JAPAN AND GLOBAL CLIMATE CHANGE: AN ASSESSMENT OF DOMESTIC POLICIES

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DECLARATION

I declare that the dissertation entitled "**Japan and Global Climate Change: An Assessment of Domestic Policies**" submitted by me for the award of the degree of **Master of Philosophy** of Jawaharlal Nehru University is my own work. The thesis has not been submitted for any other degree of this University or any other university.

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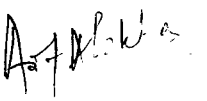

ABBREVIATIONS

ANRE	Agency for Natural Resources and Energy
AOSIS	Alliance of Small Island States
BCJ	Biodiversity Centre of Japan
CCEPC	Central Council for Environmental Pollution Control
CEC	Central Environment Council
CFCs	Chlorofluorocarbons
CIS	Commonwealth of Independent States
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CO	Carbon Monoxide
CO2	Carbon Dioxide
COP	Conference of Parties
CSE	Centre for Science and Environment
DPJ	Democratic Party of Japan
EC	European Community
EPO	Environment Partnership Office
EPR	Extended producer responsibility
EU	European Union
GEIC	Global Environmental Information Centre
GCC	Gulf Cooperation Council
GATT	General Agreement on Tariffs and Trade
GNP	Gross National Product
GHGs	Green House Gases

ISTPEB	Industrial Science, Technology Policy and Environment Bureau
IEGS	Institute for Global Environmental Strategies
INC	Intergovernmental Negotiating Committee for a Framework Convention on Climate Change
IPCC	Intergovernmental Panel on Climate Change
JICA	Japan International Cooperation Agency
JBIC	Japan Bank for International Cooperation
JCP	Japan Communist Party
JEA	Japan Environmental Agency
LDP	Liberal Democratic Party
MAFF	Ministry of Agriculture, Forestry and Fisheries
MDG	Millennium Development Goals
METI	Ministry of Economy, Trade and Industry
MLIT	Ministry of Land, Infrastructure and Transport
MoE	Ministry of Environment
MoF	Ministry of Finance
MoFA	Ministry of Foreign Affairs
NK	New Komeito
NISA	Nuclear and Industrial Safety Agency
NCB	Nature Conservation Bureau
NCC	Nature Conservation Council
NIEO	New International Economic Order
ODA	Official Development Assistance
OPEC	Organisation of Petroleum Exporting Countries
OECD	Organisation for Economic Co-operation and Development
PET	Polyethylene terephthalate

SMEA	Small and Medium Enterprise Agency
UNU	United Nations University
UNFCCC	United Nations Framework Convention on Climate Change
UNCED	United Nations Conference on Environment and Development
UN	United Nations
US	United States
WTO	World Trade Organisation
WRI	World Resources Institute
WCC	World Climate Conference

INTRODUCTION

The last half of the 20th century witnessed dramatic climatic change and problems related with these changed environmental conditions. The weather pattern had been affected immensely by the shifts in climate; drastic changes occurred due to the changes in weather pattern. This is essentially attributed to the fact that environmental safeguards were a non-entity for all the developed world countries, as they subscribed to the opinion that environmental safety was impediment to economic growth. It was believed that high rate of economic growth comes at the cost of environmental degradation and has to be borne with some resilience. Given this line of thought in most developed countries, their policy-making was also influenced by this opinion.

Looking back in history, after the Second World War, every affected country was involved in rapid reconstruction of their economy. This process of reconstruction was devoid of any concern for environment and its deterioration. The rapid industrialisation and post-war reconstruction took a heavy toll on some of the present day advanced countries. Environmental disasters occurred in many of these countries; they could not contain the damages and neither tried to curb these kinds of disasters in immediate future. There were a few countries which incorporated environmental concern in their industrial policy-making, but many countries were still caught up in the debate that such environmental concerns would impede economic growth; which was seen the sole aim of the countries in the post-war situation.

Apart from the continuous debate regarding economic growth and environmental safeguards the other major and leading debate is about the causes for these climatic changes. There are many views and opinions on this, some very strong and some half-hearted, ill-informed ones. But the most important debate is that whether this climatic change is man-made or natural. Man-made or anthropogenic reasons are given because the high rise in the emissions of GHG and especially carbon dioxide (CO2) due to industrial pollution. Industrial pollution comprises of water pollution, air pollution, causing longstanding health problems, irreparable damages to ecology mainly to the forest and other natural habitat. On the other hand, the contrary opinion is that this kind of climatic changes keep taking place on earth

due to the shift in natural cycle of ice age called little ice age. The debate continues till date between the climate change sceptics and those who are in agreement with the fact that the anthropogenic reasons are responsible for the change in the global climate change. Most of the countries in the present world situation have accepted the latter opinion and think that the countries have to do something for the mitigation of climate change and advocate sustainable development.

This dissertation is titled **"Japan and Global Climate Change: An Assessment of Domestic Policies"** and it is chiefly looks into the policy-making of Japan regarding mitigation of climate change, relations with the global climate change scenario, institution building. Further it locates Japan's role in the international climate change politics. Its historical experiences in dealing with the environmental disasters in the 1960s and the 1970s which shaped its outlook towards environment and its safety would also be discussed. In so doing one can gather some understanding of how Japan emerged as an environment-friendly nation;

Having positioned the subject with respect to its importance globally and therefore the need to understand Japan's concern and its role in international arena, it would be essential to define 'Climate Change'. Climate change is defined as any long-term change in the statistics of weather over periods of time that range from decades to millions of years. It can express itself as a change in the mean weather conditions, the probability of extreme conditions, or in any other part of the statistical distribution of weather. Climate change may occur in a specific region or across the globe. In the present context of environment policy making climate change means shifts in the climate pattern. Climate change is a global phenomenon because no single country can control the industrial pollution on its own; it can spread across the regions, hence calling for a collective response to combat it. Liberal institutionalist approach captures the collective actions by states in mitigating climate change. This approach basically tells us that how states can come together to cooperate each other in combating an impending danger to the world as a whole; which is never possible in the normal anarchic system of states where they all are governed by the national interests rather than the collective interest of the world. Regimes are the effective tools to describe such cooperative actions by states. Institutions play vital role in forging this cooperation rather than the states in their own political capacities. Global climate

change politics can be characterise by many approaches and theories; but this research is going to utilise the theoretical paradigm of liberal institutionalist approach with regimes as tools to understand the cooperation and the conflicts in the international relations regarding climate change mitigation.

Japan is an island nation. Lack of resources and the rapid post-war reconstruction bore irreparable damages to the Japanese society in general and also the government outlook towards environment concerns moving towards a new direction. The post-war Japan went on massive industrialisation without paying any heed to the environmental degradation which was caused due to the industrial pollution resulting in massive disasters; Minamata and Yokkaichi cases in particular and many other small disasters created a huge health hazard for the people in these regions, with many deaths and serious long-term health problems to the survivors. Public opinion is a very strong component of Japanese society. Gradually people began organising movements against this model of industrialisation and raising voices against the disasters. A few NGOs came up just for fighting for justice for Minamata and Yokkaichi disaster survivors and dead. Government of Japan did not take it seriously initially, but later on with growing public pressure they had to give in and call for restructuring of the policy-making regarding industrialisation and construction projects. Japanese bureaucracy and business nexus is very strong; hence Japanese government is run by a triad of government, bureaucracy and business, so the policy churned out has a huge influence on the business.

In the aftermath of these pollution disasters, a debate triggered in Japan that 'can economic growth and environmental concerns go hand in hand'. A large section of the bureaucracy and business were against any consideration for environmental improvement as they thought it would impede the economic growth and limit its industrial reconstruction and would be left behind in the competition with the western world. As mentioned earlier, public pressure increased and the government had to take a corrective course otherwise the Liberal Democratic Party (LDP) had a fear of losing public legitimacy and losing power in turn. So they called a 'Pollution Diet' in 1970 to address the concerns allayed by the civil society organisations, public in general, opposition political parties and from within the party. They passed a number of laws which have been put into effect by the committed governments and the

vigilant civil society groups. Local governments went ahead in much bigger way than the central government. Hence the Basic Environmental Law was passed, Environment Agency was established (which has been converted into Ministry of Environment in 2001), and many other laws related to curb water, air pollution were brought into being. Government showed a greater commitment and the industry and public responded to it positively. This can be attributed to the effect of Confucian ethics on Japanese society, their group behaviour and consensus building attitude. Many more institutions and laws were established, financial commitments, subsidies and many encouraging policies were enacted. This gave Japan a chance to be one of the first countries in the world to take on environmental degradation and climate change mitigation seriously and be the leading example of both environmental disasters and combating those disasters with comprehensive planning and policy-making. International outreach of the Japanese government in trying to lead the international community in dealing with the global climate change mitigation. Role of technology advancement in the wake of limited resources also makes Japan along with Germany the pioneer in green technology.

This dissertation is divided in four chapters apart from the introduction and conclusion; the outlines of the chapters are as follows: Chapter 1deals with the roadmap of Japan's move towards environment-friendly nation. This chapter brings out the debates in international climate change politics, different divisions and groupings. Then it goes on to give a background of climate change policy in Japan and its orientation in tackling climate change. Institutionalisation of environmental policy communities is also discussed in this chapter. Chapter 2 describes and analyses policies and programs combating climate change in Japan. Description of various institutions and policies are laid out; OECD's evaluation of environmental performance of Japan is discussed analytically. It also discusses the environmental concern in the Japanese government and Japanese environmental diplomacy. Lastly it tries to look into the greening of Japanese politics. . Defining non-state actors, non-profit actors and describing how NGOs and business houses play a vital role in Japanese climate change policy-making form the bulk of the chapter 3. Chapter 4 tries to assess Japan's international position with respect to global climate change agenda. Japanese domestic and international climate change policy are described here with

regimes as the overarching tool to describe this relationship. Japan is involved itself in non-UN initiatives also, one of them is discussed here in this chapter. Then finally Japan's role as one of the environmental leaders in the international arena with its mediation between US and the rest of the world is discussed critically. Conclusion is basically drawn upon the issues raised in all these four chapters. It will try to summarise all the chapters with a critical understanding of the issues and hypothesis has to be tested in this part of the dissertation.

