effort to build environmental treaties. Analysts of IEP have offered a range of competing and complementary explanations to make sense of this variance. Primarily through case studies and small-*n* quantitative research, some have undertaken comparative foreign policy analysis and begun untangling complex causal processes.

In this paper, I will analyse the behaviour of the United States using the rationalist theory of IR. Using the qualitative approach, I will look at the behaviour of the United States with regard to its claims as well responses to the challenge of global climate change, considering states as important actors in international politics, possessing limited capacity to calculate its national interests, and acting under constraints imposed by the prevailing institutional context.

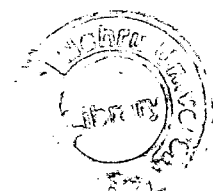
Traditional concepts in IR assume the anarchic nature of the international structure and analyses international politics by looking at the international system as consisting of nation-states as units with varying capabilities. With this assumption, in IR we analyse states as pursuing egoistic interests (Palan and Blair 1993). Although relations between communities and states have been a common area of study in IR, after the end of the Cold War, the dissident voices have become stronger as critiques pointed out weaknesses within traditional IR approaches. Sorensen (1998) points out two factors that explain this development – first the end of the Cold War changed the international agenda in some fundamental ways. Issues in world politics became more diverse, for example, state partition and disintegration; civil war; democratisation; national minorities; mass migration and refugee problems; environmental issues; and so forth. Whereas, earlier world politics was dominated by the East-West conflict. Second, an increasing number of IR scholars expressed dissatisfaction with the dominant Cold War approach to IR: the neorealism of Kenneth Waltz. On the issue of environment, traditional IR theorists,

mainly realists, have largely written it off as low politics in the international sphere. According to them inter-state cooperation is also not a possibility considering the lack of trust exhibited by states in an anarchical environment. Hence, climate change being an invisible, unpredictable and a trans-national issue, threats of which look seemingly distant, would be a challenge for IR theories as the issue is outside the scope of traditional IR domain which deals with security, armed struggles, military alliances, diplomatic negotiations and relations between states in general. But, as expressed by Keohane and Nye (1971), in the complex realities of today's international political environment, the distinction between high and low politics is becoming blurred. Sorensen (1998), like most other theorists in the recent years, is of the opinion that neo-realism has huge difficulties in confronting change in international relations, and that many scholars now take issue with its 'claim that the complex world of international relations can be squeezed into a few law-like statements about the structure of the international system and the balance of power' (Sorensen 1998; pg. 84)

Truth claims or metanarratives by the positivist school of thought (realism, liberalism, some versions of Marxism) have been criticised by the post-positivists who came up with alternative perspectives of analysing IR. We shall not be looking at these alternative viewpoints here. Both the perspectives provide helpful insights and to completely ignore one or the other would be to overlook their merits. Although it is true that extreme positivism has its weaknesses as put forward by the post-positivist schools of thought, some of the positivist concepts which can lead us to critical insights into IR issues are downplayed. For example, after all, 'the fact that anarchy is a historically specific, socially constructed product of human species does not make it less real. In a world of sovereign states, anarchy is in fact out there in the real world in some form' (Sorensen 1998, pg. 87). In the area of climate change ironically this becomes all the more important because the international community, more importantly, states, have not yet been able to arrive at any agreement with regard to regulation in climate change.

In a similar manner, extreme post positivism also has its own demerits which I will not discuss here. In my analysis, I will take the middle ground, which avoids the

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extremes of both positivism and post positivism. The extreme versions of the two positions may be incompatible, but there is plenty of middle ground. Our ideas and theories about the world always contain elements of subjectivity and objectivity and this leads to the notion of the middle ground (Sorensen 1998). It is not the aim of this paper to reinforce structuralist world-views and causal beliefs but to understand the role of the United States and its implications in the sphere of an unprecedented and unique global crisis that is posed by climate change.

With regard to the science of global climate change, assessments made by the IPCC will be taken as an assumption and claims made otherwise by other studies or the climate sceptics will not be debated upon as it is beyond the scope of this paper. The analysis will be focused on the short term, similar to a static equilibrium analysis. I do not take into the account the long term factors which could challenge the very assumptions of the analysis. For example, I argue that states are driven by economic rationale in the short run and environmental considerations do not factor into the decision making process of states. However, in the long run, say, half a century later, environmental issues might factor into the self-interested motives of states in their decision making. In other words, what is normative in today's context may be a completely rational decision tomorrow.

Answers to the main research question will be sought by looking at the stance that the United States has taken so far in international climate change politics in general and negotiations in particular keeping in view its significant role. I will do this by taking into consideration US policies, stated or otherwise, in the climate change sphere. I will undertake the study in a structured manner wherein the research questions raised will be used to guide data collection, thereby making cumulation and systematic analysis of the findings possible. The paper will not only consider theory oriented analysis but it will also be sought to be balanced with narratives. Besides academic research articles in conventional IR journals as well as International Environmental Political journals, contemporary accounts in newspapers and press releases will be looked into for a better understanding of the context in which policymakers operated. Published interviews, speeches and statements of policymakers will be some of the important sources that will

be resorted to. A few of the books on theories of IR will be considered for an examination of the explanations provided by theorists so far with respect to global environmental politics. Since climate change is a relatively new phenomenon, besides books providing historical accounts and analysis, websites such as that of the UNFCCC, IPCC, TERI, CSE and the United States government sites will be used as sources.

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## 2. United States and the Global Politics of Climate Change

### Introduction

Many actors and forces shape US international climate policy as well as the global politics of climate change. What makes US behave the way it does is the primary question that I am trying to deal with. How does a great power behave in a relatively non-traditional but critical issue area such as climate change and what does US behaviour tell us about international politics? Before answering these questions, which will be attempted in the next chapter, we shall look at where the US is situated in the climate change debate.

The global politics of climate change is highly fragmented. Every country has its own unique position and is situated differently. Various factors such as the stage of development and industrialisation, degree of vulnerability, etc. determine every country's stance. This has led to the formation of different groups in climate change politics. The north-south divide is not the only divide in the global debate on climate change. Conflicting issues and interests have led to groupings like Group of 77 (G77). Even within the G77, the concerns of the Association of Small Island States (AOSIS) and the Least Developed Nations (LDCs) differ from those of the larger developing nations such as China, Russia, India, Brazil, Mexico and South Africa.

In this chapter I will look at where the United States is situated in the politics of climate change in terms of its internal dynamics and foreign policies. I will also analyse where the other important players such as the EU, Japan, China and India stand vis-à-vis the United States. I will examine how internal politics affect the stance that each player takes and also is in turn influenced by the international milieu.

From a study of the various theoretical and analytical perspectives, it is clear that the highly pluralistic nature of US foreign policymaking results in an inevitably large number of players, ranging from government bodies, scientists, business, individuals, and

nongovernmental organisations. In the United States, the number of local, national, regional and international stakeholders involved in the area of climate change is vast. In addition, the government of the United States is also multi-branched that does not resolve issues quickly, smoothly or easily (Harris 2001). I will first look at what role the United States has played domestically, which is also connected to its position in the global politics of climate change so far.

The United States is the largest emitter of GHGs. It produces nearly one-quarter of CO<sub>2</sub> emissions, the most important GHG. At the same time it has the world's largest economy as well as military and only four percent of the world's population. It accounts for 25 percent of the world's energy consumption and about 20 percent cent of GHG emissions, the leading country in terms of per capita emission. Its emissions of CO<sub>2</sub> today are more than 15 percent higher than in 1990 and still growing. By the year 2025, its CO<sub>2</sub> emissions will be 40 percent higher than those in 2000 (Gupta 2003). It will continue to be one of the largest emitters into the foreseeable future. Therefore, by reducing its total emission of GHGs, the United States can have a disproportionately positive impact on the problem of climate change. It also has substantial financial and technological resources that can be brought to bear against climate change, notably through its ability to assist less developed countries in their efforts to combat its adverse effects. The world's governments and other important actors cannot deal effectively with the challenge without the United States playing a proactive role. With a huge economy and formidable diplomatic influence, the potential contribution that the United States can make towards tackling climate change is quite extensive.

These factors, together with the overall power of the United States in the world mean that it has the influence necessary to improve international cooperation. Given its size and large contribution to global emissions, it should be doing more to combat climate change. However, for the past almost three decades, although small groups of Americans have worked to promote climate policies, to date, the United States has shown very little leadership on this global challenge. At the same time, as far as American foreign policy is concerned, it has become intimately involved in the politics of climate

change which has moved to the front burner of international relations. In the last two decades, it has found its way onto the main agendas of governments, and in the last ten odd years, has become the focus of concern in the foreign policy circles of the American government. This policy can be explained by various factors. Such factors could range from concerns for national interests, the pluralism of American domestic politics, to the influence of international norms on policymakers (Harris 2000). Understanding the role of American foreign policy is crucial in understanding US behaviour. Complex combinations of actors, processes and institutions of American foreign policy are what decide American actions, not, as we might like to think, the decisions of only the president, or only the Congress, or even the American people. There are many interpretations and explanations of the causes and different evaluations of the merits and ethics of US climate change policies.

The state is a disaggregated entity and domestic political processes are linked to the external world through a network of intermediary organizations. Domestic politics and political structures affect foreign policy. The perceptions and images of individual decision makers, the structure of the decision process and the domestic political context all influence foreign policy. Because the United States is such a large emitter of GHGs, any international policy to mitigate climate change is closely connected to its domestic politics. In this context, the role of the Senate, the industry particularly the oil lobby, and American public opinion is significant and I discuss them as follows.

### **The Congress**

The US constitution prescribes the division of the US government into three branches – the legislative branch (Congress), consisting of the House of Representatives and the Senate; the executive branch headed by the president; and the judicial branch that is overseen by the Supreme Court. All the three branches of government have a role in the formulation and implementation of international policies including US international environmental policy.



Many believe that the president has prerogative in foreign policy, including those dealing with environmental issues. But legislative branch preferences and support matter more, because the Congress passes legislation, has the ability to tax and spend and control the president's access to funds, approves international agreements, and the Senate in particular must ratify all international treaties before they can become part of US law (Harris 2001). Although the president may take a lead in proposing international climate change efforts or in trying to promote US participation in international environmental instruments and institutions, he must achieve a consensus at home before he or she can lead abroad. On many occasions in the past, there has been great opposition by Congress to binding emission reductions, particularly to initiatives by the Clinton-Gore administration. For example, the Congress was hostile to the Kyoto Protocol. In this context, Bryner (2000) points that the division of power between the president, who negotiates international treaties and accords, and the Congress, which must pass legislation to implement them, would surely lead to deadlock. He further notes that as long as Congress responds only to domestic interests and constituencies, the president, and the United States as a whole, cannot assume effective leadership on global environmental issues.

While under President George H. W. Bush, the United States had been opposed to participation in the Kyoto Protocol, the US position under President Barack Obama has undergone a drastic change. President Obama had made clear his intention that the United States will address this problem with urgency and determination. However, although this is a necessary step, it is not sufficient. Taking up a leadership role internationally on from the starting point may not be easy. This was clearly evident in the minimal role played out by the United States in the climate conference at Copenhagen in December 2009. As one article in the Guardian newspaper puts it that the US president 'must represent the contradictory interests of a country still way behind on climate change'. The United States Congress remains steadfastly opposed to any agreement that does not require China and India to undertake binding mitigation commitments. For their part, China and India have stated that, consistent with the UNFCCC, as developing countries, undertaking

emission reduction obligations would lead to compromising on development and poverty alleviation programs.

### **Structural Forces and the role of the Industrial Lobby in US Climate Change Policy**

Capitalist societies are systemically dependent on economic growth along with capital accumulation. While this is an obvious point for many in IPE, it is significant in the context of IEP. Capital accumulation requires access to particular resources. For most of the history of capitalism, fossil energy has been one such crucial resource. There is as yet little literature offering an empirical analysis describing the role of fossil fuel industries in the politics of climate change. Findings as noted by McCright and Dunlap (2003) reveal that powerful interests 'engage in strategic tactics ranging from outright manipulation of information to more subtle "diversionary reframing" to define certain, negative environmental conditions as non-problematic'. (McCright and Dunlap 2003; pg. 351). They further note that case studies document how powerful interests succeed in preventing environmental problems and technological risks from becoming political issues and even problematising these issues in the first place. For example, public relations activities and Congressional lobbying were launched against efforts to tackle global warming. This was done by the fossil fuels industry, and its allies in the manufacturing sector during the 1990s.

Newell and Patterson (1998) offer an explanation for the weak responses to global warming. They base their arguments around the structural power of capital. They argue that it enables fossil fuel lobbies to limit the scope of state responses to the problem of climate change. They further note how the effect of this structural power might be changing, primarily because of the emergence within climate politics of economic sectors with interests opposed to those of the coal and oil industries. Examples include the renewable energy industry, energy efficiency and conservation, nuclear energy, as well as those industries threatened by the impacts of global warming itself, such as insurance. The interests of these sectors compete with the coal and oil industries and they have all begun to participate in debates about climate change to promote their interests. This has

the potential for alliances between environmentalists and industries, which are primarily pro-environment.

Technologies which have evolved around oil use and electrification (based mainly on coal) have been central to twentieth-century capital accumulation and to the political-economic transformations often collectively known as 'Fordism'. Fordism is one of the most cited concepts of the regulation approach where regulation is understood as a social relationship. This approach is mostly concerned with how despite the conflictual and contradictory character of capitalistic accumulation, a long period of relative stability is possible, why this ends in a crisis and how future stable periods emerge (Missbach 2000). Such social relationships have been based on unrestricted access to coal and oil in particular (Newell and Patterson 1998). Environmental crisis cannot be designated as a direct cause of the crisis of Fordism but the problems were already built into the Fordist success story. As Missbach (2000) notes that while capitalism developed deep roots, the preservation of ecological resources was compromised upon. It is no longer the sustainable and reproducible growth strategy for the developing countries.

Even after transitions to 'post-Fordism', industries such as coal and oil, and associated industries, notably the car industry, are sectors that keep accumulation going. This happens in terms of rates of profitability, reinvestment, and industrial innovation in production techniques. This is already happening in the fast growing developing countries. Such industries are highly capital-intensive and resistant to change. It is difficult to switch rapidly into other forms of energy such as renewables, gas (a fossil fuel with a significantly lower rate of CO<sub>2</sub> emissions per unit of energy than coal or oil) or nuclear, with differing degrees of transferability. Coal companies are the most resistant to reductions in emissions, while oil companies are more variable (Newell and Patterson 1998). This explains the high levels of emission in countries such as United States, China and India where coal is the leading source of primary energy consumption. Switching over to natural gas is considered to be most climate friendly. Today, CO<sub>2</sub> accounts for 55 percent of GHG emissions. Fossil fuel energy (coal, oil, gas) accounts for approximately 80 percent of CO<sub>2</sub> emissions (Newell and Patterson 1998). Other GHGs, nitrous oxide

and methane, also come in substantial part from fossil fuels. In addition, the emission of CO<sub>2</sub> is integral to the chemistry of fossil fuel burning. With respect to other gases causing acid rain, for example, technologies have been developed that prevent their emission. For CO<sub>2</sub>, no such technological fix is readily available as yet. Hence, in the climate change issue the stakes for those involved in the fossil fuel business are clearly high.

Missbach (2000) points out that the United States is the home of Fordism. The abundance of natural resources and a market-led economy led to a way of production and consumption that is extremely wasteful in terms of natural resources and energy. The special starting conditions of the United States still remain effective. A large part of the emission, are 'luxury emission' resulting from affluent lifestyles, as compared to emissions of other developing or least developed countries. Although no such measurement seems to have been done yet as calculating luxury emissions will entail arduous tasks.

Business and industry actors are therefore intimately connected to US international environmental policy and definitely to climate change policy. Industry and particularly, energy company lobbies have systematically been able to secure their interests in global warming politics. For example, corporations from big industry, notably petroleum and automobile companies, founded the Global Climate Coalition. The sole purpose of this coalition was to refute any suggestion that action against the greenhouse effect was needed. The coalition's views on the subject found a largely receptive audience within the administration of George H. W. Bush. Business groups organized around the production of fossil fuels have been able to secure their interests in preventing the development of comprehensive measures to limit the use of such fuels. This is best explained not in terms solely of their lobbying efforts. There are many other groups lobbying for varying positions. However the role which fossil energy has played in nineteenth- and twentieth-century capitalist development, and the structural power this confers on the companies involved in the production of fossil energy is significant (Newell and Patterson 1998). In the IPE perspective, the most plausible explanation for

this is that interests of big business groups are taken as necessary for furthering the interests of capital-in-general. This might provide a robust explanation for the limited and weak nature of climate change policy and the continued weakness of the international climate regime.

The Senate is a powerful actor in US climate politics as it has a decisive influence on international treaties because ratification is dependent on its approval. In the United States, powerful business groups have successfully pointed to the adverse effects of environmental regulations on jobs and the overall US economy. Members of Congress and the president tend to take their views into account, often to the exclusion of environmental considerations. For example, when the Clinton-Gore administration announced that in principle it accepted the idea of quantifiable emissions targets in an international agreement, they also tried to pass an energy tax based on British thermal units (Btus) that would have hit fossil fuels, especially petroleum, particularly hard. This move could have been a powerful economic tool for US efforts to mitigate climate change but the Congress blocked it, arguing that it would be too expensive for individual households and would hurt US industry (Schreurs 2004).

As Missbach (2000) notes, in 1997 while adopting the Byrd-Hagel Resolution, calling on the government to refrain from signing any protocol, during the discussion of the resolution, the dominating arguments were economic and trade related, not environment. The main fear was about the competitiveness of the United States - developing countries were seen as competitors in a globalised economy. Most industry and business actors therefore want to prevent international environmental regulation as they prefer business-as-usual scenario, delay transitioning to environment friendly behaviour or avoid the costs of meeting regulatory requirements (Harris 2001).

The situation is no different from those in Japan or the EU. Both are highly industrialised and developed actors with powerful industry lobbying groups and corporate sectors. Adopting mandatory emission reduction targets as part of any international regime climate change would entail economic costs even for the EU and Japan as much

as for the United States. However, for different reasons the Kyoto Protocol was ratified by EU as well as Japan but not the United States. With respect to Japan and the EU, these factors will be examined in this chapter subsequently. But the important point to note here is that it cannot be only structural factors that lead the United States to not ratify the Kyoto Protocol because the same structural factors work even in the case of EU and Japan. It is a different matter whether the policy adopted to deal with climate change is actually implemented on ground and to what extent, in the industrialised countries that ratified the Kyoto Protocol. It can be argued that ratifying or not ratifying the Kyoto Protocol is not the only way to analyse a country's behaviour in the area of climate change. But it does reflect strongly on the extent of commitment and leadership of a country in this area as the protocol lays down mandatory emission reduction regulations except for the developing and the least developed nations.

### **The Role of Public Opinion**

The perception of the United States vis-à-vis climate change is not positive, given its size and large contribution to global emissions. Many countries around the world believe the United States could and should be doing more to combat climate change (Smith and Mix 2007). Although it was in the US that the science of climate change as a global threat first became popular, the US has shown very little political leadership on the issue. Here the role played by the American public opinion is significant as it is perhaps the most important consideration for policymakers. The pluralist nature of American Democracy affords people substantial access to the policy process. This makes the role of the media significant (Harris 2001). At the same time it is true that public opinion changes follow scientific, business, political, and religious shifts.

Climate sceptics, also continue to question the science and oppose policy changes regarding climate change. Some claim that climate change is not taking place at all and that warming is simply a natural cycle of change that is not due to human activity. Therefore, this group continues to believe that changing human behaviour will have no effect on the process whatsoever. Instead, humans must simply adapt to changing

circumstances. Those between climate change advocates and the sceptics are the ones who admit that warming is occurring but oppose any initiative that might hurt the US economy. These individuals, recognizing that the United States is the world's largest per-capita source of GHGs, argue that the United States will pay the highest price for change. If the United States were to adopt climate change policies, for example, operating costs for US firms would rise, making imported goods, especially from India and China, even more competitive and possibly driving US companies out of business. Any solution, therefore according to this argument, must include China and India.

Today, when the science of climate change has been firmly established, the fact that there are skeptics that influence public opinion against the issue of climate change needs serious attention from research scholars in the political as well as the sociological context. In this regard Lahsen (2005) mentions theorists of reflexive modernization. These theorists call for new institutional arrangements by which to render societies more resilient. This can be done through incorporation of greater heterogeneity of information. She notes that these theorists rightly stress the need to look beyond science and include other types of knowledge along with science. Especially in the face of unpredictable new environmental threats, scientific ways of knowing need to be supplemented by other types of knowledge and expertise because many ecological problems today involve irreducible uncertainties that escape expert awareness, definition, and control. Powerful corporate groups that benefit from business-as-usual scenario have actually tried to raise climate scepticism by harping on the fact that climate science is uncertain and unpredictable.

According to Lahsen (2005), 'more decision makers and members of the general public need to learn to be critical judges of scientific knowledge (e.g., by relying on indicators such as peer review) and ways need to be found to remedy the present reality of unequal access to financial resources and the media. These are starting-point challenges for redesigning civil society institutions for a techno-scientific, media-saturated, and money-greased world' (Lahsen 2005, pg. 139).

## **Role of other significant players in the Global Climate Change debate**

### ***The European Union***

Besides the United States, the European Union holds a position of pre-eminence in international affairs today. However, Europe is often portrayed as the global leader that has placed its faith in national and international regulation. Unlike the United States, the EU has taken on and sustained a strong leadership role vis-à-vis climate change in the face of considerable US resistance and at substantial economic cost, especially with regard to the Kyoto Protocol. It has positioned itself as the leader in the issue area of climate change by initiating as well as adopting a number of policies.

Policy outcome still remains a challenge and efforts at the national level vary as not all EU members perceive the problem of climate change in the same way. The initiatives of European policymakers, though, go far beyond anything proposed to date by the United States, Japan, or other major industrialized countries. Since the negotiations on the Climate Change Convention began in 1991, the EU has provided leadership in international climate policy by pushing for stringent international commitments. The EU was a central actor in the formulation and adoption of UNFCCC, the first intergovernmental framework for addressing the issue. Even as early as the Convention negotiations, the EU supported binding emission reduction targets for industrialized countries. In the negotiations on the Kyoto Protocol of 1997, the EU proposed the deepest emission cuts and accepted the highest reduction target among the major industrialised countries (minus 8 percent). Despite its efforts, however, the EU had a comparatively limited impact on the UNFCCC and the Kyoto Protocol as compared to the United States that heavily influenced the architecture of the protocol (Oberthür and Kelly 2008).

EU leadership became more prominent in the twenty-first century after the Bush Administration declared its opposition to the Kyoto Protocol in March 2001. The Union played a vital role in saving it. It later set up an internal Emissions Trading Scheme



(ETS), the first international carbon-trading system by 2005, which is around the time the Kyoto Protocol came into effect. The new Energy Policy for Europe (EPE) approved by the European Council in January 2007 made it clear that addressing climate change was a top EU priority. The EPE commits the EU to independently reducing its GHG emissions by 20 percent by 2020 (compared to 1990). The EU is already the global leader in renewable energy. And the Action Plan for the EPE calls for the EU to triple its use of renewable energy sources by 2020 to provide for 20 percent of overall consumption (Smith and Mix 2007). Policy making regarding climate change in EU is reinforced by the high level of awareness of the European public opinion.

Thus, in the area of climate change the EU has pursued a soft leadership strategy. In addition to relying on its general political and economic weight, the EU has generally exerted “directional leadership”, primarily based on soft power resources, which means “leadership by example”, diplomacy, persuasion and argumentation (Oberthür and Kelly 2008; pg. 38). While unlike the United States, the EU does not have the political and economic power to influence others, its leadership approach correlates with the wider notion of the EU as a civilian power in pursuit of rule-based global governance (Oberthür and Kelly 2008). While this strategy may be a matter of necessity in terms of its leadership, I argue in the next chapter, that it is more a matter of preference or choice. Most of its members, such as Germany and France, are already way ahead in the use of renewable and nuclear energy which comprise of a large part of their total energy consumption.

The European reaction was strongly opposed to Bush’s abandonment of the Kyoto Protocol. The EU, international negotiations required that domestic and external actors, supranational and national ones come to an agreement. Why did the EU take on climate leadership and how has it managed to sustain it? The EU institutions need a high level of internal coordination which makes decision making slow. Also, the EU, like the United States, is a major economic block where industry is sensitive to mitigation policies. Why was the Kyoto Protocol’s ratification not blocked in the EU as in the

United States? Why industrial opposition to Kyoto was not as strong as in the United States?

European environmental leadership more generally, and climate change leadership in particular, has been driven by a combination of factors and has attracted considerable scholarly attention. I put forward my arguments in the next chapter and look at a few other perspectives here. While favourable public opinion and the presence of green parties were important in the EU to prompt action in favour of EU-wide climate change policy formation and implementation, one explanation refers to a critical structural variable - the open and multi-level nature of the EU's institutional setup, which enabled a dynamic of competitive leadership reinforcement to take place. Schreurs and Tiberghien (2007) argue that EU leadership in climate change is the result of a process of mutual leadership reinforcement by different actors involved in the EU's process of multi-level governance. EU leadership has depended upon the actions and commitments of a group of pioneering states, the leadership roles played by the European Parliament and especially, the European Commission. The member states that played significant roles were Germany, the UK, the Netherlands, Denmark, Austria, Finland, Luxembourg, and Sweden. This leadership reflected strongly when these member states held the presidency of the European Council. This caused reinforcement of leadership when the baton was passed off to the next player. Schreurs and Tiberghien (2007) notes that this cycle of reinforcing leadership within a quasi-federal system has been triggered by as well as dependent upon strong public support and normative commitments.

On the other hand, Costa (2008) builds on the argument of the second image reversed. He argues that the relationship between the EU and the international climate regime is not a one-way street. While the EU has been active and decisive in shaping international negotiations, the latter have also had an impact on the EU. It may seem that the EU leadership might have gone a long way to influence the international climate regime by filling the leadership gap. However, Costa argues that the international milieu also strengthened EU leadership. He mentions three important observations – first, international negotiations empowered a new coalition of policy entrepreneurs in favour of the EU adopting ambitious international and domestic commitments. Secondly, Kyoto

Protocol and the opposition of the United States to it left open the opportunity for the EU to assume a leadership role in the climate change regime. And finally, he mentions the central role played by Kyoto mechanisms. Thus, international negotiations have influenced the EU's decision-making processes and internal negotiations. The international climate regime has also offered some political and institutional incentives, making an ambitious stance on climate change more appealing for several actors. The development of the international climate regime has influenced the EU, thereby changing the objectives and opportunities of actors. For example, Costa mentions how international negotiations empowered a new coalition of policy entrepreneurs who are in favour of the EU adopting ambitious international and domestic commitments. The Working Party on International Environmental Issues/Climate Change (WPIEI/CC) is the main locus of this coalition. It was created after the Conference of the Parties 1 (COP 1) (1995), and is one of the expert groups assisting the Council. It is comprised of the heads of the climate units in environment ministries and its responsibility includes the formulation of the EU's stance before international negotiations, as well as the preparation of the global warming part of the Council conclusions.