CHAPTER ONE

Roadmap of Japan's move towards environment-friendly nation

1.1 Introduction

In the quest for early recovery from the destruction caused in the war, Japan embarked upon a very ambitious path of reconstruction of its economy. Environmental degradation in the process was neither foreseen nor efforts made to combat it in the case of accidental or gradual degradation of environment. As Japan is an island nation with limited land space, it was difficult for it to pace up its industrial reconstruction without heavily depending upon the imported energy resources, mostly from the west-Asian countries. In the late 1950s and early 1960s, major environmental accidents took place in Japan; these accidents had a huge impact on the environment as well as on the public health leading to much hue and cry about safeguarding of the environmental standards so as to prevent these kinds of accidents. At this juncture, Japanese establishment was of the thought that economic growth and safeguarding environmental standards could not go hand in hand. Debates in the Japanese society began with a demand for changing the orientation of the model of industrialisation Japan was following. The 1960s saw protests and debates on environmental safety, by the turn of 1970s; Japan had to take these concerns very seriously. Japanese government then went on enacting several historical legislations and tried successfully to change their model towards economic growth harmoniously coexisting with environmental safety and sustainable development. So, the debates regarding environment, climate change and global warming began in Japan during these tough times. At the present time, Japan is counted as one of the early pioneers of combating climate change, though the reasons could be debatable. This chapter would deal with defining climate change, debates in the global climate change politics and broadly looking into the orientation of the Japanese government towards becoming an environment-friendly nation.

1.2 Defining Climate Change

Climate change is defined as any long-term change in the statistics of weather over periods of time that range from decades to millions of years. It can express itself as a change in the mean weather conditions, the probability of extreme conditions, or in any other part of the statistical distribution of weather. Climate change may occur in a specific region, or across the whole Earth. In recent usage, especially in the context of environmental policy, climate change usually refers to changes in climate. Unusual weather, occurring on a global scale in such extreme events as cool summers and warm winters, significantly impacts the social and economic activities of many countries. Besides these natural variations in climate, anticipated climate change due to human activities has now become one of the most important global environmental issues. In response to growing international concern about monitoring, understanding, and predicting the climate and its changes, many international programs are currently being implemented or planned. Japan, one of the major industrialized economies, is also facing the heat of the global climate change which is transnational in its impact. Japan's technological edge has until now brought its economy unparallel success in terms of economic prosperity except the intermittent crises. But global climate change is such a phenomenon that demands enhancement and overhauling of these technologies and strategies to stay afloat on the dwindling natural resources and move towards sustainability.

According to the long-term observation results, the temperature in Japan has risen approximately 1.1°C in the last 100 years. Observed increasing heavy rainfall over the last century and decreasing alpine plant communities, which are a sign of a vulnerable ecosystem, are most likely, to be attributable to climate change. According to the results of a climate change projection utilizing a supercomputer, if GHGs are not reduced global level, the average temperature in Japan will rise by approximately 2–4°C by the end of the 21st century, and, subsequently, a wide range of climate changes such as an increased number of extremely hot days may occur. Such changes may have significant impacts on various sectors closely related to our lives, the total damage from floods; landslides; loss of beech tree habitats; loss of beaches; damage caused by storm surge in western Japan; and heat stress-derived mortality risks may

amount to almost 17 trillion yen annually by the end of the 21st century (present value, no discounting applied).

To prevent such changes to the climate and the resulting impacts, Japan needs to strengthen GHG emission reduction efforts immediately and continuously reduce a significant amount of emissions over the long-term- - as in over the next 50 to 100 years. To realize such a policy, a voluminous degree of scientific knowledge is essential to support any policymaking. Additional supplementary information to interpret much of the information and knowledge, including the uncertainty of projection, is also important. The latest information and knowledge pulled together into this report caters to such needs. However, climate change-related information and knowledge is expected to cover a wider scope and be more accurate. In the future, we need to provide the latest information and knowledge and make continuous efforts to interpret and explain them meaningfully.

1.3 Debates in global climate change politics

The United Nations Conference on Environment and Development (UNCED), held in June I992 in Rio de Janeiro, has been portrayed as the point at which states would start to act collectively over global environmental problems. It marks the final appearance of environmental problems as part of the normal diplomatic agenda. Its business ranged from the general principles governing the responsibilities of states in pursuing the goal of sustainable development, to the conclusion of specific, separately negotiated agreements on the preservation of biodiversity and the problem of human-induced climatic change. Of all the issues involved, climate change is widely believed to be the acid test of whether or not countries are serious, because the responses required to limit and manage climatic change could go to the heart of their political and industrial structure.

Climate change became a major political issue during I988. A series of scientific conferences during the 1980s built up a consensus that human emissions of carbon dioxide (CO2) and other gases would lead to a warming of the earth's surface, with associated climatic changes that could produce substantial detrimental effects on human society. These possible effects include sea-level rise, changed rainfall and storm patterns, with consequent desertification and flooding, agricultural migration, and perhaps other unpredicted impacts. I988 was a year of highly unusual weather, of

which the most politically important was the drought in the United States. As people began to realize that the decade of the I980s was the hottest on record, the growing scientific consensus started to appear plausible to publics and policy-makers. These factors were reinforced by the general surge of concern over environmental issues in the late I980s (particularly in the North) generated by acid rain, ozone depletion, local pollution problems, wildlife loss, and other phenomena. In response to these concerns, in late I988 governments established the Intergovernmental Panel on Climate Change (IPCC), whose brief was to consolidate the scientific knowledge on the subject and to produce outlines of possible responses. As it became clear that the IPCC's science working-group would endorse the wider community's concerns, sufficient momentum built up to lead to formal negotiations. Following presentation of the IPCC report to the Second World Climate Conference in November I990, the United Nations General Assembly established the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change (INC). These negotiations began in February I99I and are expected to lead to the signing of a 'framework convention' at UNCED in June I992. This was not going to result in a comprehensive control regime, but rather was intended to provide a basis and framework for future negotiations. Yet the road to Rio has already revealed major divisions of interest and attitudes between states, which are likely to be exacerbated rather than eased as negotiations proceed. The purpose was to outline and analyse the response to climate change in the international arena, and to examine the prospects for successful cooperation thereafter. Let us first look at why cooperation could prove so difficult, and what the main lines of conflict are. What are the positions of the major states and groups and how the coalitions of like-minded states that have emerged in the negotiations? Then look into the consideration of difficult political routes by which responses to climate change may evolve as countries try to develop a concerted international response.

1.3.1 Primary opposition and divisions

Cooperation on the climate change issue is particularly difficult because serious responses could reach into the heart of countries' political and economic structures. Since there are no easy technical fixes for climate change, and measures to absorb greenhouse gases (such as reforestation) are relatively limited compared with the projected scale of emissions the only effective way of reducing the build-up of

greenhouse gas concentrations is to reduce emissions. Carbon dioxide (CO2), the main contributor to projected radioactive change, comes predominantly from the use of fossil fuel energy and from deforestation. Energy use is intimately related to economic development, and the fossil fuel industries generally account for several per cent of GNP and comprise some of the largest and most powerful industries in the world. Deforestation has complex causes, including consumption pressures from industrialized countries and various land-use pressures in many developing countries. Thus states face tough political and economic decisions in order to respond.' Researches emphasize the global nature of the problem by illustrating current emissions of (a) overall greenhouse gases and (b) the fossil-fuel CO2 component of this. This distribution changes substantially if presented on other bases such as past emissions, per capita emissions or projected future emissions; it also changes with the range of gases considered and with differing statistical estimates of the contribution from sources other than fossil CO2. This in itself is a source of diverging attitudes on the division of responsibilities. In addition to differing past, present and future contributions, states vary in the ease with which they can reduce emissions, according to their current efficiency, wealth and technological capability for improving efficiency, as well as their access to non-fossil resources. The causes of deforestation and ease of its control also vary widely. Countries differ greatly in their economic strength and consequently in their capacity to pay for response policies. Their vulnerability to the impacts of climate change is widely divergent: some, such as low-lying island states or states in semi-arid areas where rainfall may drop even further, can expect to move even closer to the margins of existence, while others may experience small gains from climate change, depending in part upon the rate of change. Finally, and related to the last point, states vary as to where climate change fits into their political priorities. Whereas for some countries climate change is a vital issue since it could affect their very existence as states, for others the issues associated with poverty, budget deficits or other traditional concerns are far more pressing. Throughout the negotiations, four main fault-lines of political conflict in relation to climate change have emerged. The first, the North-South divide is still, at least on the surface, central. In the words of the journal South, 'The cold war is over, the green war has begun'. Major issues include: how the burden of reducing emissions should be shared; the importance of industrialized countries acting first to show their

commitment; the relative importance of historical and current emissions; whether emissions should be expected to converge towards similar per capita levels in the long term; technology transfer and additional financial resources to help developing countries respond; and the extent to which climate change links in to wider questions about international political economy such as Third World debt or the world's financial institutions. All of these testify to the complexity of the North-South divide, discussed further below. A second important area of conflict is the split between major energy producers and others (and to a lesser extent between major forestry countries and others). Those without indigenous resources are likely to be more receptive to schemes to reduce emissions, since it simultaneously enhances their balance of payments and reduces their dependence on foreign producers, so making them less susceptible to crises such as those of the 1970s. But countries that depend heavily on energy exports (and sometimes deforestation) for current and projected development, such as the OPEC countries and the growing number of coal exporters, fear the economic consequences of emissions limitation, and are likely to oppose abatement measures strongly even those taken by other countries. There are also important countries (such as the United States and China) which do not rely heavily on energy exports but which nevertheless have developed on the basis of large and cheap domestic fossil resources, resulting in strong domestic interests and an 'energy culture' that similarly makes them unreceptive to plans to curtail domestic fossil fuel use. A third division occurs between those that are relatively resilient to the projected impacts of climate change and those that are very vulnerable to such impacts. Those that perceive that the impacts of climate change on them will not be particularly harmful, or may even be beneficial, will be far less receptive to calls for stringent controls on emissions than those that will be severely affected by sea-level rise or changed rainfall patterns. This fault-line interacts significantly with the North-South one, since vulnerability to the impacts depends also on whether a country has the economic resources to cope: thus Bangladesh is more susceptible to sea-level rise than the equally low-lying Netherlands. This is probably the least important divide at present (except for the low-lying island states), but could become more important in the future. A final source of division is to be found in differing attitudes to environmental impacts and the inherent scientific uncertainties. This is not a fault-line based on interests, but on an important aspect of political culture. The impacts of

climate change are extremely uncertain. Policy-makers in many countries see little reason to take difficult or costly actions to avert an unknown and perhaps distant risk. But scientists (and the environmental community) incline to the opposite view: they argue that it is extremely dangerous to continue interference with the basic planetary system of heat balance, at an ever-increasing pace, when the consequences are unknown (as a result of our inadequate understanding of the climate system)- especially since by the time impacts are clearly visible it will be far too late to avoid extensive further changes over subsequent decades. In many countries with a strong tradition of scientific and environmental consciousness, or in which previous environmental conflicts have left such perceptions ascendant, this view is now politically dominant: the principle that precautionary action has to be taken seems self- evident. In others, such counsel remains politically impotent. These widely differing attitudes have become a source of conflict not only domestically, but also internationally, because states have used scientific uncertainty to justify their own position and perceived self-interest.