Although a comparative study of the United States and the EU in the area of climate change is beyond the scope of this paper, I will look at some broad connections in the next chapter. While the EU and the United States are different entities, both are highly industrialised and developed powers. The latter, of course, is the reigning great power on various fronts, mainly security and economy, as already discussed in the first chapter. Both play important roles in global climate change politics and their actions can go a great extent in taking the issue forward. While it was American scientists who brought the science of climate change to the mainstream, it was EU that took the political leadership at the international level with policy initiatives in dealing with climate change. The EU's stance in international negotiations has been shaped by its member states and EU institutions as well as leadership. In the United States, however, leadership on the climate front has not been transformed into an effective foreign policy initiative.

## *Japan*

Japan is one of the world's major economic powers, a highly industrialised country with membership in the club of the world's most developed economies. It is one of the largest donors of environmental aid to the developing world. Just as in the case of the United States and the EU, the stance adopted by Japan in the area of global climate change politics is also in many ways the reflection and outcome of the dynamics of its internal politics as well as the impact of international climate politics simultaneously. According to Schreurs (2002), the ambiguous position Japan often takes in international negotiations reflects some deep ideological divisions that exists among its relevant policy actors. This also explains why it is difficult for Japan to play the role of an effective policy mediator in global climate change issues. At the same time it has tried to compensate this by improving upon its leadership ratings by providing grants and aids in the area of environment as well as climate change, drawing comments that refer to its initiatives as cheque-book diplomacy.

The domination of competing ideologies in Japan's domestic scenario was reflected in its shifting and somewhat conflicting position before finally ratifying the Kyoto Protocol. Although Japan usually follows the United States in international negotiations, domestic politics had pushed Japan in a different direction on this crucial environmental issue. It reconfirmed its pledge to stabilise CO<sub>2</sub> emissions at 1990 levels on a per capita basis, and promised substantial support for international efforts to promote environmental protection in the developing world.

Japan is well-known for its powerful business interests. With the United States out of the Kyoto process, Japan was faced with the choice between the United States and the EU positions, i.e. either to ratify it or ignore it. If it ratified the Protocol, it would be expected to undertake painful and costly mitigation measures. Without the United States and the developing countries having to take similar steps, Japan would be left at a

competitive disadvantage. Just as in the United States, the anti-Kyoto coalition was strong in Japan which included those with powerful business interests such as those within Keidanren (the Japan Federation of Economic Organizations) and the Ministry of Economy, Trade, and Industry (METI). Opposing the agreement was also the ruling Liberal Democratic Party (LDP), and a prime minister (Junichiro Koizumi) committed to strengthening US-Japan relations.

The other side of the balance of interest included the Ministry of Environment (MOE), the Ministry of Foreign Affairs (MOFA), and some industries (e.g. the nuclear, insurance, and pollution control industries) that had a strong interest in seeing the Kyoto agreement enter into force. Significantly, the Japanese public and NGOs were largely behind the Kyoto Protocol. Japan's domestic balance of interest group politics, bureaucratic politics, and foreign policy priorities certainly could have led to the agreement's collapse. But this is not a strong enough reason why Japan finally ratified the Protocol. Japan's decision to ratify cannot be explained by the balance of interests, bureaucratic positions, electoral politics, or foreign relations alone.

Yves and Schreurs (2007; pg 71) mentions about 'embedded symbolism' constraining the 'ability of anti-Kyoto forces to get their concerns onto the political agenda and limiting the freedom of action of political leaders in the wake of the US withdrawal'. According to their analysis, the Kyoto phenomenon allowed weaker actors to mobilize in the name of this national symbol. This tilted the balance in favour of ratification. However, this was not the case when it came to actual implementation. Unlike the battle for ratification, a highly visible decision, implementation is different. The latter is a technical issue and mostly done behind the public eye. As a result, Yves and Schreurs (2007) note that 'embedded symbolism' has not been much of a factor in implementation decisions. Industrial interests have had a stronger voice here.

### *China*

In 2007 China overtook the United States' by becoming the world's largest CO<sub>2</sub> emitter, making up 24 percent of the world's total CO<sub>2</sub> emissions (Schroeder 2008). As China is becoming one of the crucial factors for the advancement of the international regime on climate change, it is challenged by both state and nonstate actors to curb its growing GHG emissions. A developing country with the world's largest population, many of them highly vulnerable to climate change, it is second only to the United States in its total emissions of GHGs and it won't be late before it overtakes the latter. China has ratified the primary international accords on climate change—the UNFCCC and the Kyoto Protocol—but as a developing country, China has no binding emission limits under either accord and is listed in the non-Annex I countries. It holds a key position in the international climate change negotiations as one of the leading and most influential actors in the group of developing countries, and can thus be characterized as a key actor for the future success of the global efforts to combat climate change. Even as China's emissions surpass those of the United States on an annual basis, it will be decades before Chinese emissions surpass US emissions on a cumulative basis, measured as historic contribution of emissions to the atmosphere. China has been consistent in its position that, as a developing country, it will not take on any binding international commitments to reduce its GHG emissions.

Although attention to climate change has recently increased among China's leadership, the issue has not surpassed economic development as a policy priority. China's position in the international climate negotiations is not different from the rest of the developing world, as collectively articulated by the Group of 77 (G-77), a group of 130 (formerly 77) developing countries. The consistent position of the G-77 has been to emphasize the historical responsibility that the industrialized world brings to the climate change problem and the disparity between per capita emissions that persists between the developed and the developing world, resisting any commitments to reduce their own GHG emissions. Although it can act alone if it wants to, China has historically associated itself with the G-77 and therefore is not singled out. Its size however allows it to take a leadership role in formulating the positions of the G-77.

Although China, in concert with other developing countries - still adheres to the principle of common but differentiated responsibilities, substantial transformations are taking place in its climate change politics at both international and national level. In addition to the Kyoto Protocol, China has also joined climate-related initiatives such as the Asia-Pacific-Partnership on Clean Development and Climate in January 2006 and the Major Economies Meeting on Energy Security and Climate Change in September 2007. The Chinese government is increasingly designing and implementing national-level policies for climate protection. These measures to curb GHG emissions are, at least rhetorically, justified by the objective of climate protection, although observers warn of a growing gap between ambitious rhetoric and ineffective policy implementation on the ground.

In this regard, Schroeder (2008) employs a constructivist approach, to track steps of norm internalization in China's climate change policies. She notes that in China's case, the transnational advocacy network did not use pressuring tactics, nor have international NGOs been the main actors leading to a behavioural change of the Chinese government. Instead, she maintains that information sharing was the main trigger for a shift in climate politics. It was epistemic communities, not NGOs that played the main role of information dissemination. The message itself - high costs due to the impact of climate change and a growing challenge to achieving energy security—might have been the ultimate trigger for a change in Chinese climate politics. Norm internalization cannot be singled out as the main factor. The realization of the costs of climate change needs to be taken into account. Therefore neither a constructivist nor a rationalist explanatory approach alone but one that takes into account both might explain Chinese climate politics. For the international climate community, Chinese climate politics seems to recommend that a change in behaviour can be best attained if states are convinced about the utility of the rational, and not just coerced into the internalization of the norm (Schroeder 2008).

International pressure on China to devote more attention to climate change is going to increase. This will be both due to its emergence as the largest global emitter and

increasing international attention to climate change recognised by government leaders and heads of state, reflected in high-profile forums around the world. At the moment, such an agreement hinges on increased engagement from the United States; increased action from the major developing economies, particularly China; and a new climate framework that allows for different forms of commitments to be taken by different countries. At the same time, because the United States does not seem keen on the Kyoto process, the pressure on the developing countries, in particular the largest emitter of them – China, will increase (Bjorkum 2005).

While China has a central role to play in any global solution to address climate change, it is also true that it is home to 1.3 billion inhabitants that desire modern energy services and consumption habits enjoyed by much of the developed world. Effective engagement with Beijing will only be possible if the major emitting developed countries lead by example, and serious US engagement will be a precondition to China's engagement in any international climate effort. Meanwhile, understanding the challenges that China faces in reducing its own GHG emissions in the years ahead, particularly in decarbonising its energy sector, will be necessary for the international climate community to engage China on climate cooperation (Lewis 2007).

### *India*

Like China, India is an important developing country in the area of climate change - a high growth economy and the world's top five largest emitters currently. It is one of the non-Annex I countries under the Kyoto Protocol not bound by mandatory emission cuts. India is at the centre of the developing-world argument. India's current absolute emissions make it an important player in the global climate change politics. If one looks at GHG emissions as a flow concept India is a major emitter - the fourth largest in the world emitting about 4-5 percent of global GHG flows. At the same time, it is part of one of the G-77 subgroups - the emerging powers or BRIC-countries (Brazil, India and China), in the fragmented climate change regime, setting it apart from the rest of the G-77 in terms of prosperity, international importance and influence. Rapid growth and its unique socio-



political situation today make it less dependent on support from the G-77 collective and more assertive in the international milieu.

Various domestic factors make India's position in the global politics of climate change unique. While India, like China, is a large emitter today, in absolute terms, if the problem of climate change is viewed as one of allocating responsibility for the accumulation over time of GHGs – a problem of allotting finite development space, India has contributed only about 2.3 percent of global stocks of GHGs while the industrialized countries of Annex 1 collectively account for about 75 percent of current GHG stocks and the US alone for around 20 percent.

In terms of per capita emission, India is nowhere close to the Annex I countries or even China. Based on 2006 per-capita emissions for all countries, India ranks quite low in the 137th position worldwide and ties with the average for Africa. Although often bracketed with China, its CO<sub>2</sub> emissions are one fourth of the latter in per-capita and one fifth in absolute terms. India's energy intensity in 2006 was about half that of China's, lower than the United States, and only slightly higher than the EU. While part of this performance has to do with the growth in India's service sector, the country has also substantially de-linked industrial growth and energy consumption – on one hand industry has been growing at about 6-7 percent from 1990 to 2005, on the other energy use for industry has grown at a more sedate 3 percent.

The per capita emission factor is a strong negotiating stance that India has consistently resorted to in international climate change negotiations. It is a strong position that immediately shifts the responsibility to the developed countries to drastically cut emissions if the world is to meet the target of keeping global warming within the generally agreed safe limit of two degrees Celsius (Sinha 2009). At the same time, the low per-capita CO<sub>2</sub> emission of India reflect vast sections of the country lacking any access to electricity, relatively limited industrialization and the dependence of more than half of the population on agriculture which generates only 15 percent of the national income. Therefore, for India development has been the main issue in international climate

change negotiations. While it is true that energy consumption and GHG emissions are increasing, this increase is taking place against a backdrop of much needed economic growth. Rapid economic development and poverty eradication entails using the cheapest and most accessible forms of energy, which is mostly carbon-based such as coal.

The Indian approach domestically, as articulated in the National Action Plan on Climate Change has been to pursue opportunities in climate mitigation. From this perspective there is no real trade-off between poverty alleviation and climate mitigation and there may even be positive interaction between the two. Some of the sustainable development policies that particularly benefit the poor – such as promotion of public transport – clearly achieve both objectives. At the same time, there are areas of development where trade-offs may be considerable, such as upgrading infrastructure like roads, ports, electricity capacity and urban spaces. Without increases in emissions, investments in these sectors may incur costs, which may be equally high if not more.

## **Conclusions**

The United States is situated in a unique socio-political and economic milieu. The domestic and the international factors cannot be categorised into water tight compartments as both are closely inter-connected. The international climate change regime cannot be analysed in isolation without taking into account domestic politics of the major players, nor will any analysis, focussing only on the domestic factors, be a complete one. Politics, including climate change politics, is highly pluralistic in nature. Usually, many actors are able to affect policy in international forums – the significant ones being government, diplomatic representatives, international organisations and their representatives and officials. Other major actors are non-governmental organisations and industry and business groups. Besides these actors, due to the nature of the problem of climate change, a host of other actors are at work at the national and local levels such as scientists, environmental and climate activists, transnational groups, the media and public opinion, and of course the individuals and communities most affected by and vulnerable to climate change. Thus, climate change exemplifies the multi-actor and multi-level

nature of a highly globalised issue. The next question is - what explains the behaviour of the United States? And what does its behaviour tell us about international politics in general? I will analyse these issues in the next chapter.

# **Behaviour of the United States and the Global Climate Change Debate – An Analysis**

## **Introduction**

We have discussed that one of the most pressing global challenges today relates to climate change and atmospheric carbon emissions that are trans-boundary in nature, in which sovereign nations must coordinate effective interventions with one another. In this chapter, the question I seek to address is, - why is the United States, a great power, going slow on the issue of climate change? In this chapter, I first elaborate on the unique problem of climate change. Secondly, I discuss why it is an unprecedented challenge in the area of international politics in the present era. Third, I advance the main argument and conclude.

The United States in the area of climate change is a laggard. Given its size and contribution to global emissions, many countries around the world believe that it could and should be doing more to combat climate change. It plays a pivotal role in climate change negotiations. As the world's biggest source of CO<sub>2</sub> and the nation with the largest resources that could be devoted to tackling climate change issues, the United States is in a position to strongly influence the course of negotiations. But so far it has undertaken a cautious approach in setting emission reduction targets and has been non-committal to say the least, although it can potentially take on the leadership role by directing international climate change negotiations to achieve positive outcomes at a faster pace. The Bush administration did not achieve much in terms of new commitments to climate change. On the contrary, through most of the negotiations, the United States was focussed on adopting a defensive posture, when other countries were putting pressure on it to commit to a change in its behaviour i.e. reduce CO<sub>2</sub> emissions (Nitze 1994). The current US government has assured that it would take steps to deal with the issue by announcing the launch of the Major Economies Forum on Energy and Climate in March 2009. It is yet to be seen what the administration can achieve in concrete terms. Now that there is a

president in office who supports efforts to address climate change domestically and internationally, one might expect that the United States could act quickly to implement the climate and clean energy policies that the president favours. However, the current US climate negotiators are aware of the administration's earlier failure to ratify the Kyoto Protocol. As a result they are cautious not to commit to specific emission reduction targets in the treaty negotiations until it is clear what targets Congress will include in domestic legislation. At the Copenhagen Climate Summit held in December 2009 therefore, a meaningful, binding agreement to mitigate the negative impacts of climate change could not be achieved. The US stance in climate change so far, is a pointer to international politics in general and to international negotiations in particular.

US behaviour becomes all the more significant in light of its status as a great power in terms of material resources. It is the recognised leader of the international system. Its role is significant in the sense that it is universally perceived both as the largest part of the problem as well as the solution. However, unlike in other areas, in climate change its leadership has fallen far short in the area of climate change. Today, we are living in a world shaped by events in the previous centuries. The United States became the world's leading economic power in the late nineteenth century; it channeled that power into military might in the second half of the twentieth century. In the middle of the last century, it had shaped the world military, political and economic order when it wanted to secure its interests. In various ways it created a political structure that to an extent provided international stability, including frameworks for co-operation in the economic as well as security sphere (Ikenberry 2007). In dealing with the challenge of climate change, United States and other international actors are responding to the problem in a given way in this particular context where the foremost concerns of states are security and economy driven.

Climate change is going to be one of the biggest political challenges of the twenty-first century. It poses a serious and complex threat that no other era in human history was ever faced with, having security implications in the medium to long term. It can be said to represent a globalised form of the "tragedy of the commons" issue first

explicated by Garrett Hardin in 1968. Individuals and nations of the world are exploiting the planet's natural resources for material advantages and in the process contributing to climate change. The tragedy is that in the short run, in exchange for the gains, they suffer only a fraction of the environmental costs. In turn, they are typically unwilling to reduce their GHG emissions unilaterally, because in doing so they would pay the full price of abatement but gain only a fraction of the benefits. Their sacrifice may be futile if other actors do not exhibit similar restraint. Also, the long term and uncertain nature of the problem makes it different from issues related to security and economy or trade. The research questions stated in this dissertation looks at this problem from an IR perspective.

The main argument made in this analysis is that US decisions in the sphere of climate change are based on rational assessments of its national interests. US behaviour can be explained by a rationalist analysis of the global climate change politics and the position it is situated in. While the normative basis for leadership by the US in the area of climate change is indisputable, the inevitable implication of the argument made here is that when it comes to international politics in the current era, in the case of the US, economic rationale dominates national interests.

The argument, in fact, applies not only to US behaviour but also other actors in the global climate change politics. While the interests of actors may vary, they can be explained by the same logic of rational behaviour in decision making. Ignoring ontological debates here, we will consider states as important actors in the global politics of climate change. Although rationalism is usually seen as assuming an individual ontology, in which wholes are reducible to interacting parts, we will not deal with philosophical debates here and will consider states and non-states as actors with rational decision-making abilities, which take decisions that explain their behaviour. There is no inherent need to commit to an ontology to work in these traditions as we may want simply to explore its implications for social explanation (Fearon and Wendt 2002).

I argue that the United States is driven by an economic and state interest rationale. Therefore, although climate change might have become a political issue at the

international level, it has not yet attracted the kind of political exigency as received by security, economic and trade issues in the last century until the current period. This may not be true for bottom-up efforts however. International politics has traditionally dealt with power and security games, state sovereignty, diplomacy, trade wars. Therefore, the problem of climate change, which is as much about state relations as about the future of the earth system, is new to IR. At the same time, old ways of looking at issues may not work for new problems. Having made the main argument, an important question could be raised in the end - given actors' interests, how can the normatively desired outcome be achieved?

Arguments to the contrary are made by Betsill (2000) that international climate change norms are indeed forcing states – including the United States – to “redefine what it means to be a legitimate member of the international community” Betsill (2000; pg 224). According to her, the United States has started to address climate change to bolster its international credibility. She makes the argument that states are taking action to boost their status in the international system. It is true that states are acknowledging the importance of the issue. In climate conventions leaders call for the world's big emission producers to work together and set long-term emission reduction goals. Also, it cannot be denied that international consensus is building on obligation to change their behaviour, including the United States. However, the argument made in this chapter brings out the wide gap in acknowledging the existence of the problem and choosing to do what is actually determined by state interests in the short term. In the context of the Earth Summit in Rio de Janeiro in 1992 and the role of the United States in formulating the final agreed text of the framework convention of climate change, Nitze (1994) makes a directly contrary argument that the US climate change policy was not based on a rational assessment of the national interest. It was, according to him, based instead, on ideology and politics. Here, I will argue that assumptions of rationality may differ and therefore for the sake of analysis I will assume that states have fixed interests and preferences, i.e. states give preferences to economic gains and are constrained by other states' preferences, and therefore, business-as-usual scenario despite the climate change imperative is what states prefer in the short term.

## **Climate Change – The Political Challenge of the Twenty First Century**

The global commons problem of climate change has been one of great and growing concern over the past several years. Here, I look at some of the most important factors that make the problem challenging in the area of politics and particularly international politics. It is a quintessential long-term policy issue because the problem spans for at least one human generation, there is deep uncertainty and it involves substantial public good aspects. The problem is also irreversible if present trends of emissions continue. Another factor that makes it particularly challenging is the fact that there is no one villain, for everybody is responsible in various measures, unlike say, war or a global financial crisis. The enhanced greenhouse effect is the unanticipated result of industrialization, land use and technological changes, modern lifestyles and our dependence on energy. Therefore, the solution also does not lie in a single factor, be it political or technological. Even if, for instance, the United States the largest emitter of CO<sub>2</sub>, were to enter into an international climate control agreement in the near future, nations would not be able to avert many of the serious current and future climatic impacts (Podesta and Ogden 2007). The scope of the problem distinguishes it from most of the environmental challenges that have been faced to date, not to mention security and trade issues.

The second important reason why climate change is particularly challenging is that policy decisions, be it top down or bottom up, have to be made, and must continue to be made in the face of persistent uncertainties, which can be quite significant and contentious. It will be a long time before precise predictions can be made about local impacts of climate change with any degree of confidence. With the issues moving up on the international political agenda, however, in the past two decades the debate has shifted from questioning the existence of the phenomenon to inquiring about appropriate and effective mitigation and long-term adaptation and preparation for future climatic shift. With the knowledge that current trends are unsustainable, it is clear that precautionary actions are warranted. The main debate today is how much must be done and by whom.



Such uncertainties fuel policy debates in the developed world, and anxiety in the developing world. This has led to a deadlock in climate agreements and an absence of clear and comprehensive plan of action. It is also this uncertainty that has led many to believe that strong and immediate action needs to be taken, while some others believe that action should be postponed and adaptation (in place of mitigation) pursued.

The third challenging aspect of the problem is its global interdependence and scope in both environmental and economic terms. It is a policy problem of unprecedented scope and complexity. There is no single sector solution to the problem. Earlier environmental problems were local in nature. Until the 1970s certain problems such as the effects of acid rain were understood to be continental in scale. By the 1980s, the world had entered the age of global environmental awareness, in a way, an understanding that just as all countries contribute, or will contribute to the problem of climate change, all will also suffer the consequences of inaction.

The fourth unique political aspect of the problem is the fact that geopolitical consequences of climate change are determined by local political, social, and economic factors as much as by the magnitude of the climatic shift itself. Wealthier countries and individuals will be better able to adapt to the impacts of climate change, whereas the disadvantaged will suffer the most. Thus, those with the political capacity for dealing with the problem are some of the most reluctant to make meaningful short term commitments. The developing and small island nations, as well as sub-Saharan African countries, will be the most adversely affected. Even a relatively small climatic shift can trigger or exacerbate food shortages, water scarcity, destructive weather events, and spread of disease, human migration, and natural resource competition. These crises are all the more dangerous because they are interwoven and self-perpetuating with serious security implications. Therefore, issues of fairness and justice are inherent in the climate change problem. Any discussion needs to situate climate injustice in enduring and emerging inequalities in the international political economy by moving beyond stalemates in international negotiations and improve national-level policy-making. This makes climate change a highly contentious north-south issue.

Finally, the problem is particularly challenging because it is a long-term issue that requires long-term solutions, whereas electoral cycles for legislative and executive positions are of a much shorter duration. It has been estimated that by the end of the 21st century, global emissions of GHGs should be reduced by 50–80 percent below 1990 levels if catastrophic climate change impacts are to be avoided. This is equivalent to replacing a fossil fuel-based world economy with a low GHG world economy. Such a strategy will most likely take longer than half a century (Hovi et al 2007). Even if the decision to transition to a low-GHG were to be made by a single unitary actor say, a world government, during the 21st century, it would face a credibility problem according to Hovi (2007). This is because the investments made towards such a purpose would not result in the desired outcomes for several generations and a range of other problems are likely to arise over time and therefore more efforts will need to go into say, poverty reduction, financial crisis, financing social security, or fighting epidemics. This makes ex post adherence to the ambitious climate goal unlikely. Hovi et al (2007) refers to this as the time inconsistency problem where political systems are challenged due to the trade-offs in spending scarce political and other resources.

The above factors make the issue highly challenging at the policy implementation level. Mitigating climate change is a global public good. It is well known that the provision of such goods involves free-rider problems. Because the benefits of reduced global warming accrue to all countries, it will be tempting for each country to leave the mitigation burden to others. Although this problem is central to international cooperation problems of a short-term nature, the long-term nature of climate change makes the temptation to free-ride stronger. Hence, without effective international cooperation, mitigation of climate change will likely be provided only in suboptimal quantities. Because of the free-rider problem, some countries might be tempted to decline to participate and countries that do participate might not fulfill their commitments.

## **A Rationalist Explanation of US behaviour**

Keeping in view, the nature of the problem of climate change as discussed above, I make the argument that US decisions in the area of global climate change are based on short-term rational assessments of its national interests. I will argue subsequently that this applies to states, which are assumed as important actors in the area of climate change.

### *Main Assumptions*

Since the problem involves moral as well as material issues, actors are likely to frame policy choices differently. Various analyses evaluate alternative options primarily in terms of interests, ethical principles or other norms, and authors may disagree on whose interests or which norms are the most important. I focus on an analytical framework using rationalist explanation to analyse behaviour of the United States. Rationalist explanation of decision making by itself do not explain much as rationality cannot be defined as being absolutely exogenous or fixed. What comes across as rational for one actor may not be so for another. Therefore, for the sake of analysis I will assume that preferences and interests of actors are fixed and exogenous. Without such an assumption it is difficult to define what rational behaviour is and what it is not. In my analysis, I will assume states as important actors that have an imperfect ability to perform calculations and that they have fixed national interests. National interest can vary in scope and over time for the same state and for different states. In a similar manner, Wolfer (1952) mentions of the vagueness of the concept of national security. It can mean different things to different people. I assume that states give preference to their economic interests and prefer business-as-usual scenario to undertaking costly measures towards mitigating climate change. It is true however, that in the medium to long term, states might take into account climate change issues in framing its national policies and these may actually be more in the interest of the nation. For example, national energy conservation and efficiency policies can be said to be in the national interest that can also provide leverage in the international climate change negotiations. But in this case, the motivation of the

state is not dealing with long term climate change issues, but is a purely rational economic decision towards, say, energy security.

Without taking into consideration the constraints faced by the actor, a rationalist analysis cannot explain anything significant. Without constraints, a rational actor would be free to make the best choice in terms of the preferred outcome. There would be no question of rationality in such a scenario. In reality, actors are faced with constraints and have to make the optimal choice among a set of options instead of the best choice. I will take into account the fact that actors are situated in a particular institutional context which imposes constraints on their decision making abilities. For example, states today are acting in a free trade regime where trade concerns such as issues related to costs and benefits in free trade agreements receive priorities as compared to environmental concerns, or economic competitiveness issues may deter a country from switching to costly energy efficient technologies in the short run. As another example, shift from an energy intensive economy to a low carbon economy involves time lag that depends on various domestic factors that effect policy making and more importantly implementation. This might be politically infeasible in the short run. I therefore make a short term analysis that takes into account the constraints imposed by institutional factors on the exigencies of decisions taken by actors and therefore, explanations of the long term factors effecting actors' behaviour is beyond the scope of this analysis.