1.3.2 The North-South divide

For many developing countries climate change is a Northern issue, both because it is the North that is primarily interested in it and because the North created the problem. Kyoto protocol has already paved the way for the acceptance of the above mentioned line of argument. Many developing countries remain unconvinced that the North is committed to tackling climate change and sees no reason why they should act until they see such commitment. Many such countries are concerned that the 'D' in UNCED is being lost beneath Northern environmental preoccupations. At worst, they see the North's concern to put climate change on the international political agenda as an attempt to hold back developing countries' economic growth by limiting their energy use. Thus many developing countries are interested in climate change only to the extent that they see the North as committed to substantial transfers of finance and technology to help the South develop without increasing their emissions. They are likely to participate only if they feel that any agreement reached is fair in the context of the inequitable global economy. These concerns are exacerbated by the great inequalities in per capita emissions and population. Average per capita emissions of fossil CO2 from developing countries are barely one-tenth of the OECD

average; and per capita emissions from regions such as the Indian sub-continent and Africa are around one-twentieth of those of the US. But because of their much greater and still growing population, the developing countries account for about one-quarter of global CO2 emissions and have an immense potential for future growth. Also, developing country subsistence emissions associated with agriculture and land-use change are proportionately much higher. Developing countries thus see the problem as caused almost entirely by the consumption patterns of the rich North. But many Northern countries point to the futility of their own efforts in the absence of developing country action, and focus on the immense potential for growth in the South, particularly regarding population something which many developing countries see as a neo-colonial attempt to interfere with their development. These inherent tensions found expression in a heated debate over the way in which the independent Washington-based World Resources Institute (WRI) presented data on current and projected global emissions, which was attacked by the Indian Centre for Science and Environment (CSE) as a 'politically-motivated [attempt] to blame developing countries for climate change and perpetuate the current global inequality in the use of the earth's environment and its resources '. WRI's analysts were bewildered to find themselves the source of such a storm; to developing countries, WRI's tone and presentation reflected the essence of the equity divide. The fallout has exacerbated North-South suspicions, and has aroused considerable domestic pressure, particularly in India, not to compromise on basic equity perceptions or 'give in' to any Northern demands. Some developing countries believe that their potential for future emissions growth is a source of potential power, which can be used to 'blackmail' the North into major concessions on resource and technology transfer, or even broader international economic restructuring. But, unlike for ozone depletion, the identifiable impacts of climate change appear worse for developing countries, which are already in hot climates, and whose societies are far more directly dependent upon climate and more vulnerable to changes in it than those of richer and more technologically advanced countries. In fact, the industrialized countries which have expressed greatest anxiety are also the most internationalists, and are motivated in part by concern about the impacts on developing countries. They may feel somewhat guilty, but not frightened enough to be 'blackmailed', and attempts to do so may even weaken the internationalists' hand and deepen the divide rather than lead to resolution. For such '

threats' to exert any real leverage, Northern countries would have to be more directly and urgently concerned about their own vulnerability-and the 'South' would have to be more united than it currently is.

1.3.3 Groups within the South

The developing countries can be split into at least three main groups in terms of their negotiating positions. At one extreme are the oil-producing countries. Led by Saudi Arabia and Kuwait, these states have been opposed to all controls on CO2 emissions. They argue that emphasis should be placed on sinks of CO2 (primarily forests and oceans) and on research designed to increase knowledge of climate and to narrow uncertainties before any strong response policies can be undertaken; they have blatantly sought to slow the pace of negotiations, and have vigorously attacked the unilateral EC initiatives to limit CO2 emissions. The major deforestation countries, notably Brazil, have likewise opposed references to effective control of deforestation especially, as an interference with sovereign use of natural resources (though as hosts to the UNCED conference, Brazil has shown more flexibility on many issues as negotiations proceed). At the opposite extreme are the countries organized into the Alliance of Small Island States (AOSIS). These are states from the Pacific, Indian and Atlantic Oceans, some of which are only two metres above sea-level at their highest point. They are thus extremely vulnerable to the impacts of climate change, particularly sea-level rise, some having their very existence as states threatened. In the negotiations they have proved vocal and well organized, pushing for early action to reduce CO2 emissions and halt deforestation, and for resources to help them adapt to the changes that are now considered inevitable whatever action is taken. These two groups, while vocal, are relatively small. The rest of the developing countries form a third, much looser group. Their emphasis is on the equity and development concerns, and on the belief that 'the developed countries bear the main responsibility for the degradation of the global environment.' Basic economic development is the primary need, and developing countries' commitments should be purely dependent on the provision of financial resources and technology transfer by the North. Furthermore, the Convention should not include sophisticated monitoring and compliance procedures which would infringe developing countries' sovereignty over their use of natural resources. The group clearly emerged as an important sub-group of the G77 at

the December I991 session of the climate negotiations, when 44 developing countries submitted a text as a basis for negotiation with the North. But this group probably has more underlying flexibility than its negotiating position suggests. There are inevitably differences of degree within the group concerning acceptable compromises, but for all of them, any commitments on abatement remain contractual, that is dependent upon meaningful commitments from the North including resource transfers.

1.3.4 Groups within the North

The North can be usefully divided into at least four operative groups. The first group consists of those committed to stabilizing emissions. Canada was initially active, but the group now revolves around the European Community (EC) and the Scandinavians, and also includes Australia and New Zealand. There are, however, variations within the group. Members have adopted unilateral targets to stabilize, and in some cases reduce, their own CO2 emissions. The status and seriousness of these targets varies substantially, but many of these countries are now developing policies to meet their targets, and all have called for an international agreement incorporating targets to stabilize and reduce CO2 emissions, and commitments to transfer resources to developing countries to facilitate their participation. Thus, Skolnikoff's assertion in the summer of I990 that 'no major action is likely to be taken until ... uncertainties are substantially reduced, and probably not before evidence of warming and its effects are actually visible, already seems misplaced. This group reflects a range of interacting interests and attitudes. Most of the countries concerned-but especially the Scandinavian countries and Canada- have a relatively strong perception of international and environmental responsibility, and sympathy with developing countries. All except Australia (and more recently and temporarily the United Kingdom and Norway) are energy importers. In many, environmental issues gained prominence during the I980s, notably acid rain in Europe and Canada, and ozone depletion in New Zealand and Australia-both issues which were dismissed as scare-mongering at the beginning of the decade, and which, by the end of the decade, were recognized as major threats justifying belated and expensive action. Many of these countries also sense economic reasons for action, in terms not only of the benefits of improved energy efficiency, but of technological leadership-as evidenced by the benefits Germany reaped from being the first major European country to act on acid

rain and also Japan by implementing policies in the aftermath of the pollution disasters in the 1970s: 'If a reinforced policy of environmental protection leads European companies to an adaptation of their marketing and R&D efforts ahead of others, these companies will in the future be better placed on world markets. The formal economic rationales for these policies of setting CO2 targets now are examined elsewhere. As summarized there, the US position differs radically from this on almost all counts. It has maintained a steadfast refusal to set quantitative targets to stabilize its CO2 emissions, and has been markedly more hostile than most (though not necessarily all) other OECD countries to proposals for significant North-South transfers." It has furthermore, expressed grave fears about the economic consequences of CO2 abatement, and doubts about the 'precautionary principle. Andresen highlights two reasons for the US position. One is the extreme personal hostility of leading administration personnel (notably former White House Chief of Staff John Sununu, whose 'impatience with the environ- mentalists stops just short of contempt). The other is a 'gas guzzler' culture that has long been accustomed to low-price energy. It is the world's largest single CO2 emitter, accounting for 24 per cent of fossil CO2 emissions. It is the second largest oil producer, the second largest natural gas producer and the largest coal producer. Its economy has evolved on the back of cheap energy, and 'the history of US energy demand and the existing resources, infrastructure and institutions make the US economy as dependent upon fossil fuels as a heroin addict is on the needle. This feeds into the perception, widespread in the US administration and corporate sector, that the costs of reducing CO2 emissions would be very high. Also, the relative isolationism of the United States, especially in relation to the developing world, has enabled it to divert attention from its domestic energy consumption by pointing to the role of other sources (such as deforestation and rice cultivation) and of developing country growth, with little comprehension of the forces and perceptions involved. Finally, as a very large and technologically advanced country, the US has increasingly argued that it can adapt to climate change with relatively little cost.

The US position has evolved. Initially, there was an emphasis on the uncertainties involved in the science, and on the use of those scientists who remained sceptical. When negotiations opened, there was a shift towards an emphasis on the policies to be implemented, notably the phasing out of chlorofluorocarbons (CFCs),

the 1990 Clean Air Act amendments to reduce various pollutants, and elements of a 'national energy strategy. The administration report 'Climate change: an action agenda' projected that government policies would stabilize overall greenhouse gas emissions by the year 2000, with the CFC phase-out being the main factor offsetting projected CO2 increases. In the Ministerial Declaration of the Second World Climate Conference (WCC) in November 1990, the United States accepted a proposal for 'additional resources' for developing countries although it interpreted this as meaning resources redirected from other international assistance. Thus, while some movement has occurred, the US position remains intransigent relative to those of the Europeans and others.

The position of Japan is more ambiguous. During I990, Japan parted company with the US position and adopted a delicately worded two-tier CO2 emission target. But while the EC favours a convention which clearly commits industrialized countries to stabilizing emissions, Japan argues for one which commits them only to 'make best efforts' to stabilize. Unusually for Japan, its position reflects scarcely concealed intense internal debates. Japan is already probably the most energy-efficient country in the world, especially in its industrial sector, and so may have greater difficulty than others in meeting equivalent emission targets. Also, it shows little direct concern about possible climate change impacts, and has not traditionally been one of the more 'internationalist' countries. But there are also strong contrary factors. With an economy wholly dependent upon imported fossil fuels, ' CO2 constraints are perceived as an opportunity for Japan to revitalize energy conservation and other policies which are desirable in and of themselves. Japan exudes technological confidence, and is seeking an international political profile to match its economic might; some Japanese argue that the UNCED conference provides the platform from which Japan could establish its role as the country to lead the world into a sustainable twenty-first century. Japan has sought to export efficient technology and production processes to developing countries (particularly to the East Asian newly industrializing countries), not only as a commercial exercise, but also to be able to claim a commitment to the global abatement effort. Like Germany, Japan senses commercial advantages in a C02-constrained world advantages enhanced by getting in first. But Japanese diplomats still appear uncomfortable straying too far from the American

fold, and, as illustrated by the Gulf War, Japan resents being treated as a source of global finance for international causes: in formal negotiations it has, along with the United States and Canada, shown 'distinct unwillingness to discuss "new and additional " funding to developing countries. Thus, despite a hesitant movement towards the European perspective, the Japanese position remains opaque. A final group, which has played relatively little part in the negotiations to date, is the states of Eastern Europe and the Commonwealth of Independent States (CIS) that once made up the Soviet Union. The USSR tended to align itself with the US position, and not surprisingly the CIS and the East Europeans have generally had more pressing concerns. As the situation stabilizes and these countries resume participation, the political breakdown is likely to be paralleled by similar fractures in attitudes to climate change. The whole region was dependent upon cheap energy supplies from the massive Russian resources. Not only Eastern Europe, but also most of the non-Russian CIS will now be faced with heavy import bills as border prices reflect production costs or international market prices. Replacing old inefficient infrastructure will give both opportunities and incentives for low emission development. Combined with the deep environmental consciousness raised during the I980s, these countries are likely to adopt a European attitude to climate change. But the shocks will be far less in Russia itself, which may become heavily dependent upon energy exports for its future recovery. Thus it is likely that Russia which accounted for nearly half the CO2 emissions of the former Common Wealth of independent states will side with the United States, while most others will incline to the 'green alliance'.