In the present international political and economic milieu, states are situated in an institutional context which is the result of around forty years of effort to dramatically reduce tariffs and establish a rules-based trading system leading to the formation of the World Trade Organisation (WTO). To reverse the GHG emissions of the world's around \$60 trillion economy will be among the most complex international governance challenges ever rivaling the current regime. I therefore argue that in the case of the United States, its behaviour is shaped chiefly by the economic rationale more than any other factor. Also, the US economy is one of the most open where the market reigns supreme with less regulation than, say, other industrialised or developing economies. I also argue, therefore, that because decisions related to climate change are economic,

states are likely to prefer the business-as-usual scenario. It may be counter-argued here that national economic interests may not lie in business-as-usual scenario, say, when a state chooses to adopt energy efficiency policies which may be pro-economic growth as well as reduce GHGs. In this case Nitze (1994) argues that in the context of the Earth Summit in Rio de Janeiro in 1992, the Bush administration's climate change policy was not based on a rational assessment of the national interest but was instead based on a mixture of ideology and politics. He argues that had their decisions been rational the administration could have linked increased investment in energy efficiency, renewable energy and other technologies to reduce GHG emissions with a market oriented agenda. This may be true at the national level, and there are examples when a state undertakes energy efficiency policies to reduce its energy intensity. But at the global level, this explanation does not hold where states would refrain from undertaking any commitment for the sake of climate change mitigation, a scenario where costs are concentrated in specific sectors or segments while benefits are widely dispersed or indeterminate. Therefore, states will take decisions related to climate change only if such decisions first and foremost, make economic sense to states i.e. if the benefits are clearly visible as compared to the costs of undertaking such an action. In this case, the behaviour of the EU and Japan may be cited as examples of arguments to the contrary as both ratified the Kyoto Protocol. The EU even took on the leadership role in pursuing Kyoto without the United States. However, this need not be the case as I discuss subsequently. Participation in the process or ratification of the Kyoto Protocol need not be an indication of the fact that a state is committed to mitigation activities for the purpose of tackling climate change. For example, emission reduction measures are made a part of domestic policies first and are undertaken to achieve domestic energy related goals, which then could be made a part of a comprehensive national climate change policy, if any.

#### *Why other Theories cannot Explain State Behaviour in Climate Change Politics*

Here, I discuss why realist or neo-realist theory cannot explain US behaviour and the phenomenon of global climate change politics. Climate change is an issue that transcends the concept of territorial boundaries and encompasses the entire earth system. The

assumptions of realist theory do not lend itself for explaining the global phenomenon of climate change. It concerns itself with the conflictual nature of international life, it assumes the group as the essence of social reality and it is characterized by its emphasis on the primacy of power and security in political life and human motivation (Gilpin 1984). On the other hand neo-realism looks at the distribution of power in the international system to explain political affairs and almost relegates issues of environment to low politics. In this sense traditional IR theories are limited in their power of explanation of contemporary international issue areas. On the other hand a normative analysis may seem to be well suited to explain states' concerns for environmental issues and the impact of climate change. It could be argued that international climate norms are altering the identity of states and this may ultimately enhance prospects for future international cooperation in this issue area. For example, Betsill (2000) argues that international norms in the area of climate change are shaping the way states identify themselves and how they define and pursue their interests. She points out the fact that industrialized states have accepted that climate change is a threat and that legitimate members of the international community ought to take action to address that threat. She further notes that the use of a constructivist approach, focusing on the process by which norms develop, is a useful way of understanding the role of the United States in global climate change politics. This approach may help us in understanding the global politics of climate change in the long term and it is important to take into account the normative aspect of the problem. But I argue here that norm development in the international political sphere is a long term process and the concept of norms is helpful in understanding how and why indeed the issue emerged on the international political agenda in the first place, over the period of the past two to three decades. Such an approach however does not help us in explaining the failure of states to agree to act on the issue at the global level in the short term. Why is it that despite international consensus on the seriousness of the issue there is not much action in terms of agreement on implementation or binding climate policies? While the importance of the normative aspect of climate change is beyond doubt, it cannot explain the failure of international cooperation in global climate change so far. In this context, Shepsle (2006) discusses about rational choice institutionalism and about the collective action problem

where he describes collective action as ‘the capacity of a group of individuals to coordinate for mutual advantage’ (Shepsle 2006, pg. 28). He notes that groups will successfully work collectively when participants receive selective benefits and not collective benefits. The second reason how collective action towards a common goal would take place is when there is strong leadership. And the third way, he notes how cooperation will work is by examining Axelrod’s (1984) repeated prisoner’s dilemma situations. He mentions that cooperation may be effective through repeated interaction of participants wherein behaviour of others is expected beforehand based on their past actions, and thus benefits of cooperation may be reaped by all.

With regard to the science of climate change there is international consensus and it has become a major agenda item regularly discussed by the heads of state and government. In 2007, it was a top priority of the G-8 Summit. Both the United Nations Security Council and the UN General Assembly placed it high on their agendas. Overall, there is hardly any high-level political encounter in which the issue is not discussed. Yet when it comes to actual cooperation the issue seems to elude states. A rationalist explanation can help us understand why states behave the way they do in the realm of climate change. Here, I assume states as rational actors that take decisions based on rational assessments of costs and benefits in the economic sphere for two reasons. First, policy decisions in the area of climate change be it at the national or local level are mostly economic that has implications with regard to energy, industry, agriculture or life styles of the people. And secondly, the current world order is an open or liberal international economic order where pride of place is given to market rationality. Although the market reigns supreme, authority is not absent from such an order. But this same authority is based on the idea of giving maximum scope to market forces rather than constraining them. For example, these authorities are regulatory bodies of any kind. In the areas of money and trade, specific regimes that serve such an order today, limit the discretion of states to intervene in the functioning of self-regulating currency and commodity markets (Ruggie 1982). A similar example in the area of trade is the WTO regime.

### *States as Rational Actors*

Like most other issues in international politics, states are important actors in the area of climate change. Such an approach, may, like the dominant regime approach i.e. neoliberal institutionalism, as a means of explaining global climate politics attract criticisms, in which the main points of contention are: the preeminent status of the nation-state; the black box nature of the state; and that the international and domestic arenas are easily differentiated and strongly demarcated. This is not to say that other non-state actors are not important. On the contrary non-governmental entities have played a much more significant role in the development of environmental and climate change regimes. Since this is a short run analysis, we consider states as important actors in the world stage although this need not be a valid assumption in the long run analysis.

The constitutional contracts articulated at Westphalia in 1648 and Vienna in 1815 are the broad framework agreements in which originated the idea of a sovereign nation state. These contracts encompass the basic order or ordering principles of an entire social system. They identify the sovereign state as the fundamental unit of international society, setting forth a set of basic rights and rules intended to guide interactions among states. Although this is not the only way that society was always organised, and neither is such an ordering system absolute in scope or depth even today, it can be said that the state system has been the most enduring form of social systems so far. With time and increasing globalisation, however, alongside the basic ordering principles of international society, arose problems that a single state or few states could not solve on their own. This necessitated the formation of specialised institutional arrangements or regimes covering specific issue areas such as international trade, nuclear non-proliferation, ozone depletion, air transport, telecommunications, trade in endangered species, whaling, Antarctica, terrorism, and most recently threats to biodiversity and global climate change. Most institutional arrangements can be effective as determinants of collective outcomes in international society. In the area of environment and climate change too, rise and formation of regimes accompanied expanded activities in other sectors of global societies such as increasing economic globalisation. The interests and powers of the dominant



actors in world society viz. nation states alone cannot explain the emergence of world environmental and the nascent climate change regime, as it can be done with regard to international economic and national security regimes. Although it cannot be denied that states are important actors in the process, the formation of the world environmental regime however started with the rise of much international non-governmental association and discourse, leading to interstate treaties and later to intergovernmental organisation (Meyer et al 1997).

Due to the efforts of the scientific community and international NGOs, climate change is now firmly placed on the international agenda. Responses to tackling climate change are also well known which include: increased energy efficiency, fuel switching, more renewables, nuclear power, conservation, appliance efficiency, emission control, carbon sequestration, afforestation, and international cooperation. Some mitigation responses call for changes in production and others for changes in lifestyle and consumption. Adaptive responses can help the majority of the world's population, but don't receive as much policy attention in terms of immediate actions. Thus, what looks like a comprehensive climate change policy are actually matters of energy policy, industrial policy, or food policy. Evaluated in terms of such sectoral frameworks, at least some of the specific measures that could be important components of a comprehensive climate change policy are likely to be seen by many as less attractive. Therefore, despite consensus regarding the problem and the solutions, political will for meaningful and concrete action is not yet apparent. Climate change is economically and politically more difficult than other issues yet addressed, so it is not surprising that the diplomatic efforts to date have been disappointing. Although recent public opinion surveys show that concern regarding the problem is widely shared worldwide, real commitment towards environmental values is still lacking (Haas 2007). At the individual as well as national level, electoral decisions are based on local and economic factors rather than global environmental ones. Mainly, economic consequences of climate change mitigation actions inhibit states' willingness to actively cooperate. The economic consequences of dealing with climate change stand in sharp contrast to the task of controlling substances that deplete the ozone layer. Such substances - principally chlorofluorocarbons - now

account for only a small segment of the US economy. By the time the United States had taken the lead in seeking a multilateral agreement to phase out the production and consumption of chlorofluorocarbons, US manufacturers had discovered substitutes for them. By contrast, there are no reasonably priced substitutes for the internal combustion engines that continue to power cars in the United States. There are also no reasonably priced substitutes for the CO<sub>2</sub>-emitting methods by which the United States produces energy, other than nuclear energy, which is politically controversial. Thus the economic consequences of attempting to deal with climate change are serious (Jacobson 2002).

Climate change is not seen as a pressing problem in the short term by major economic actors and therefore corrective actions are delayed. In the absence of comprehensive and binding policies, setting ambitious goals by individual companies for themselves or whatever steps big MNCs have taken so far are also minimal. For example, the UK retailer Marks & Spencer has committed to becoming carbon neutral by 2012, with the company's operations becoming 25 percent more energy-efficient and stores being powered by renewable energy. Although these are positive steps, it is difficult to say how far such measures are motivated by the science of climate change. Overall, costs of acting are concentrated, while the benefits are diffuse. The misfortune of environmental policy is that it is relatively poor in measures with concentrated benefits and dispersed costs, and relatively rich in measures producing the opposite configuration of effects. Environmental damage typically occurs as a side effect of otherwise legitimate activities such as industrial production or transportation of people and goods. Therefore, effective mitigation policies must somehow penetrate or regulate the activities that cause environmental damage. At least in the short run, such measures will most often impose costs on those whose behavior is to be changed, while benefits will be distributed more widely and perhaps in ways that cannot be predicted at the time of decision. I argue that this is mainly the case because the institutional context that states are situated in today is incompatible with the goals of global environmental or the nascent climate change regime. Gorg and Brad (2000) points out to the fact that in analyzing global environmental politics while we focus on cooperation by nation states and the regulation of trans-border issues, we tend to ignore the complex crisis of the relationships between

societies and the ongoing economic competition between nation states. By taking the global biodiversity politics as the case in point, they show that cooperation among states, be it in global environmental or climate change issues, breaks down, however, due not only to the different competitive situations but also to the unequal distribution of power within the system of states, in which powerful constellations of interests - articulated as national interests - still tend to win the day. Therefore the fact that the same players cooperate in certain areas and compete in others appears to be a paradox (Gorg and Brad 2000). Therefore, it is important that the interests of the actors involved, their unequally distributed capacities to assert themselves, and institutional structures need to be taken into account while analysing co-operation by parties in climate change.

#### *The United States – A Rational Actor*

Here, I will look at how the economic interest of the United States comes out clear in its approach to the problem of climate change. Its behaviour, therefore, is constrained as well as shaped by its interest as well as the institutional structures of the day. This is not to say that climate change issues do not figure in the policies of the United States, rather this brings out clearly the fact that despite recognition of the criticality of the problem by the United States and despite being at the forefront in climate change research and negotiations by the administration, it is not being able to take concrete steps to deal with the situation at the global level. For example, Clinton and his vice president Al Gore campaigned on the environmental theme, and Gore's book 'Earth in the Balance' demonstrated his sentiments in favour of very strong international environmental regulations. Shortly after Clinton took office, then State Department counsellor Timothy Wirth declared that the new administration would re-establish the United States as the world's environmental leader. However, Clinton was later unable to go as far as he and his policy advisors had planned (Harris 2001). This is despite the fact that the United States had played a major role in the area of environmental and climate change negotiations. For example, it was instrumental in the creation of the World Climate Research Programme (WCRP) in 1979 and subsequently in the development of its programme. The US government had also been instrumental in the formation of the

broader International Geosphere-Biosphere Programme in 1986. It had thus acknowledged well before the 1988 Toronto Conference that climate change was a potential problem of enormous significance and it had sought to gain better understanding of the problem through research. But while the United States increased its own research activities and supported increased international research, it approached the Second World Climate Conference in 1990 cautiously. Although it played a major part in drafting the UNFCCC, the United States clearly let it be known that it was against emissions reduction targets (Jacobson 2002).

Most observers are right when they say United States is obstructionist when it comes to addressing seriously the potential threats associated with anthropogenic climate change. While official statements from consecutive presidential administrations have varied with regard to the expressed commitment to climate protection, actual federal efforts to reduce emissions have not gone much beyond support for research and voluntary programs. In the Ministerial Conference on Atmospheric Pollution and Climatic Change held in Noordwijk, the Netherlands, on 6-7 November 1989, nearly sixty ministers affirmed the need to stabilise CO<sub>2</sub> emissions as a first step toward a cooperative international response strategy. The United States delegation clearly stated at this conference that it was not ready to accept any binding commitments regarding level of emissions (Borione and Ripert 1994). The US government under Richard Nixon was active in the negotiations in the Stockholm Conference on the Human Environment in 1972, which although had little favourable impact on the earth's environment but nevertheless managed to raise awareness among the public and governments about the importance of international environmental cooperation. It took an even greater interest in deliberations surrounding the Conference in Rio de Janeiro in 1992 also known as the Earth Summit. Although the United States generally supported the environmental agenda at Stockholm, it was much less supportive of the combined environment and development agenda at Rio. The United States far from acting as a leader at United Nations Conference on Environment and Development (UNCED) used its influence at Rio to limit the impact of the conference on the US economy (Harris 2001). At the Earth Summit, the US administration advanced a number of arguments to support its position

that the convention should focus on a process for developing cost-effective mitigation strategies rather than on short term targets and timetables for emission reductions. The administration also argued that it did not have sufficient assurance that it could comply with the proposed target of stabilising US CO<sub>2</sub> emissions at 1990 levels by 2000 without serious harm to the domestic economy (Nitze 1994). The United States also took the view that participation of countries in the international response to climate change should be in accordance with the means at their disposal and their capabilities without any specific reference to the extent of their responsibility for contributing to global warming (Dasgupta 1994). The most comprehensive and ambitious attempt to negotiate binding limits on GHG emissions is contained in the Kyoto Protocol in which most developed countries agreed to reduce their emissions by 5 – 10 percent relative to the levels emitted in 1990. Although the near-term challenge for most industrialized countries is to achieve their Kyoto targets, the long-term challenge is to meet the objectives of Article 2 of the UNFCCC i.e. stabilization of GHG concentration in the atmosphere at levels that would prevent dangerous anthropogenic interference with the climate system, with a special focus on food security, ecological systems and sustainable economic development. To stabilize the atmospheric concentration of CO<sub>2</sub> requires that emissions eventually be reduced to only a small fraction of current emissions i.e. 5 to 10 percent of current emissions. The United States had stated that the Kyoto Protocol is flawed for four reasons: there are still considerable scientific uncertainties; high compliance costs would hurt the U.S. economy; it is not fair, because large developing countries such as India and China are not obligated to reduce their emissions; and it will not be effective, because developing countries are not obligated to reduce their emissions (Watson 2003).

Beneath these arguments lay a core of hard politics with rational assessments of costs and benefits. Any serious US policy to address climate change will require a gradual reduction in the production and use of coal and oil and a gradual increase in reliance on energy efficiency, natural gas and renewable energy. Many Senators felt that the United States could not achieve the 7 percent reduction from 1990 levels of GHG emissions without seriously harming the US economy. By the end of 1999, US GHG emissions were about 13 percent above 1990 levels, and they were projected to be 26

percent above 1990 levels by 2010. For the United States, to meet the Kyoto targets, it would have to reduce its emissions by about 30 percent from the projected level for 2010 (Jacobson 2002). Not surprisingly, the United States has not made very aggressive efforts to date to control or offset GHG emissions. It has relied on expenditures, especially on research and development, but in terms of concrete policies, it has declined to provoke either the business community or individual consumers by regulating or taxing emissions. Concerns about international competitiveness played a central role in the withdrawal of both Australia and the United States from the treaty. This may also have hindered implementation efforts by other countries that did ratify (Harrison and Sundstrom 2007). The United States was concerned that their industries would not be able to compete with industries in countries that either had less onerous targets or, in the case of developing countries, no binding targets at all. This factor was clearly cited by both the United States and Australia in withdrawing from the treaty. The later ratified the treaty in 2007.

That economic rationale dominates decisions taken by states regarding climate change is hardly surprising. In fact, the United States under the Bush administration had clearly stated its reluctance to accept a strong climate change treaty - measures aimed at precise reduction of GHG would threaten American economy and jobs. This makes for a stronger case for a country going to elections during an economic recession. The important point to note here is that in the short run any treaty to mitigate emissions will be poorly implemented irrespective of whether a state enters into any international agreement or not. This is because of the fact that we live in a highly globalised world and states are acting in an environment where they are constrained by institutions which were strengthened in the middle of the last century. For example, a common assumption is that, the United States 'used its power to organize the operation of the non-Communist international system - to "make and enforce the rules for the world political economy" as one scholar put it' (Ikenberry 1989; pg. 375). I do not want to argue about the extent and nature of the power that the United States exercised. The conventional view is that the United States got its way and created a postwar order of its choosing, using its economic and military position.

The current global economic system is built on neo-liberal free market principles. The dominant capitalist economic paradigms hold that the well-being of states is increased as the sphere of free trade increases. Therefore, any environmental regulation which might inhibit the free movement of goods and services is looked upon as counter-productive to growth. The current global economic system has its roots in the Bretton Woods Conference held in the United States in 1944. As the end of the Second World War approached, the United States and other nations, including the UK, looked towards the development of a new world economic order based on free-market principles. The Bretton Woods system was to be regulated by three institutions: the WTO, the International Monetary Fund (IMF) and the World Bank. The ability of nation states to influence these global economic institutions is tied directly to economic power. The boards of these organisations are appointed according to the relative economic strengths of states. This immediately raises questions as to their neutrality in regulation and their democratic legitimacy and accountability, a theme that appears in much green writing on international institutions. The ability of the Bretton Woods institutions to respond to the growing links between trade, development and environmental degradation is questionable (Connelly and Smith 1999). Therefore, environmental and climate change politics challenges, and is at the same time constrained by, not only the nature of international political system but also by the dominant economic paradigm. The nature of the economic system and the activities of major economic actors, point towards the barriers facing development of effective environmental and climate change regime. It is under such an institutionalised world order, where economic and security issues dominate agenda that states are coming together to work towards a common purpose of addressing global environmental problems including climate change. It is clear that decisions of states will be constrained by economic rationale even if climate change issues remain high on priority, reducing commitments to climate change issues to rhetorics at the global level. Although the United States is often in the vanguard in recognizing global environmental threats and in calling for a multilateral response, many a times it lags in changing its own behaviour. In fact, with increasing globalisation free trade had become the paramount value driving most US international relations. Although the 1992 Earth Summit was heralded as the turning point for global environmental policy, few if any,

countries have gone beyond discussions and adopted policies in ways that fundamentally challenged the systemic orientation towards economic growth. The Summit yielded two legally binding treaties: the Framework Convention on Climate Change and the Convention on Biological Diversity. While on paper, the Summit did provide a potential vision for moving towards sustainable development, i.e. towards both greater environmental protection and greater economic justice. Essentially the South received renewed commitments for increased development assistance, recognition that the North was substantially responsible for global environmental degradation, and a commitment that the North would take the leadership role in addressing global environmental problems. By 1999, however the momentum from Rio had dissipated and the reciprocal commitments had largely been abandoned. Official development assistance from the North to the South had declined since Rio, and the new emphasis was on private sector flows of capital. Northern countries including the United States even maintained that such direct and indirect investment flows make up for declining development assistance by facilitating environmentally sound technologies. The Rio treaties therefore remain poorly implemented. Perhaps most critically, institutions such as the Commission on Sustainable Development and the pre-existing United Nations Environment Programme (UNEP), as well as the environment secretaries, continue to take a back seat to economic powerhouses such as the World Trade Organisation, the World Bank and the International Monetary Fund (Hunter 2000).

### *The Case of EU*

Central to the discussions regarding climate change and mitigation activities for each country is a desire to address the common pool problem, but in a way that does not entail accepting greater costs than other parties. Based on the formal Kyoto Protocol, however, it is hard to understand commitment to the issue as a whole. Because of the free-rider problem, some countries might be tempted to decline to participate, e.g. United States. Also, some of the countries that do participate might not be able to fulfill their commitments. Oberthür and Kelly (2008) have analysed EU leadership in the area of climate change and argued that, the EU has, over time, considerably improved its



leadership record. They then link this improvement to advances in EU domestic climate and energy policies and shifts in the European and international politics of climate change. The EU proposed the deepest emission cuts and accepted the highest reduction target among the major industrialised countries (minus 8 percent). Here, I make the argument that EU was able to take up leadership in the Kyoto Protocol negotiations because national political developments unrelated to climate change were favourable for the EU. Its economic interests, for example, such as those related to energy policy to a certain extent were in sync with climate change mitigation activities. It would be incorrect to assume that EU leadership on climate change is motivated solely by the science of it. While the debate rages over global warming, there are also concerns about energy security, owing both to rising oil prices and to fears about national dependence on foreign imports of fossil fuels.

The EU is a major importer of fossil fuels. In a briefing paper Darkin (2007) notes that Europe's dependence on foreign supplies is set to increase over the coming decades, as the region's oil and gas reserves diminish. At the same time, several member states are dependent on a single supplier situated in politically or economically insecure regions such as Middle-East and Russia. North Sea oil and gas fields have already been exploited beyond their peak, leaving Europe dependent on non-EU countries for future supply. According to the EU Commission, EU energy dependence will jump, under a business-as-usual scenario, from 50 percent of total EU energy consumption today, to 65-70 percent by 2030. Over the same time-frame, reliance on gas will increase from 57 percent to 84 percent, while reliance on oil will increase from 82 percent to 93 percent. And 66 percent of EU coal needs is expected to be covered by imports by 2030. Meanwhile, mechanisms to ensure EU solidarity in the event of an energy crisis are not in place. It is not entirely coincidental, therefore, that the European Commission decided to coordinate its energy and environment policy following the publication of the 2005 Energy Green Paper 24 and a report on 'Winning the Battle Against Climate Change' in the same year (Darkin 2007)

However, this was not the case at the beginning of the twenty-first century. Environmental protection was pushed into the background by the Lisbon Agenda of 2000 which placed particular emphasis on improving the competitiveness of the European economy. Starting the early 1990's the EU undertook a number of measures with a positive effect on GHG emissions. Oberthür and Kelly (2008) in their analysis discuss how the EU actually fell short of meeting its Kyoto targets and mentions that limited measures such as the Landfill Directive were in most cases motivated by other considerations. Similarly, progress made in reducing GHG emissions in the EU-15 in the early 1990s resulted mainly from the shift from coal to gas in the UK and German reunification. Efforts were being made to initiate policies that reduce GHG emissions such as the EPE in 2007. The EPE calls for the EU, for example, to triple its use of renewable energy sources by 2020 to provide for 20 percent of overall consumption. While EU is already the global leader in renewable energy with, nearly two-thirds of the world's wind energy market. However, measures for emission reduction were insufficient or not successfully implemented. At the turn of the century, it was projected that emissions would increase further by 2010 unless additional measures were taken. Overall, even in the case of EU leadership in climate change, a serious credibility gap existed between international commitments and actual climate policy implementation (Oberthür and Kelly 2008).

In addition to common and coordinated climate policies, domestic measures by individual EU member states form an essential element of EU climate policy. In turn, widely varying targets are distributed among member states. For example, on one end, Germany and Denmark each committed to a 21 percent decrease in GHG emissions, while Greece and Portugal can emit but within a specified limit, i.e. no more than 25 percent and 27 percent, respectively. These measures are guided by the so-called burden-sharing agreement. Under this agreement, the efforts required to implement the EU's joint emission reduction target of 8 percent under the Kyoto Protocol is distributed among EU member states. Targets range from minus 28 percent for Luxemburg to plus 27 percent for Portugal. At the same time there are differences among the member countries regarding, for example, the size and composition of national industrial and

transportation sectors which make for differences in the type and level of adjustments a national economy can tolerate in the name of protecting the environment. The challenge therefore was not the same for all the European countries. Therefore, progress in implementing domestic climate policies in individual member states also varied. Countries such as France, Sweden, and the United Kingdom are on track to meet or even exceed their Kyoto Protocol targets for CO<sub>2</sub> emissions reduction; others, such as Spain, Portugal, and Ireland, are lagging far behind (Smith and Mix 2007). Within the EU, Germany played the role of an advocate of strong action within the EC, thanks to the collapse of the heavily polluting eastern German economy. Also, in the EPE negotiations there was tension between the economies of the new member states of Central and Eastern Europe and the western developed countries. The former are generally far more dependent on coal, gas, and CO<sub>2</sub>-generating manufacturing than their western counterparts. These countries also have a much lower portion of renewable sources in their energy mix. Estonia's renewable energy sources account for 1 percent of the total energy sources, whereas Austria's account for 60 percent. These facts led the Czech Republic, Hungary, and Poland to oppose the EPE. They felt that the potential economic burdens of emissions reduction would be too great and the difficulty of meeting the renewable energy targets too extreme.

By 2005, the GHG emissions of the EU-15 were stagnating at 2 percent below base year levels. It had become difficult to meet Kyoto targets with the existing measures and additional measures were required for the EU-15. Also, there were deficits in the implementation of existing measures e.g. the Renewable Energy Directive. Improving energy efficiency offers multiple dividends (reducing costs, protecting the climate, enhancing energy security). Yet, energy efficiency improvement has slowed even further since 2000. Intensifying discussions on the security of future energy supplies to Europe have also lent strong support to the development of stringent climate policies. Since 2005, soaring oil and gas prices have also highlighted the EU's dependence on energy imports which is set to increase without targeted counter-measures. At the same time, as oil and gas prices increase, political developments in supplier regions, including the Middle East and Russia, fuel concern about the security of Europe's energy supplies. The

resulting energy security agenda has significantly reinforced the climate agenda, especially regarding policies aimed at increasing energy efficiency and the use of alternative sources of energy along with respect to relevant energy market reforms.