1.3.5 Conditions for an agreement

At present, the gulf between the positions of various states appears too great to allow meaningful cooperation. The contrast between, for example, the United States and the Indian positions testifies to the huge divisions which exist. It seems unlikely that enough will occur prior to UNCED for a convention to be signed there which will do much to deal with climate change. But, whether by or beyond UNCED, the basic task for those wishing to reach a successful agreement is 'to craft and sustain a meaningful "winning" coalition of countries around core principles and commitments which can form an effective control regime. This would be a group which forms a

sufficiently influential and credible alliance to put pressure on other countries and which if necessary could proceed without them, for a time at least. A viable coalition on climate change, spanning the North-South divide and gaining accession from a wide range of countries, would have to meet several political criteria. It would have to include explicit commitments from the industrialized countries to stabilise and probably to begin to reduce, their greenhouse gas emissions over and above existing commitments to phase out CFCs-including the core issue of fossil CO2. This would be necessary both as a basic logical requirement in an abatement regime (given the current large disparities) and as a means of convincing developing countries of the sincerity of the industrialized countries involved. It would need substantial commitments from the industrialized countries to aid the developing countries with technology and finance. It would also require reciprocal commitments from the developing countries to improve energy efficiency and/or slow deforestation, including at absolute minimum reform of perverse economic incentives (such as large-scale energy subsidies) and the rudiments of a credible reporting and monitoring system-even the most generous of the industrialized countries are unlikely to commit themselves to large-scale transfers without any guarantees that the money will not be wasted, or spent on wholly unrelated purposes. And a viable coalition will require enough industrialized countries to generate sufficient income for the regime. Northern compromise and the US position outside the AOSIS, concern about climate change is most widespread in the OECD countries, and it is within the OECD that the debate is most lively. This combined with the prominence of OECD CO2 emissions and the fact that these countries have the wealth and technology to embark upon reductions, makes the North the natural focus of expectations. As noted above, all OECD countries other than the United States and Turkey have already declared their intention to stabilize or reduce CO2 or greenhouse gas emissions, or are part of a regional stabilization target. These countries have sought as their first political priority to bring the United States into the OECD 'green alliance'. In particular, substantial efforts have been made to persuade the US to stabilize CO2 emissions, and to agree to the principle of 'new and additional resources' for developing countries. As of February I992 there is no sign that the United States will readily change its position on either issue. The US has defended its stance not only by emphasizing the continuing scientific uncertainties and perceived high cost of action: it has argued that

the Rio convention was never intended to be more than a framework without significant commitments; questioned the sincerity of some of the OECD 'green alliance' targets and positions on resource transfers (in some cases with good reason); and stressed the futility of OECD action set against potential long-term growth in developing country emissions and population. By undermining OECD efforts and highlighting potential developing country contributions, the United States' position has also left many developing countries uncertain as to whether the Northern countries really are concerned about the issue at all, and has fuelled accusations that climate concerns are a Northern conspiracy to hamper Southern development. While the US position currently appears immutable, it could change significantly, depending upon changing perceptions of the stakes and pressures brought to bear. As noted above, the uncompromising tone of the US position has in part reflected the personalities involved, notably the former Chief of Staff, John Sununu. In terms of perception, there is already more open recognition of the need to act despite the uncertainties and indications that the other main plank of US reluctance the perceived high cost of abatement is being modified as economic studies advance. Rayner suggests that the dominant position within the administration is not as monolithic as it seems, arguing that influential groups favour action so long as it is demonstrated to be economically efficient. Thus, 'the challenge to those seeking rapid progress in international negotiations is to detach those who would act on the assurance of economic efficiency from those who prefer not to act at all.' It should also be possible (if deemed necessary) to persuade or pressure Russia to join a Northern framework. Thus it may be possible to forge a 'Northern compromise' as a basis for negotiating with the developing world. There are, however, serious drawbacks to the process of Northern compromise as a precursor to any attempts to grapple with the global and North-South issues. To date, the US has remained impervious to the pleas of its OECD partners, and if this persists through the final negotiating session it could do much to make the framework convention an impoverished document. But there are long-term costs as well. The US position is no accident of time and personality, but, as already noted, reflects the far deeper pressures arising from a century's development based on a vast land area and unlimited cheap energy resources. US development has known few limits, and popular culture tends to assume that every constraint can be overcome with a technical fix without affecting resource-intensive

US lifestyles. Combined with its highly energy-intensive infrastructure, immense industrial interests and open political system (which gives concerned lobbies great power to impede policy development), substantive policy changes are bound to be slow and hard fought. Striving for a Northern compromise as the first priority would tie the international process to the painstaking pace of US energy policy development; reinforce the complacent presumption of the US that it ultimately determines what can be done in major international affairs; and, furthermore, play to one of the underlying objections raised not only by US diplomats but also in many domestic debates that OECD action alone is both economically inefficient and ultimately pointless, because of future growth from developing countries. It is also hard to see where such an approach can lead in terms of a North-South compromise. The US position, reflecting in part its historical isolationism, especially in relation to the developing world, is far from what any developing countries consider acceptable. It is hard to see what could realistically be expected other than a rerun of the 20-year-long and largely fruitless debates of the Law of the Sea provisions on deep seabed mining, and the New International Economic Order (NIEO). Domestic US politics, combined with its ideology and budgetary pressures, make it unlikely that the US would readily offer much domestic action or financial assistance as long as developing countries were not committed to serious abatement; and the developing countries would not consider such constraints as long as the biggest and richest polluter in the postulated agreement offered so little. If the first point of reference is what the US is happy to accept, it is hard to see a serious global regime for tackling climate change getting off the ground.

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1.3.6 The alternative track: across the North-South divide

The alternative approach to building a coalition of sufficient weight to form the basis of a long-term control regime might be for the nascent 'green alliance' first to seek non-traditional allies across the North-South divide. Northern countries that do wish to find common ground with Southern equity concerns would therefore seek to coalesce around the philosophy that the first priority is not necessarily to accommodate all the US concerns, but is rather to find grounds for a compromise which can involve a substantial body of developing countries. This would probably

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also involve detaching the more pragmatic Southern countries from the more hardline states. The aim would be to build a central nucleus for a long-term regime which others eventually have to accept as the only effective and legitimate international initiative towards global control of the problem. This would be a far from simple process. In the first place, the current 'green alliance' is itself too fragmented to have a united view of how to proceed-how hard to push and what should be offered. Starting to forge a meaningful deal with a significant fraction of the developing world would require both strong leadership (on both sides) and significant new resources. The former could not be achieved without the Nordic countries and the EC (and would be greatly strengthened by the active participation of Canada and Australasia); the latter is implausible without Japan, which currently remains ambivalent on the issue of financial assistance. Then there is the question of which developing countries might be attracted beyond the AOSIS membership, and how readily they might part company with the hardliners. Currently, in rhetoric at least, it appears that some developing countries still hope to 'blackmail' the industrialized world into capitulation on the climate issue by the threat of uncontrolled increases in their emissions, and are themselves under domestic political pressure not to compromise on their view of fundamental equity issues. But privately many accept, to varying degrees, the need for and likely form of compromise. Such an approach would at least meet one of the essential criteria for developing country participation, namely that of dealing with Northern countries that accept the primary responsibility for past emissions and current abatement efforts. There could still be a major developing country bloc outside the central coalition, in addition to the energy exporters. But direct evidence of the potential benefits of being involved in an agreement would then start to exert a powerful influence on other developing countries to compromise and participate. Perhaps the biggest potential objection is that building a coalition without the US would be both ineffective, because of its major contributions to global emissions, and politically impracticable. In fact the former is largely a subset of the latter, since the aim would ultimately be, not to have an agreement without the US, but to create a 'winning coalition' that the US ultimately felt compelled to join-a tactic that would probably have a greater impact on US emissions than a process driven entirely by the need to compromise first with US recalcitrance. But is this politically feasible? It is too early to tell. Ten years ago, the idea of an international process with potentially

major economic implications proceeding without the active consent of the US would have been unthinkable. But the relative economic decline of the US during the 'feel-good vacuum' of the I980s has already severely weakened the US's economic and international position. The financial and political weight of a clear EC-Japanese alliance, with participation from at least some other OECD countries, would itself put great pressure on the US position. The EC has already explicitly and deliberately started to fill the current leadership vacuum on global environmental affairs; and, as discussed above, Japan too believes the issue presents both political and trade opportunities, and has moved steadily away from the US position. Furthermore, if a potential coalition formed which included arrangements for technology assistance to many countries of Eastern Europe and developing countries, with an implicit (or explicit) preference for more energy-efficient technologies from participating OECD countries, the US would risk finding itself excluded from some of the major emerging markets. The presumption that non-participants would gain a competitive advantage would not necessarily hold. For a coalition beyond a certain size, the danger of being excluded from major markets could be more important. And paradoxically (depending in part upon the trade model used), the impact of being outside an abatement regime on US terms of trade could itself result in net transfers from the US, as it pays part of its competitor's energy/carbon taxes through an expanded trade deficit reflecting higher import costs and reduced coal exports. Obviously, this enters the difficult and potentially volatile terrain of GATT and other trade issues, which are beyond the scope of this article. But it may be that if there is to be a substantive agreement on limiting CO2 emissions, the countries' most concerned to find a solution will have to start exploring such approaches, whether or not they ever come into being in an eventual partial agreement.