### *The Case of Japan*

Japan, an economic superpower, was considered to be relatively inactive in international negotiations in the environmental sphere. During the 1980's Japan was criticized for its lack of attention to global environmental degradation. The role that Japanese industries and governmental assistance programmes played in contributing to tropical deforestation, depletion of global fish stocks and species extinction came under international spotlight (Mori 2009). Prior to international negotiations in climate change, Japan, for example, did not sign the 1985 Vienna Convention on protection of the ozone layer, due to protests from representatives of the chlorofluorocarbon - related industries. Later however, Japan did finally sign the Montreal Protocol. In Europe, Japan was sharply criticized for its responses to international environmental problems especially with regard to issues such as the International Whaling Commission (Morishima 2007). In response to international criticisms, given its economic strength, Japan decided that the best way for it to contribute would be to assist in solving global environmental problems. Since the beginning of the 1990's, overseas development assistance (ODA) has been the cornerstone of Japan's economic foreign policy, overtaking the western donors including the United States and reigning for a decade spanning 1991 to 2000 (Mori 2009). The Japanese government however played an active role in the process of establishing the UNFCCC. The state of the world economy played a major role in this. Japanese corporations had been relocating operations to developing countries, and making large investments in these countries. Although these corporations attempted to prevent pollution in their overseas locations based on their domestic experience, they were at times accused by the locals of exporting pollution. There was support within Japan for an increase in environmental ODA for spending in developing countries. Such support came even from financial circles (Morishima 2007). The motivation of Japan's assistance, therefore, is arguably not always, or even frequently, linked directly to global warming

and climate change, let alone climate change justice. Instead, Japan's policies are often associated more with the bureaucratic perceptions of national and industrial interests. Aid for sustainable development is viewed as a way to bolster Japan's international standing. Motivations for policies related to climate change are therefore not so predictable. Many broad yet unrelated considerations regarding climate change, therefore, influence Japan's national policies (Harris 2003). Also, a result of the oil shocks of 1973 and 1978, Japanese industry had been steadily improving its levels of energy efficiency. By the early 1990s it was probably confident of its ability to battle global warming. At that time not many Japanese people, either policymakers or the public, were aware of or concerned with the problem of climate change.

With regard to the Kyoto Protocol, prior to the conference, the EU had insisted on reductions in GHGs to 15 percent of 1990 levels by the year 2010 for all Annex I parties. By 1995 Japan's CO<sub>2</sub> emissions had increased by 10 percent from 1990 levels, and the EU target of 15 percent was no longer attainable. Japan agreed to ratify the Protocol only after the uniform reduction target of 15 percent was rejected in favor of unique targets for each country. For example, in the five-year period from 2008 to 2012, the EU as a whole agreed to reduce emissions to 8 percent below 1990 levels, the United States would reduce them to 7 percent below, and Japan to 6 percent. In addition to the gases most frequently discussed in this context—CO<sub>2</sub>, methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O)—the range was widened to include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). The base year for the three newly added gases was 1995, instead of 1990 (Morishima 2007). Japan expressed that even the 6 percent target would be difficult to attain by 2008 if the large decreases achieved through forests and other sinks were not included in the calculations and if conversion to nuclear power generation was not recognized as a Clean Development Mechanism (CDM), one of the three flexible mechanisms under the Kyoto Protocol, also known as the Kyoto mechanisms. Ninety percent of Japan's GHGs come from fossil fuels. Thus, any anti-global warming policy would inevitably have a direct impact on Japan's energy policy. A depressed economy contributed to reductions in industrial CO<sub>2</sub> emissions in 1997, which kept emissions at 1990 levels. However, CO<sub>2</sub> emissions rose dramatically in the transportation, residential,

and commercial sectors (approximately 20 percent, 15 percent, and 13 percent respectively).

In the case of Japan therefore, I argue that it agreed to ratify the Kyoto Protocol only after it was sure to a certain extent that the emission reduction targets were achievable and would not impact its economy and industry negatively. The Kyoto Protocol allowed the inclusion of forests and other CO<sub>2</sub>-absorbing sinks that can be considered a direct result of human activity, in emission reduction calculations. This was in favour of Japan as it has a large proportion of its area under forest cover. After the United States withdrew from the Kyoto Protocol, the EU, for example, acquiesced to Japan's demands for a larger sink allowance at COP6 in Hague in 2000, where the operational rules of the Kyoto Protocol were negotiated. It was agreed that sinks would be allowed to account for up to a 3.8 percent reduction in emissions. Tiberghien and Schreurs (2007) on the other hand argue that embedded symbolism constrained the ability of anti-Kyoto forces to get their concerns onto the political agenda and limited the freedom of action of political leaders in the wake of the US withdrawal. They conclude, however, that ratification is different from implementation in which case Japanese policies have focused on voluntary action and avoided carbon taxes or a mandatory cap and trade system.

## **Conclusions**

Form the above analysis it is clear that climate change is not a stand alone issue. It is closely connected to the socio-economic structure of a nation as well as the international trade and economic regime. It is not unsurprising that for the United States, its economic competitiveness and sovereignty comes before any international agreement dealing with climate change. This is going to be the case for most other countries, even if they participate in such regimes. Without strong enforcement policies, even if states do participate, a climate regime would be ineffective in making them comply. Unless emission reductions are linked with win-win strategies, such as policies serving to strengthen energy security, climate change policies will not be implemented on normative

grounds alone. Efforts to break down the deadlocks of zero-sum-game of climate change agreements will become a regular feature at the international level. According to this reasoning, actors will be able to move towards a collaborative approach, and seek ways of working with other nations on energy and climate security to achieve mutual interests. This contrasts markedly to the approach of the US administration, which has evaded emission reduction targets.

Although climate change raises normative questions it is unlikely that states would agree to act purely on the basis of the science of climate change as states are rational actors, more so when it comes to economic and trade related decisions. Short term costs and benefits are an intrinsic part of the decision-making process, including the constraints imposed by the institutional context. Rather than co-relating climate change policies to damaging the economy or competitiveness, they should be connected to diversifying the energy mix and increasing the volume of sustainable energy sources. For a successful climate change agreement to take place at the global level, policy makers at the international as well as national level will have to not only make the direct connection between climate change and energy, but also modify their approach towards competitiveness issues. Policies to reduce emissions and increase energy efficiency can assist in the global transitioning towards a new low-carbon economy with associated benefits for productivity and business. Also, close connections between climate change, foreign policy and security issues have to be made. This is beginning to be evident with the United Nations Security Council holding its first ever debate on global climate change in April 2007 which was one of a spate of reports and conferences in which climate change has been identified as a matter of national and international security. This can also be viewed as part of the trend since the late 1990s of securitizing non-traditional threats (Detraz and Betsill 2009). Policy makers at the global level are already dealing with many other international political issues viz. national security and international terrorism, concerns over rising oil prices and energy security, and the improvement of access to energy services worldwide. Decisions in these areas will be critical to achieving climate objectives. It is important to see these connections and frame climate change agreements that would achieve multiple aims as a necessary part of the response.

## Conclusions

I have argued that in the arena of climate change the United States is a rational actor acting under constraints imposed by the institutional context of the day. In conclusion, I extend this argument to other state actors in the global climate change politics as well, including developing countries, irrespective of the differential in material power, and United States' status as great power. This does not apply in the case of island states as the assumptions that I have made do not hold for these including the nations in the Pacific, which face the most dire and immediate consequences.

In conclusion, I want to highlight the fact that, in the areas of global politics and co-operation interests are important; or rather it is important to know what are considered as interests and whether the self-interest of actors in the global politics of climate change can be compatible with the common good, an idea of a shared interest. Understanding the causes and effects of climate change involves synthesizing incomplete and even controversial findings from a wide range of disciplines. There are many perspectives from which we can analyse problems related to climate change. What is important is the fact that it is not a stand alone issue and neither are states single integrated entities. On the contrary, my analysis of the problem of climate change brings to sharp light the deep and broad inter-connectedness of the world that we live in, in terms of both time and space.

Cooperation arises out of shared interests, and global cooperation will arise out of a shared interest by all countries. In practical terms, this may not be as simple as it sounds; but it is equally true that attempts at global cooperation in climate change have been elusive as interests of countries have not only diverged, but significantly it has also been due to the failure of countries to understand their interests. The issue is made more complex with varying levels of risk tolerance by different states. Victor (2006) mentions of Arild Underdal's "law of the least ambitious program" to show how a treaty negotiated by countries with diverging interests, including some with little ambition for effective cooperation, is bound to be ineffective in realising its stated goals. With regard to the



Kyoto Protocol, for example, this is true even for the six largest emitters, not to mention the rest of the states. The world's largest emitter, the United States, has staunchly refused to become a part of the treaty. The EU has joined Kyoto and although it is making some significant efforts toward compliance, by themselves they hardly count in terms of concrete impact on the total global emissions. China and India are members but face no limit on their emissions and have also vehemently protested limits on their emissions. Russia is a member but it has no emission reduction targets as the treaty has provisions for nil or negative targets and offers the prospect of profit from selling surplus emission credits. Japan's interest is similar to those of the EU but is struggling to find ways to adjust GHGs. According to Victor (2006) international cooperation in climate change therefore, has not been based on the actual practice of effective international cooperation. 'With an eye to conventional wisdom, the advocates who care most about devising effective solutions to the climate problem have, ironically, sent policy astray into schemes and institutions that are neither sustainable nor likely to exert much leverage' (Victor 2006, pg 100)

I have used the case of the United States to analyse this issue. It is interesting to note that the actions of the United States, be it in terms of national or foreign policy or global cooperation, despite acknowledging the criticality of the issue, does not display urgency regarding the problem. If this is true of a country that is way ahead of the rest of the world in terms of power and material resources, development and lifestyles, then this is also applicable to other state actors, including developing countries as well as those in the bottom of the development ladder that follow similar growth agendas and those which are part of the same economic institutional context. In the case of the latter, with a significant size of its population under poverty, growth issues become all the more imperative than industrialised countries.

I have assumed states as primary actors. This may be contested as there is more to global politics than states as actors. But this assumption helps us look at the issue from the perspective of global cooperation or the lack of it. It will be difficult to draw conclusions based on the same logic with respect to other significant actors such as environment and climate based-NGOs and other non-nation-state actors and such a study

is beyond the scope of this dissertation. The rationale of profit seeking entities such as MNCs may be directly contradictory to initiatives tackling climate change, but this may not always be so, such as with the renewable energy industry, and this issue also requires another research undertaking. Various studies such as by Bulkeley and Moser (2004) reveal a spectrum of various other actors and networks involved in climate protection. This raises questions related to climate governance and the units of analysis of international politics. It also illustrates that there is more to the issue than what goes on in international climate summits. To track the actors involved and their relationships, however, will be empirically challenging.

The normative question of what ought to be done is also not what my research question seeks to answer. It is clear that given its position and power in global politics, the United States can and ought to do a lot more. What my conclusions do point at is the reasons for the failure of cooperation in the area of climate changes at the global level, or rather the lack of the desired success. Ultimately attempts at cooperation are processes that have been going on for the past couple of decades. Unless the impact of these efforts has been negative, in a broad sense, they cannot be said to be absolute failures either, say in terms of learning or awareness creation of political and media attention.

Therefore, to study the issue in the long term, we will need a different approach, than the one used here. After having discussed and analysed the issue of global climate change and the behaviour of the United States in the foregoing chapters, the final points that I do arrive at may seem obvious at some level. One apparent reason is because of the scope of my paper. It will be difficult to state here how a solution to the problem will emerge or what will be the scenario in the long term. Such an approach has the inherent weakness of an analysis that does not account for the long run or inter-temporal factors that could affect the analysis and thus the outcome. For example, a dynamic analysis of the concept of rational economic interest might be broadened or generalised in the long run, so that it includes carbon neutral policies, be it at the global or domestic level. This might have been made possible due to factors, such as, technological innovations and disseminations. The idea of what is rational, therefore, might very well change with time.

Low-carbon, high-growth developmental agenda for the global economy is beginning to become a part of the climate change discourses and debates. For example, the United Nation's 'World Economic and Social Survey 2009: Promoting Development, Saving the Planet', analyses such a win-win strategy.

### **Implications of Findings**

How can the link between self-interest of actors in the global politics of climate change and the larger shared interests of the world community, including environment and ecosystems, be established and incorporated in international treaties? Going by a rationalist explanation of state behaviour, this is one of the biggest challenges that need to be overcome if global co-operation on the issue is to be achieved.

Therefore, further research is needed on the issue of what makes international cooperation effective. Success with this will require careful attention to underlying short term interests of actors as well as the critical question of what consists of long term interests, which may even border on the normative. Climate change is a long term issue in the end, thus blurring the difference between the normative and the rational. The question that needs to be asked is why would states cooperate? And which ones would, or rather who would? Collective action becomes all the more difficult here due to dispersion of interests. Research to identify win-win situations is critical. As already mentioned, the United Nation's World Economic and Social Survey 2009 identifies development paths that coincide with the developing countries' interests while also reducing emissions that cause climate change. Success with this strategy should help bring about a shift in interests and make the wariest nations more willing to control their emissions. For example, in this context, Gupta and Ivanova (2009) argue in favour of global energy efficiency governance in the context of climate change and points out the immense potential in the sector. They note that unlike coal, large hydro or nuclear, energy efficiency is non-controversial, critical and an equitable option for all irrespective of rich and poor. It also has scientific and political consensus on its significance as an important option at global and national level. They give four reasons justifying a complementary

global governance approach - global security issues, extraterritorial environmental impacts of energy production, distribution, and use, the need to address the driving forces behind energy use which may often lie outside national borders, and last but not the least the urgent need for action to reduce GHG emissions. Although many countries have domestic energy efficiency legislation, a global political push could actually build on and further accelerate domestic measures.

In this context, it is interesting to note that with regard to international agreements, binding commitments may be as ineffective as non-binding commitments alone. Victor (2006) expresses doubts with regard to the common assumption that legally binding instruments must be the best way to ensure international co-operation just because some of the global environmental problems have been the subject of a globally binding treaty. He mentions studies that have suggested that non-binding institutions often perform much better. However, this requires high-level political commitments and special institutions.

In a similar vein, Keohane and Victor (2010, pg. 1) talk of a 'regime complex', i.e. the 'loosely coupled set of regulatory regimes that currently governs international efforts' for addressing climate change in place of an ineffective single and unified approach to reducing GHGs. According to them the latter is unrealistic which is also why the international community has failed in its endeavours so far. They argue that based on certain specific criteria a 'regime complex' has advantages in terms of adaptability and flexibility, especially in an environment of high uncertainty such as climate change and where 'international commitments are interdependent yet governments vary widely in their interest and ability to implement such commitments' (Keohane and Victor 2010, pg. 1).

In terms of levels of analysis, I contend that more research is needed in IR to look into the connections and dynamics between the three levels of analysis – i.e. local, national and the international or global. This is more so in the area of climate change where actual implementation takes place bottom up. The debate on the global politics of

climate change would remain incomplete if action going on at the local level is ignored and its link to the global is not analysed and similarly an analysis that takes into consideration these linkages will enrich the debate. Such an analysis is not related to only those policy audiences faced with a choice between top-down and bottom up approaches in climate change politics, but it is also relevant for those who are looking at the global politics of the issue. In this context, Urpelainen (2009) mentions an anomaly presented by the rational political-economic model according to which effective action is only possible by large countries and through international cooperation that deters free riding. In stark contrast to this conventional wisdom, he notes that local climate policies, which have been well documented, have preceded national action in many countries around the world including the United States and the European Union. In explaining why this is happening when costs are concentrated and benefits are diffuse at the local level, he mentions that local climate change policies have informational advantages and unobservable political benefits, which then prompts national regulation. Urpelainen (2009, pg. 83) also mentions, that 'the analysis warrants cautious optimism about the possibility of a gradual build-up of climate policies, ultimately leading to international cooperation'.

Finally, my conclusions make it clear that it will become increasingly important to analyse the interplay between international economic and financial organizations, global trade rules and the climate change regime, including the hierarchical relationships between them in order to understand failures or successes of global cooperation in climate change. Trade and environment related goals could be made compatible but this will come only with a high level and cross-agency coordination to a great extent (Stokke 2004). This will call for modifications, say of the WTO regime to incorporate environmental concerns. On the other hand, climate negotiators also need to take into account trade related concerns. Participants in international policy making processes, be it trade or environment related, will increasingly have to strike the balance between unjustified trade discrimination and pursuance of climate related objectives.

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## **Glossary of Terms**

### **Adaptation**

Adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation.

### **Alliance of Small Island States, or AOSIS**

The group was formed during the Second World Climate Conference in 1990 and comprises small islands and low-lying coastal developing countries that are particularly vulnerable to the adverse consequences of climate change, such as sea level rise, coral bleaching, and the increased frequency and intensity of tropical storms. With more than 35 states from the Atlantic, Caribbean, Indian Ocean, Mediterranean, and Pacific, AOSIS share common objectives on environmental and sustainable development matters in the UNFCCC (United Nations Framework Convention on Climate Change) process.

### **Annex I countries**

Group of countries included in Annex I (as amended in 1998) to the United Nations Framework Convention on Climate Change, including all the developed countries in the Organisation of Economic Co-operation and Development, and Economies in transition. By default, the other countries are referred to as Non-Annex I countries. Under Articles 4.2 (a) and 4.2 (b) of the Convention, Annex I countries commit themselves specifically to the aim of returning individually or jointly to their 1990 levels of GHG emissions by the year 2000.

### **Annex II countries**

Group of countries included in Annex II to the United Nations Framework Convention on Climate Change, including all developed countries in the Organisation of Economic Co-

operation and Development. Under Article 4.2 (g) of the Convention, these countries are expected to provide financial resources to assist developing countries to comply with their obligations, such as preparing national reports. Annex II countries are also expected to promote the transfer of environmentally sound technologies to developing countries.

### **Anthropogenic emissions**

Emissions of GHGs, greenhouse gas precursors, and aerosols associated with human activities. These include burning of fossil fuels for energy, deforestation and land-use changes that result in net increase in emissions.

### **BTU Tax**

Energy tax levied at a rate based on the BTU (British thermal unit) energy content of a fuel.

### **Carbon Dioxide or CO<sub>2</sub>**

A naturally occurring gas, it is also produced by natural process such as respiration, decay of vegetation or forest fires, and as a by-product of human activities including use of fossil fuels and biomass, as well as land-use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the earth's temperature. It is the reference gas against which other GHGs are indexed. Carbon dioxide constitutes approximately 0.038 per cent of the atmosphere.

### **Chlorofluorocarbons or CFCs**

GHGs covered under the 1987 Montreal Protocol used for refrigeration, air conditioning, packaging, insulation, solvents or aerosol propellants. Because they are not destroyed in the lower atmosphere, CFCs mix into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are being replaced by other compounds including hydrochlorofluorocarbons (HCFCs) which are not covered in the Kyoto Protocol (due to their inclusion in the Montreal Protocol 1992) and hydrofluorocarbons (HFCs), which are GHGs covered under the Kyoto Protocol.

### **Climate Change (UNFCCC definition)**

Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may result from natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use. United Nations Framework Convention on Climate Change, in its Article 1, defines climate change as “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”. United Nations Framework Convention on Climate Change thus makes a distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes.

### **Clean Development Mechanism or CDM**

Defined in Article 12 of the Kyoto Protocol, CDM projects undertaken in developing countries are intended to meet two objectives: (1) to address the sustainable development needs of the host country; and (2) to generate emissions credits that can be used to satisfy commitments of Annex 1 Parties and thus increase flexibility in where government Parties meet their reduction commitments. Projects that limit or reduce greenhouse gas emissions can earn the investor (government or industry) credits if approved by the CDM Executive Board. A share of the proceeds from the project activities is used to cover administration costs, and 2 per cent of the credits are assessed to create an adaptation fund to assist developing countries that are particularly vulnerable to the adverse effects from climate change to take action to adapt.

### **Conference of the Parties, or COP**

The Conference of the Parties (to the UNFCCC) is the supreme body of the Convention, comprised of countries that have ratified or acceded to the UNFCCC. The first session of the COP (COP-1) was held in Berlin in 1995, and sessions have been held annually since then.

### **Earth Summit, or UN Conference on Environment and Development, or UNCED**

A major conference held in 1992 in Rio de Janeiro at which, amongst other things, the UN Framework Convention on Climate Change (UNFCCC) was signed by more than 150 countries.

### **Emissions Trading**

A market-based approach to achieving environmental objectives that allows those reducing GHG emissions below what is required to use or trade the excess reductions to offset emissions at another source inside or outside the country. In general, trading can occur at the domestic, international and intra-company levels. Article 17 of the Kyoto Protocol, allows Annex B countries to exchange emissions obligations. Domestic implementing regulations determine the extent to which firms and others may be allowed to participate. International emissions trading constitutes one of the Kyoto Mechanisms, designed to provide Annex B countries cost-effective flexibility in reducing emissions to achieve their agreed commitments.

### **European Union Emissions Trading Scheme, or EU ETS**

Emissions trading programme covering large CO<sub>2</sub> emitting installations within the European Union. Each country within the European Union has a National Allocation Plan which provides installations in covered sectors with an allocation of tradeable allowances for their CO<sub>2</sub> emissions, and may also allow for auctioning of allowances.

### **Fossil Fuels**

Carbon-based fuels that have accumulated in geological deposits over very long periods, including coal, oil and natural gas.

### **G77/China, or Group of 77 and China**

Originally 77, now more than 130 developing countries that act as a major negotiating bloc. The G77 and China are also referred to as non-Annex I countries in the context of the UNFCCC.

### **Greenhouse Effect**

The trapping of heat by naturally occurring (water vapour, carbon dioxide, nitrous oxide, methane and ozone) and synthetic (CFCs, SF<sub>6</sub>, HFCs, PFCs) atmospheric gases that absorb infrared radiation. The natural greenhouse effect keeps the earth about 30° C (55° F) warmer than if these gases did not exist.

### **Global Warming**

The increase in the Earth's temperature, in part due to emissions of GHGs associated with human activities such as burning fossil fuels, biomass burning, cement manufacture, cow and sheep rearing, deforestation and other land-use changes. Alternative definition: The observed increase in global average surface temperature, whether attributable to natural or human-induced causes.

### **Hydrofluorocarbons or HFCs**

Among the six greenhouse gases to be controlled in the Kyoto Protocol 'basket of gases'. They are produced commercially as a substitute for Chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs). HFCs are largely used in refrigeration and insulating foam.

### **Intergovernmental Panel on Climate Change, or IPCC**

Panel established in 1988 by governments under the auspices of the World Meteorological Organization and the UN Environment Programme. It prepares assessments, reports and guidelines on: the science of climate change and its potential environmental, economic and social impacts; technological developments; possible national and international responses to climate change; and crosscutting issues. It is currently organized into 3 Working Groups which address: I) Science; II) Impacts, Adaptation and Vulnerability; and III) Mitigation. There is also a Task Force to develop methodologies for GHG inventories.



### **Kyoto Mechanisms**

(formerly known as Flexibility Mechanisms) Procedures that allow Annex 1 Parties to meet their commitments under the Kyoto Protocol based on actions outside their own borders. As potentially market-based mechanisms they have the potential to reduce the economic impacts of greenhouse gas emission-reduction requirements. They include Joint Implementation, the Clean Development Mechanisms and Emissions Trading.

### **Least Developed Countries, or LDCs**

An informal group of countries defined using a number of parameters including per capita GDP. Under current proposals, Least Developed Countries and Small Island Developing States would gain special consideration for adaptation and Convention funding, technology transfer, capacity building and the CDM.

### **Kyoto Mechanisms**

(formerly known as Flexibility Mechanisms) Procedures that allow Annex 1 Parties to meet their commitments under the Kyoto Protocol based on actions outside their own borders. As potentially market-based mechanisms they have the potential to reduce the economic impacts of greenhouse gas emission-reduction requirements. They include Joint Implementation, the Clean Development Mechanisms and Emissions Trading.

### **Kyoto Protocol**

The Protocol, drafted during the Berlin Mandate process, that requires countries listed in its Annex B (developed nations) to meet differentiated reduction targets for their emissions of a 'basket' of greenhouse gases (see 'Kyoto Basket') relative to 1990 levels by 2008–12. It was adopted by all Parties to the UNFCCC in Kyoto, Japan, in December 1997 and entered into force on 16 February 2005.

### **Montreal Protocol**

International agreement under UNEP which entered into force in January 1989 to phase out the use of ozone depleting compounds such as CFCs, halons, methyl chloroform, carbon tetrachloride, HCFCs and methyl bromide.

**Methane, or CH<sub>4</sub>**

One of the basket of six greenhouse gases to be controlled under the Kyoto Protocol, it has a relatively short atmospheric lifetime of around 10 years. Primary sources of methane are landfills, coal mines, paddy fields, natural gas systems and livestock.

**Mitigation**

Actions resulting in reductions to the degree or intensity of GHG emissions. Also referred to as abatement.

**North/South**

Following the end of the cold war, it has been suggested that the most important geopolitical axis is now between the North, or developed countries, and the South, or developing countries. At the UNFCCC negotiations developing countries coordinate under the banner of the G77 + China, which includes a number of sub-groups such as AOSIS, the African Group and the group of Latin American countries.

**Perfluorocarbons, or PFCs**

One of the basket of the six greenhouse gases to be controlled under the Kyoto Protocol. They are a by-product of aluminum smelting. They also are the replacement for CFCs in manufacturing semiconductors.

**Protocol**

An international agreement linked to an existing convention, but as a separate and additional agreement which must be signed and ratified by the Parties to the convention concerned. Protocols typically strengthen a convention by adding new, more detailed commitments.

**Precautionary Principle**

The UNFCCC (Article 3.3) states: 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.

### **Renewables**

Energy sources that are constantly renewed by natural process. These include non-carbon technologies such as solar energy, hydropower, wind energy technologies and those based on biomass. Life cycle analyses are required to assess the extent to which such biomass-based technologies may limit net carbon emissions.

### **Ratification**

Formal approval, often by a Parliament or other national legislature, of a convention, protocol, or treaty, enabling a country to become a Party. Ratification is a separate process that occurs after a country has signed an agreement. The instrument of ratification must be deposited with a 'depository' (in the case of the UNFCCC, the UN Secretary-General) to start the countdown to becoming a Party (in the case of the Convention, the countdown is 90 days).

### **Sulphur Hexafluoride or SF<sub>6</sub>**

One of the six GHGs to be curbed under the Kyoto Protocol. It is largely used in heavy industry to insulate high-voltage equipment and to assist in the manufacturing of cable-cooling systems.

### **UN Framework Convention on Climate Change or UNFCCC**

A treaty signed at the 1992 Earth Summit in Rio de Janeiro by more than 150 countries. Its ultimate objective is the 'stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system'. While no legally binding level of emissions is set, the treaty states an aim by Annex I countries to return these emissions to 1990 levels by the year 2000. The treaty took effect in March 1994 upon the ratification of more than 50 countries; over 180 nations have now ratified. In March 1995, the UNFCCC held the first

session of the Conference of the Parties (COP), the supreme body of the Convention in Berlin. Its Secretariat is based in Bonn, Germany.