1.3.7 The role of UNCED

What is the role of UNCED and the framework convention in all this? Although the framework convention itself would be far removed from any global strategy for tackling climate change, the convention and debates surrounding it has done much to set the tone and terms of subsequent efforts, and as such will be a vastly important step. It may do much to determine the nature of feasible coalitions thereafter and the pace at which they can develop. It is important that the framework

convention should establish the basic preconditions for meaningful cooperation across the North-South divide. This means demonstrating that the bulk of industrial countries are serious about the problem and understand that they bear initial responsibility for addressing it. If feasible, an umbrella commitment collectively to stabilize fossil CO2 emissions from OECD or all industrialized countries (the latter giving extra headroom from the collapse of East European and CIS emissions) at the 'standard' I990 level an extended version of the EC undertaking-would yield several benefits. Notwithstanding the legal complexities, it would convince the developing countries of the sincerity of Northern concerns; reduce fears about competitive disadvantages among the industrialized countries; convince the fossil fuel companies of the reality and nature of initial constraints; and set in train a searching process of policy assessments, such as that currently occurring within the EC. But even if such collective commitment turns out not to be feasible for political or legal reasons, in our view a framework convention should still contain the strongest possible language on industrialized country commitments-if necessary, involving special exemption clauses rather than reneging on the basic principles of CO2 emission stabilization and resource transfers to support developing country efforts. Many of the broader UNCED discussions are similarly grappling with the potential tensions between environmental protection, development and sovereignty, the principles and meaning of differential responsibility, and the obstacles posed by special national interests. Rio will not be a make-or-break meeting that decides whether or not the global community can cope with the challenges of global environmental problems. But it will establish the basis on which the world starts to grapple with all issues raised, and which launches the process of building more effective international coalitions which may become dominant over time. In all the issues, as in climate, it is still unclear how well the chance will be seized.

Climate change is in its earliest phase as a serious issue of international diplomacy. It is not possible to predict either the pace or the structure of future developments with confidence. The negotiations have only recently gone beyond procedural formalities, and many countries have only just begun the process of assessing the full implications, clarifying positions and exploring coalitions. The foregoing discussion is therefore somewhat speculative, though grounded in some

clear features of national interests and characteristics. At present it is doubtful whether a majority of states even want a substantive agreement, being either unconcerned about planetary problems of the next century, or unaware of or unconvinced by the rationale for starting responses now. A series of unusual weather events could raise the political impetus for action, and perhaps alter the distribution of national concerns. Growing scientific consensus on the severity of the problem, or economic consensus on the costs and suitable degree of abatement, could similarly move the process forward. But however it occurs, it is barely credible that continued and accelerating human intervention with the atmospheric heat balance can long be tolerated; so effective abatement action will ultimately have to be undertaken. The negotiations towards a framework convention have already revealed serious divisions of interest, and as the process moves into the phase of seeking serious significant abatement commitments these are likely to intensify. At least four major divisions of interest are visible. The North-South divide reflects fundamental differences in priorities, responsibilities and perceptions. The divide between major energy producers (and sometimes forestry interests) and others is almost as deep and perhaps even more intractable. Exceptional vulnerability to climate change is the critical issue for yet other states. And, finally, differing cultural attitudes and experiences concerning environmental impacts and the inherent scientific uncertainties involved lead to contradictory conclusions as to how to respond to the large-scale but very uncertain threat of climate change. There are thus deep differences, not only between the industrialized and the developing worlds, but within each, and many different coalitions are already emerging. Within the North the biggest conflict is between the US and most other industrialized countries. Whilst the US position has evolved and may change further, we conclude that the division is not a temporary phenomenon but reflects a deeper divergence of attitude and interests. Most diplomatic efforts to date have focused on trying to forge first an alliance of all the developed countries. We argue in contrast that the best route to establishing an effective long-term control regime may be for those states that are currently committed, or sympathetic, to action notably European countries led by the EC, Japan and a significant group of developing countries to pursue a coalition among themselves which commits them to controlling emissions and provides resource and technical assistance to the participating developing countries. Such a 'green alliance' could form a legitimate

basis for a broader regime and would put considerable pressure on the US and Russia, as well as on those developing countries that are seeking idealistic but politically unachievable goals, to compromise and join. The framework convention should lay the foundations on which subsequent diplomatic efforts to build a 'winning coalition' can be based.

1.4 Background of climate change policy-making in Japan

Japan is an "advanced pollution nation". Citizens have directly experienced pollution that has caused irreparable bodily harm. (e.g. Minamata case) In the 1960s, thousands of inhabitants of Minamata City in Kumamoto Prefecture were poisoned by methyl mercury drained from the chemical factory, known as the Minamata disease. The number of casualties in Minamata is 6,500 as of November 2006. Current Japanese environmental policy and regulations are the consequence of a number of environmental disasters in the 1960s. Cadmium poisoning from industrial waste in Toyama Prefecture was discovered to be the cause of the extremely painful itai-itai disease which causes severe pain in the back and joints, contributes to brittle bones that fracture easily, and degeneration of the kidneys. Recovery of cadmium effluent halted the spread of the disease, and no new cases have been recorded since 1946. In Yokkaichi, a port in Mie Prefecture, air pollution caused by sulfur dioxide and nitrogen dioxide emissions led to a rapid increase in the number of people suffering from asthma and bronchitis. In urban areas photochemical smog from automotive and industrial exhaust fumes also caused the rise in respiratory problems. In the early 1970s, chronic arsenic poisoning attributed to dust from arsenic mines occurred in Shimane and Miyazaki prefectures. So, responsibility for pollution has been a significant social problem with a history of widespread debate and anger concerning both responsibility and compensation dating back to 1950s and 1960s. Japan has always responded with sensitivity to recommendations and other decisions issued by the OECD.

Japan provides a useful case of the evaluation of efforts to coordinate global ecological accords and national action. Japan made important changes to its industrial and pollution control strategies as the environmental consequences of rapid economic

expansion became evident in the 1960s and 1970s. Academic studies of Japanese environmentalism shows a lengthy struggle between grassroots movements and the top actors in the major institutions, government, party and business, the Ruling Triad. Political and commercial leaders reacted slowly to emerging threats and growing public concern. Over the past decade, pressures have increased on Japanese leaders to respond even more aggressively on environmental issues. Public awareness of global warming has been high for a number of years. Like several European nations, Japan has taken the Kyoto Protocol very seriously and has endeavored to bring its national policies and citizens' behavior in line with global priorities. As the Kyoto Protocol was signed in Japan, the Japanese government feels a strong obligation to honor its 1997 pledge to reduce greenhouse gas emissions to 6 percent below 1990 levels between 2008 and 2012. The Japanese government has introduced a range of initiatives designed to cut greenhouse gas emissions, encourage the production and use of low emission technologies, increase recycling, promote green products, and generally encourage citizens, governments, and business to adopt a more environmentally friendly lifestyle.

In recent years, the government of Japan has launched a complex series of initiatives designed to address the challenges and needs of environmental sustainability. The Japanese strategy calls on the wide-ranging mobilization of national resources and national energy in the interest of addressing global climate change. One of the most high profile was the Team Minus 6%, a national project launched in April 2005 with a goal of getting all Japanese citizens to participate in energy conservation. Citizens were encouraged to limit their use of air conditioners, reduce water consumption, stop idling cars, buy environmentally friendly products, refuse extra wrapping of purchases, and unplug unused appliances. The Team Minus 6% initiative included the "No Necktie, No Jacket" Cool Biz campaign, which advised offices to set their air conditioners to turn on only when the temperature reached 28 degrees Celsius.

The government also undertook a series of major recycling initiatives, designed to make Japan a world leader in this area. The Container and Packaging Recycling Law, enacted in 1997 initially for PET (polyethylene terephtalate) bottles and glass, expanded to paper and plastic containers and packaging in 2000. The Basic Law for Establishing the Recycling-Based Society, which went into effect in 2000,

established a framework for both recycling generally (source reduction or waste prevention, reuse, recycling, energy recovery, appropriate disposal)and extended producer responsibility (EPR) for the recycling of the products and services they produce. A Home Appliance Recycling Law went into effect in April 2001, designed to respond to the fact that Japan's 44 million households dispose of 100 million appliances annually. Other significant initiatives included the Construction Material Recycling Law (2000), the Food Waste Recycling Law (2001), and the End-of-Life Vehicle Recycling Law (2002) which established a national automobile recycling law.

Japan's Top Runner program, launched in 1999, was designed to encourage the development of the most energy efficient electrical appliances. Instead of setting minimum efficiency standards for electrical appliances, Japan's Top Runner Program makes the most efficient model commercially available, the standard for the sector. Extensive labeling requirements draw consumers' attention to the most efficient products.

The EcoTown Program of the Ministry of Economy, Trade and Industry (METI) promotes local economic development through the creation of environmentally oriented businesses and community recycling and waste elimination systems. Kitakyushu, on the northern tip of Kyushu island, one of the first EcoTowns to be approved, now has recycling facilities for PET bottles, home electric appliances, office automation equipment, automobiles, fluorescent tubes, and pachinko machines.

Japan, like many other industrial nations, wishes to coordinate its international commitments with domestic policies, regulations, and priorities. In 2008, a symposium was held in Tokyo on "Global Energy and Climate Security: Prospects for German-Japanese Cooperation." The general consensus was that both Germany and Japan have the potential to be the world leaders in environmental technologies and that there are lessons to be learned from each country's successes and failures so far. What stands out in Japan is the country's desire to mobilize public support and the willingness of the government to impose tough standards on government and business. While some of the government's environmental regulations are voluntary, social, and competitive, pressures ensure a high degree of compliance. The Top Runner program, for example, clearly uses public pressure to ensure that companies make their products more and more energy efficient. The Home Appliance Recycling Law put responsibility for the recycling of these large appliances clearly in the hands

of the producers and gave them a time frame in which to deliver a recycling system that would meet government standards. Clearly, having the nation internalize the values and principles of global environmentalism is the ultimate goal, reaching beyond the Kyoto accord and holding the potential of a sustainable approach to environmental protection.

1.5 Japan's orientation in tackling Climate change

Despite the general shift that is evident in the world's three largest economies towards thinking of environmental issues in more comprehensive, ecological, and global terms, Japan, Germany, and the US continue to have markedly different approaches to dealing with environmental concerns. Japan, caught in a decade-long recession, found itself between Germany and the US. Because of the legacy of the severe pollution incidents in Japan in the 1960s, a polluter pays philosophy is strongly embedded in Japan. Cost-benefit analysis and risk assessment do not have a strong tradition in government planning. The precautionary principle has gained somewhat greater acceptance than in the US, especially during the 1990s. Japan remains less embracing of market-based approaches to pollution control than is the case in the US although this is changing. The Japanese government prefers voluntary approaches to industrial pollution control and when necessary the use of regulations and incentives to guide industrial change. There appears, however, to be a somewhat higher level of support for market-based mechanisms (other than environmental taxes) in Japan than has been the case in Germany although Germany may be warming to the idea of some market-based approaches as well.

These differences were clearly reflected in the international climate change negotiations. Japan sought to play the role of mediator between the positions of the EU and the US, with only limited success. Still, it is noteworthy that in the end Japan championed the position of the US in the negotiations under the Clinton administration – that is the use of flexible mechanisms and market-based approaches to addressing climate change – in a final desperate effort to get the US to return to the fold of the Kyoto Protocol, but sided with Germany and the EU in moving forward on the Kyoto Protocol even without US participation. This solution has been rejected by the Bush administration which argues that an international emissions trading system is untested, and, thus, dangerous. The Bush administration instead has called for long-

term technology based solutions to climate change. Obama administration too did not deviate from the traditional US line of circumventing the Kyoto Protocol and was reluctant to have an agreement on legal binding on emissions and other related policies. Much was expected from the US in Copenhagen 2009, but on the contrary US unilateral approach almost failed the convention which had met to finalise legal binding targets for the emitters. The EU views this as the US shirking its responsibility to act now on a pressing global environmental matter. Japan, while concerned about isolating the US, chose to join the EU in working to ratify the Kyoto Protocol even without the US. With the change in power in Japan, the current dispensation seems to be breaking away from the LDP line and hence the proximity between US and Japan is diminishing gradually on certain specific issues. On climate change too, the present Japanese government has made it very clear that irrespective of US joining or not joining the Kyoto targets, it has an obligation and willingness to fulfill the protocol.

1.6 The institutionalization of environmental policy communities

The question that was raised in Japan is why the environmental community of Japan, look so different even though Japan and the western industrialized countries entered the era of national environmental policy making at roughly similar periods of time and all were strongly influenced by US example? The analysis first showed how very different the environmental policy communities in these countries really are. In the US, there are large and highly professionalized environmental NGOs and well-financed environmental research institutes but they must compete with other groups in society to win the attention of policy makers on Capitol Hill and in the White House. In Japan, the environmental NGO community is weak and, thus, the Environment Ministry has had to do its best to promote environmental policy change on its own, gaining support where it can from the international community, domestic groups, and at times from political parties.

The environmental policy communities in these states also have noticeably different relationships to government and business. Although in all these societies initially the relationships could be characterized as highly polarized and conflictual, over time as environmental policy making became institutionalized in different ways in the these countries, rather different policy-making processes evolved. In Japan

there is much use of administrative guidance linking the bureaucracy to industry, but there has been little involvement of environmental NGOs in this informal decision-making process. Institutions channel protest in particular directions and can limit or provide access to governmental decision makers. Nature of government also shows the way that how decisions are taken in those set-ups.

In Japan's parliamentary system, proportional representation was only introduced in 1994. The complicated medium-sized multi-member constituency system that was in place prior to this time favored candidates over parties. The new electoral system in Japan that was first used in 1996 may be more favorable to the formation of new parties, and not just splinter parties, even though the system is still weighted in favor of candidate-oriented voting. The new system uses proportional voting for 200 of 500 electoral seats (the remainder being chosen in single member districts). A party must win 3 percent of the total number of votes to be represented in the Diet. Whether or not this new electoral institution, will eventually lead to the birth of a viable Green Party, rēmains to be seen. In Japan there is much use of administrative guidance linking the bureaucracy to industry, but there has been little involvement of environmental NGOs in this informal decision-making process. The relationships among government, business, and environmental NGOs are complex, but on the whole appear less confrontational in Japan, in part because of the higher propensity to rely on the courts in the other countries. Institutional factors are very important to understanding which groups in society have power and influence.

Also very important were the institutional opportunities and barriers presented to environmental activists. Initially, the development of environmental movements appears to have been greatly influenced by how the state initially responded to grass roots activism. In Japan's case the government was initially slow to respond to citizen demands, but then once it did pass legislation; it was relatively effective in implementation efforts. This was done through a combination of sticks and carrots. Legislation was introduced requiring companies to pay into a pool for the pollution they emitted. This is a strong case of a polluter pays principle being implemented. The money was used to pay for the health damages to pollution victims. Industries were also given subsidies and tax incentives to promote the introduction of pollution control and energy efficient technologies.

The state maintained and erected substantial institutional barriers to the formation of a more vibrant environmental civil society. Laws governing the non-profit sector made it extremely difficult for groups to obtain non-profit status. Moreover, there are no major private foundations to provide resources to environmental groups and think tanks. The need to get ministerial approval to incorporate as a legal entity meant that many potential non-profit groups feared being co opted by the government. The Japanese government was remarkably successful in taming the citizens' movements, quieting the courts, and taking environmental policy matters back into its own hands. As a result, throughout much of the 1970s and 1980s, environmental policy making was primarily conducted by the bureaucracy with only minimal input from politicians, citizens, and think tanks.

The success of the environmental community also increased their competition from industrial groups that formed counter-lobbies in the form of large corporate associations and coalitions, the largest of which is the GCC (which appears to have disbanded in the beginning of 2002 because it achieved its goal of keeping the US out of Kyoto and because some key industrial supporters quit the coalition). While US environmental groups are very wealthy compared to the groups in Germany and Japan, their wealth cannot match that of large industrial coalitions and associations. There also is division within the US environmental NGO community regarding the extent to which regulatory or market-based approaches to environmental protection should be advocated. In sum, we see that several important institutional factors influenced movement development in these three countries. Both formal and informal institutional structures can facilitate or impede the formation of environmental and other special interests. The electoral and party systems in a country can influence the potential for social movements to reorganize as single-issue parties. Tax laws, laws governing the formation of non-profit entities, and financial resources provided by the state also can strongly influence a movement's potential to transform itself from informally organized citizens' groups to professionally organized interest groups. Less formal institutional structures can also make a difference. The Japanese propensity to use administrative guidance, for example, links governmental ministries closely with economic interests. The close networks that exist between government and industry further strengthen such ties. NGOs are kept out of this informal decision-making arena.

1.7 Environmental policy communities and the policy approaches of states

Despite the many differences in the structures, capacity, and goals of their environmental movements, the advanced countries have pursued generally similar changes in their environmental programs within a few years of each other. They all were addressing acid rain by the early 1990s. They all signed the FCCC in 1992. This lends support to theories that point to the importance of diffusion mechanisms and learning processes that can cut across political and societal boundaries regardless of political system type and the strength of environmental movements.

Moreover, the comparison suggests that environmental movements are not always the driving forces behind environmental policy change. There were a number of cases examined, such as the stratospheric ozone depletion case in Japan and Germany, the introduction of the environmental program of Germany in the 1970s, and the introduction of a global climate mitigation program in Japan in 1990 where environmental groups played little role in policy change. Also of considerable note is that the country with the biggest and richest NGOs in the world – the US – has taken less domestic action on climate change than the country with the smallest NGO community of the advanced industrialized states – Japan. Thus, the strength of environmental movements is not sufficient to help us understand specific environmental policy outcomes. Yet, there are also many reasons to believe that the relative power of an environmental community and its access to decision makers does matter. The strength, organizational form, and access to governmental decision-making forum can influence greatly the broad policy orientations of a state as well as, in some cases; specific policy outcomes

Japan had to borrow scientific information and policy ideas from abroad when stratospheric ozone depletion and global climate change were first being discussed. There was almost no domestic capacity within the bureaucracy or the environmental community to address these issues. Initially, Germany's environmental NGOs also were focused primarily on domestic environmental issues, but by the mid- to late 1980s, they rapidly shifted focus to include international and global environmental issues. They had more capacity to make this kind of transition than did their much smaller Japanese NGO counterparts.

Japan is struggling to do the same, but has been less successful in its efforts. This is in large part because unlike Germany which has been willing to make bold policy proposal, Japan have a tendency to remain ambiguous and to wait until the final moment to present its policy stance. This reflects Japan's strong ties to the US, its reluctance to upset the US, domestic political fragmentation, and a general political belief within the bureaucracy that goals once stated need to be met. Germany, moreover, has found it easier to build domestic consensus on environmental issues than is true in either Japan or the US. This certainly has much to do with the disproportionately large influence that the relatively small Green Party has. Nevertheless, despite the substantial greening of German policies suggested by these examples, there are still many clear signs of a conservative politics in operation. Germany failed to introduce speed limits on its autobahns despite environmental and safety concerns. Germany's nature conservation and soil protection policies also remained weak because of the strength of agricultural, industrial, and transportation interests. There are also a number of cases where economic revitalization was given precedence over environmental protection, such as with the development planning simplification law and the law on investment facilitation and residential property of 1993. There have also been several instances where the European Court of Justice found that German environmental law was not in compliance with European Community environmental law. This was particularly true in relation to environmental protection in agricultural areas.

Over the course of the late 1980s and 1990s, Japan went from being an international environmental policy laggard among the industrialized countries to being one of the primary financiers of overseas environmental programs and a more active player in international environmental negotiations. In the late 1980s, Japan's international environmental record was being harshly criticized in both journalistic and more academic reports. Japan was singled out as the world's largest importer of tropical hardwoods. It was attacked for its drift net fishing practices, whaling, and trade in endangered wildlife products. It was criticized for exporting polluting industries to Southeast Asia. Now Japan is receiving some recognition for its "greener" politics, most recently in the 2002 OECD Environmental Performance Review of Japan which suggested that Japan had done much to deal with air pollution, energy efficiency, and recycling. Richard Forrest, an environmental activist and

specialist on Japanese international environmental policies who was always very critical of Japanese ODA, now concedes that Japan is making some strides in this area although he still terms this "*'omiyage'* diplomacy – gift offerings of aid and initiatives at international meetings to please international opinion." Helmut Weidner suggests that while there are problems with Japan's approach to the environment – as can be seen by its importation of tropical timbers, its relatively high emissions of CO2, and its neglect of pollution control technology in overseas investments in the 1980s – in the 1990s the Japanese government has shown that it wants to address these problems in cooperation with industry. He concludes, however, that in comparison the EC still appears more proactive than Japan. Japan's global environmental politics, he suggests, may still be in a phase of "symbolic politics." The Japan Council for Sustainable Development formed in 1996 assessed progress that Japan has made in achieving sustainable development. They found that many new efforts have been initiated by a variety of actors to promote sustainable development, but that progress remains limited. Current socio-economic conditions continue to pose problems. Japan's environmental policy community in the 1980s was largely centered in the bureaucracy and was focused primarily on domestic matters. Japan excelled in the implementation of environmental policies that could be made to fit with the interests of the business community. It was weaker in areas like environmental impact assessments, where support from industrial interests and the economic ministries were not forthcoming. There has been much destructive development in the country in order to boost the leisure industry, for example, and this has harmed rivers and coastal areas and threatened biological diversity. The construction industry in Japan remains immensely powerful and environmental protection has not been a major concern of this industry.

Still, it is quite fascinating that in case of Japan, changes to the country's environmental policy orientation in the late 1980swere largely in response to the "greening" of traditionally "brown" thinkers in the Japanese government. The formation of the Montreal Protocol was a turning point. This transition in the perception of environmental policy on the part of some conservative politicians, industry, and the bureaucracy was not of the same hue as that embraced by the Green Party in Germany. It was not really a call for the development of an ecologically sustainable society, but rather the acceptance of environmental protection as a good

area for foreign policy activity and possibly for business as well. Japan's political leaders and bureaucrats found a way to link global environmental matters to the country's search for ways to play a larger global role and to use past success with air pollution control and energy efficiency gains to develop new markets and industries in global environmental protection. There are also severe resource and space constraints in Japan that make a more sustainable socio-economic system a goal that Japan has but little choice in moving towards.

Numerous new domestic environmental laws were passed in the 1990s. These include a new recycling promotion law, a law to reduce NOx emissions from transportation, a law regulating the import and export of hazardous wastes, a law for the conservation of endangered species, a law for the rational use of energy, and another for the promotion of the development and introduction of alternative energy. An important change was the formulation of the new Basic Environment Law in 1994 and the subsequent development of an Environment Basic Plan that aim at developing a more sustainable socio-economic system. In 1997 an environmental impact assessment law was formulated and after the Kyoto Conference, a Law Concerning the Promotion of Measures to Cope with Global Warming was passed in the fall of 1998. The law requires central and local governments to come up with plans to reduce their own greenhouse gas emissions and local governments and businesses to formulate plans for how they will limit greenhouse emissions and develop carbon sinks in their spheres of activity.

There is now greater involvement by Japan in efforts to address acid rain in Asia. It has, for example, initiated research into acid rain deposition in East Asia. It also funds energy efficiency improvement and pollution control projects in China and Southeast Asia through METI's Green Aid Plan and through regular ODA channels. There is still considerable scepticism about whether the changes in Japanese environmental laws and institutions are really all that extensive or deep. My view is that the changes are real and that they are leading to important institutional and normative changes. Institutional change, however, is difficult. Old routines die hard. Thus, while many new norms, philosophies, and organizations have been created that are heightening global environmental awareness in Japan, and strengthening the possibilities for environmentally sound policy choices, there are still many obstacles to overcome.

Japan now plays an important and far more visible role in global environmental protection than it did in the 1980s. It is also becoming somewhat bolder in international environmental negotiations as witnessed by its decision not to join the US in opposing the Kyoto Protocol. Yet, until Japan's environmental NGO community matures and more environmental think tanks form, Japan is unlikely to become a leader in the development of new environmental policy ideas. Instead, today, we see the Japanese environmental community increasingly looking towards Europe both for policy ideas and how best to strengthen the position of environmental voices in domestic decision-making institutions.

1.8 Conclusion

By taking on global environmental matters in the early 1990s, Japan's political leaders ushered in a period of policy change and institution building that they had probably not anticipated. Environmental policy making has become increasingly pluralist. In order effectively to negotiate at the international level, Japan's bureaucracy had rapidly to expand its capacities to address global scale environmental issues. This has included the injection of money and human resources into global environmental protection offices, the reorganization of existing research facilities, and the creation of new ones to address regional and global environmental problems. Japanese businesses also have felt pressured to become more sensitive towards environmental matters. Many have sought environmental certification under the ISO 14,001 environment management series and have submitted voluntary action plans to reduce energy and resource inputs. The government, out of concerns for its foreign relations, chose in the early 1990s to pursue global environmental matters. An unintended consequence of this decision was that the state placed pressure upon itself to undo the institutional barriers that it had created to the formation of a vibrant civil society. An advanced industrialized society like Japan that wants to be recognized internationally as an environmental leader needs an environmental NGO community. Initially, the state's interest in NGOs appeared to be superficial. North American and European countries had many NGOs accompanying formal delegations to international conferences; thus, the Japanese government too would have to encourage NGOs to participate to at least some extent in international environmental policy making. Over time, the state has started to recognize that NGOs can actually

provide them with valuable resources, such as information about societal perceptions, insights into developments among environmental communities in other parts of the world, policy alternatives, and implementation capacity.

Pressures from the international community and from the small activist community also helped force the Japanese government to take some steps to improve the condition of environmental groups, making it easier for them to obtain non-profit status. There is now considerably more dialogue among government, industry, and NGOs on environmental matters than was true in the past. This is a radical break with the past. This development speaks to Baumgartner and Jones's idea that participant expansion as the result of changing understandings of issues can result in larger changes to institutional structures. While there is growing support in Japan across all actor groups for playing a more proactive role in global environmental protection, divisions within the bureaucracy remain. The Environment Ministry and the small, but growing environmental NGO community has fairly consistently espoused positions similar to that found in Germany on matters ranging from climate change to the promotion of non-nuclear renewable energies. They also found some sympathy in MOT. MOFA too has been eager for Japan to play a more active role. At times, these ministries found support for their positions among environmental *zoku* members in the LDP, such as when Japan became host of the Kyoto Conference. METI and many industries, which initially were resistant to the idea of hosting the Kyoto Conference, have gone beyond the US in implementing domestic measures to address climate change, but side with the US on many issues as well. METI is concerned that the denuclearization movement that has been so successful in Germany will find its way to Japan. METI does not believe that Japan's economy can function without nuclear energy because of its lack of domestic energy sources. METI is also concerned that because of high energy efficiency levels, cutting back on greenhouse gas emissions to the levels targeted at Kyoto will be too expensive for the country's flailing economy. Japan's position has fluctuated between that of Germany and the US depending on the strength of the domestic coalitions that formed around the Environment Ministry or METI. When the Environment Ministry could find allies in other ministries and in the LDP it could influence the direction of Japan's environmental programs. Without such support, the Environment Agency and the still weak NGO community have proved too weak to overcome METI's more conservative stance. A case in point was

the failure to push through a carbon tax. Yet, a perceived crisis, like the Bush administration's decision to pull out of Kyoto, for a time, at least, pulled the entire community together in calling upon the US to reconsider.

CHAPTER TWO

Policies and Programs combating climate change in Japan

2.1 Introduction:

Unlike many western nations, Japan has a history of well mechanized policies and programs to combat climate change. Many institutions have been modelled to cater to the needs of climate change mitigation. Post-war Japan has seen enormous increase in environmental degradation due to the reconstruction of its economy. The efforts by the government in late 1960s upto the present context deals with changes in institutions and social practices, rather than on physical improvements in the environment or in the patterns of natural resource consumption (Mol and Sonnenfeld 2000). One central transformation is that of the role of the nation-state. Some commentators describe a process of political modernization (reinventing government) taking place in a number of states which has resulted in the emergence of more consensual governance styles, characterized by a shift away from national top-down command and control environmental regulation with many functions (regulatory, managerial, corporate and mediating) relocated from state to non-state actors (Jänicke and Weidner 1995; Mol and Buttel 2002). This migration of powers, by default or by design, is compounded by the impact of emergent supranational institutions (with the European Commission being the best example) and the forces of globalization working to undermine the role of the nation-state in environmental reform (Mol and Sonnenfeld 2000; Mol 2001). The environmental state came under pressure in many industrialized countries in the 1980s, driven by a clear ideological bent in favour of deregulation and privatization (Mol and Buttel 2002), in part explaining why the development of environmental legislation and regulation in Japan practically stalled in the 1980s, with only four new laws. This situation was reversed in the 1990s as more progressive modes of environmental governance were pursued across the globe, and in Japan we witness a resurgence of environmental legislative activity with 18 new laws in the period 1990 to 1999 (OECD 2002).

Within the framework of making climate change mitigation policies, the state is viewed as working with, rather than directing, these new modes of governance in

order to steer society towards a more sustainable future while at the same time adopting new instruments such as market incentives that push target groups toward eco-efficient practices (Revell 2003). The state has shifted from the role of protector of common interests or, perhaps more pointedly, the economic imperative, to become the facilitator between different interests (Dryzek 2003; Schaede and Grimes 2003). These changes have been linked to the spread of sub-politics whereby pressure builds within different segments of society to tackle environmental problems outside of the framework of political parties and bureaucracies, which are themselves embroiled in a legitimation crisis (Beck 1992). The 1990s legitimation crisis within the Japanese developmental state has been extensively documented elsewhere (Kingston 2001; Hirata 2002; Neary 2002) but it is important to highlight that increasing public distrust of politicians, bureaucrats and corporations during this period, combined with values shifts in society, may have been crucial is creating the preconditions for an opening up of Japanese governance. The resulting shift in approach in Japan to environmental governance created some new opportunities for active inclusion of environmentalists within some policy-making forums. This is a positive step forward and the literature suggests, that Japan's policymakers have 'broadly adopted an ecological modernization position' (Murphy 2000). The reasoning behind this general perception is threefold. First, the administration has for decades adopted the widespread use of agreements with industry to pursue environmental best practice (Sugiyama and Imura 1999). Second, environmental management in Japan, in the post-war period, has effectively functioned as a cooperative environmental management regime (Meadowcroft 1999) shared by central and local government (OECD 1994) and now expanding to include broader civil society participation. Third, since modernization began during the Meiji Restoration the underlying approach has depended upon cooperative partnership between industry and government in policy formation (Wallace 1995). Government agencies and industry have sought to maintain good relationships and open dialogues on environmental policy issues. Environmental objectives can therefore be achieved at lowest cost (compared to other countries) via flexible processes of recommendation by government and voluntary action by industry, which in turn encourages innovation.

In this chapter, the term environmental regime will be used to refer to the system or style of national government that has been put in place to deal with

environmental externalities found in Japan. We will include within this definition the legislative, regulatory and policy responses, as well as the approach to enforcement and compliance and we will describe some of the key changes from 1990 onwards. The national environmental regime should be understood as the system for control and management of these externalities, which over time turns into the established or institutionalized way of doing things. Regimes serve various functions including organizing issue areas, development of approaches to deal with uncertainty, reducing transaction costs, facilitating inter-group negotiations and supporting collective enforcement (Wong 2001). A regime is essentially a social institution shaped by norms, rules, knowledge and values supported by networks and communities. From the late 1980s onwards, the environmental regime in Japan has increasingly linked into a trans-national system of environmental governance (Tsuru 1999; Wong 2001; Hotta 2004) and can only bring about change on the ground through active participation of the local government. We will begin our discussion with an examination of findings of the OECD 1994 and 2002 environmental performance reviews to provide context for an evaluation of strengths and weaknesses of contemporary policy and institutions. We will then move on to examine the changing role of the Ministry of the Environment, before discussing the activities of other bodies within government.

2.2 Coping with environmental change in Japan

Japan has one of the most comprehensive and effective environmental monitoring systems in the world. The development of the system began in the early 1970s and involves a network of monitoring facilities throughout the country operated by national and local government. The information collected is presented in an annual state of the environment report referred to as the White Paper on the Environment and published by the Ministry of the Environment. A brief review of these materials reveals a number of important issues concerning the quality of the environment in Japan:

1. Considerable progress has been made with respect to key air pollutants (SOx and CO) compared to the levels encountered in the 1960s and 1970s. However, control of nitrogen dioxide and suspended particulate matter levels in urban areas has proven more difficult and environmental standards are not

always being met in these areas. Hence in 2001, the Automobile NOx Law was amended to try to tackle this problem.

2. Japan's carbon dioxide emissions are below the OECD average. However, the absolute CO2 emissions are still high (emission rates for 2000 reached an all-time high of 2.55 metric tons per capita).
3. Trans-boundary pollution from neighbouring countries is a growing concern with acid rain levels now similar to those found in Europe. Although research is still on-going, it is predicted that negative environmental impacts from acid rain will become apparent in Japan in the near future.
4. There is nearly 100 per cent compliance with respect to the control of heavy metals and toxic substance concentrations in water bodies. However, the control of organic pollutants has proven more difficult (i.e. nearly 80 per cent compliance in 2000) with eutrophication occurring in inland water areas and bays (Tokyo, Iseand the Seto Inland Sea) around Japan.
5. Development activity around the inland and coastal waters poses a threat to the natural environment in these areas. Roughly 30 per cent of the lakeshores and 56 per cent of the marine coastline have been developed or altered. The main methods of waste disposal in Japan are landfill and incineration. While recycling rates for some materials are high, further efforts are required in order to reduce waste generation. Alternatives to incineration need to be explored especially in the context of growing concerns about dioxin emissions from inadequate incinerator facilities. Regulation of hazardous industrial waste is another area that needs to be improved.
6. There is growing public concern about the potential impact of endocrine disrupting chemicals (environmental hormones) and an urgent need for more scientific research. About 50,000 types of chemical are currently produced and circulating in Japan of varying toxicities (including carcinogens). A pollutant release and transfer register was introduced in 2002 to try to cope with this problem.
7. Although 67 per cent of Japan is forested, natural vegetation cover accounts for only 18 per cent of the country (mainly in Hokkaido) and is continuing to decline.

Moreover, the most recent version of the Red Data Book shows that 7 per cent of mammals, 8 per cent of birds, 22 per cent of amphibians and 11 per cent of freshwater/brackish water fish are threatened with extinction. In order to respond to this problem, the Government of Japan issued a new National Strategy for Biological Diversity Conservation in March 2002.

2.3 OECD's evaluation of environmental performance of Japan

The OECD's environmental performance reviews are noted for their objectivity. They are excellent benchmarking documents and the conclusions they draw are very useful indicators of the future improvements that may be necessary in order to reach internationally acceptable levels of performance (OECD 1994, 2002). A comparison of the findings of the 1994 and 2002 OECD recommendations for Japan is presented. Its achievements in decoupling the levels of economic activity and energy use from air pollution emissions, and willingness to recognize the increasing importance of international environmental cooperation in recent years were congratulated in the 1994 OECD review. The same report, however, was critical in a number of areas but particularly with respect to nature conservation, which was described as being 'at a cross-road The 1994 OECD's recommendations focused on the need for greater integration of environmental and other policy areas, the adoption of ecosystem management and pollution prevention rather than mere control, the use of economic instruments, and the setting of targets for nature conservation. The Japanese government responded to these comments within the Environment Basic Plan of December 1994 which included proposals for a mandatory environmental assessment system, more widespread use of economic instruments and the development of systematic measures to conserve outstanding natural features. A key theme found in both OECD reviews is the importance of policy integration. The 2002 report has three chapters dealing with this topic and argues that Japan has achieved a major decoupling of environmental deterioration from economic growth during the last two decades in terms of SOx, NOx, fertilizers and pesticides.

However, in other areas, performance has been less positive, particularly with regard to CO2 trends, energy use and traffic. Concerns are also expressed on weak links between environmental and physical planning as well as on the general failure to systematically apply Strategic Environmental Assessment to policies, plans and

programmes. The report is critical of the limited use of market-based instruments such as fees, charges, taxes, tradable permits and deposit refund programmes. Moreover, the expert reviewers argue that two major problems yet to be tackled in a comprehensive manner are the granting of financial assistance to some producers/ consumers and the sectoral subsidies that undermine both environmental effectiveness and economic efficiencies. Both reviews have been instrumental in stimulating changes in the Japanese approach to environmental governance and have been matched by internal pressures for change. Hence several Laws were passed in the period between 1990 to 2003. (see Appendix 2.1)

2.4 From Japan Environment Agency to Ministry of the Environment

Most commentaries on national environmental policy-making tend to remark on the relative status, successes and weaknesses of the former Japan Environment Agency (upgraded to the Ministry of the Environment in January 2001) in relation to other major development-oriented ministries (Huddle and Reich 1975; Gresser 1981; Barrett and Therivel 1991; Wong 2001). The Japan Environment Agency was mandated to promote policies for pollution control, nature conservation and other environmental issues. It was noticeably smaller than most other ministries both in financial and human resource terms. The OECD estimated that the Agency's 900 or so staff represented about 0.1 per cent of all government employees (OECD 1994), growing to 1,230 after reorganization or 0.2 per cent (OECD 2002). It is very easy to fall into the false assumption that the Japan Environment Agency was the focal point of Japan's environmental management system throughout the 1970s and 1980s. In reality, the Agency was severely constrained by the fact the policy proposals it made were closely vetted by other ministries and implemented by local government. Rather, it may have been more appropriate to consider the Agency as a coordinating and information collection/dissemination body. During the first two decades of existence, the Agency struggled to influence national policy-making dominated by the pro-development ministries (Van Wolferen 1989; Barrett and Therivel 1991).

In the late 1990s, perhaps supported by increased public awareness of pressing global environmental problems, the status of the Japan Environment Agency was greatly enhanced. Moreover, as explained in, key political leaders and the environmental administration effectively utilized the need to respond to global

problems as a means to further development of national environmental policy approaches. Following the reform, the MoE became exclusively responsible for five areas. These are: government-wide environmental policy (a coordinating function); environment basic planning at the national level and regional pollution control programming; waste measures (including hazardous waste import/export regulation); pollution regulation and monitoring; and conservation of nature and biodiversity. (see Appendix 2.2). The only functions transferred to the MoE were those related to waste, previously with the Ministry of Health and Welfare. Therefore from functional, budgetary and manpower perspectives, the gains for the Ministry were marginal. Moreover, some officials lamented at the loss of agency status and the benefits that accrued from being part of the Prime Minister's Office (Wong 2001:54).

The main direct benefits are that ministerial status puts the MoE on equal footing with some of its strongest competitors within the government system such as the Ministry of Economy, Trade and Industry (METI). This enhancement in status has been furthered by the growing political recognition of the MoE's importance. Supported by increased concerns in many quarters with regards to the global and domestic environment, buoyed and challenged by criticisms and compliments from overseas and from the OECD in particular, the Ministry made progress in a number of issue-based areas. Further, a large part in the success of the environmental administration in the 1990s was the fact that negotiating capabilities of the environmental officials seemed to reach a greater level of sophistication as the upper echelons became dominated by personnel who had worked their way up through the ranks (Yong 2001 for a discussion on how the JEA was colonized by other ministries when it was first established). The recent successes also reflect the efforts made by the environmental administration in Japan to create more extensive links within different layers of society. To begin with, the MoE is supported in its work by a number of research entities and advisory councils. These include the National Institute for Environmental Studies, which was designated as an independent administrative entity (semiprivatized) under reform programmes, providing it with some distance from the MoE but at the same time functioning as a think tank addressing concerns relevant to a broader constituency. Other affiliated institutions are far more specialized but have played equally important functions in helping the MoE to interact with Japanese society and these include the National Institute for Minamata Disease,

the National Environmental Training Institute, the Japan Environment Corporation (providing funds and technical support to local governments and corporations for projects such as the construction of zero-emissions industrial areas and industrial waste treatment facilities) and the Pollution Related Health Damage Compensation and Prevention Assocition. The MoE also sees great importance in establishing links with the NGO community as a means to win hearts and minds, especially when seeking to influence national debates on key issues (Wong 2001). In 1996, for instance, the Global Environmental Information Centre (also referred to as the Global Environment Partnership Plaza, linked to the nearby Environment Partnership Office) was established at the United Nations University in Tokyo as a venue to promote information dissemination and exchange between the NGO community and corporations, and a network of local information centres throughout Japan and internationally. In order to improve access to research on global environmental issues, bearing in mind the key role that good information can play in winning policy debates, the Institute for Global Environmental Strategies was established in 1998. Other very issue-specific centres have also be created recently including a new Biodiversity Centre of Japan, established in Yamanashi Prefecture in 1998 (three years after the completion of the National Biodiversity Strategy for Japan) and the Japan Centre for Climate Change Actions, established in 1999, pursuant to the Law Concerning the Promotion of the Measures to Cope with Global Warming. All of the above represent part of an approach to institutional innovation, resource capture and capacity building, as well as a response to global obligations. Each initiative reflects the fact that the MoE cannot respond to new demands by increasing its internal staffing and these entities bring with them former MoE staff but also attract representatives from environmental NGOs, local government and business. They have a powerful networking and intermediary function between the MoE and the rest of Japanese society. This approach may be indicative of the overall national bureaucracy's attitude to the reform programmes throughout the 1990s designed to bring about smaller, efficient, transparent and more effective democratically controlled government (Neary 2002).

Changes have also affected the role of various advisory councils (*shingikai*) around the MoE. Traditionally since the 1970s, there have been two advisory committees associated with the national environmental administration - the Central Council for

Environmental Pollution Control (CCEPC) and the Nature Conservation Council (NCC). The Director-General of the Agency as required consulting with these bodies when developing basic policies. This system was reformed in January 1994 when the Central Environment Council (CEC) was established in accordance with the 1993 Environment Basic Act but also in an attempt to create greater transparency around the environmental policy-making process (OECD 1994). Members of the Council are appointed by the Prime Minister and include academics and other knowledgeable persons. The Council deals with requests from the Prime Minister, other cabinet ministers and the Director-General of the MoE on topics related to environmental sustainability. According to Ren (2000), the CEC works through a system of subcommittees and provides a venue for policy consultations and negotiations, with some of its meetings open to the public, and with extensive public hearings taking place on the policy proposals that emerge. This level of transparency is uncommon within the shingikai system, even for the other advisory councils of the MoE.

One of the biggest problems for the MoE is that, owing to its limited resources and size, its presence outside of Tokyo is nominal compared to other ministries with strong regional representation such as METI. Only the Nature Conservation Bureau has regional offices (11 in total) and these are located in national parks. Hence, the MoE relies extensively on support from ministry-affiliated entities, supervised NGOs and the local government. They all have different functions, but the latter is by far the most significant with respect to the actual implementation of environmental policy. There are around 87,000 personnel in prefectural and municipal government working in environmental management, with 84 per cent engaged in waste management, 10 per cent in pollution control and 6 per cent in nature conservation (OECD 2002: 55). This fact alone explains why the MoE was keen to retain control of local government activities and opposed the decentralization reforms in the 1990s (Barrett 2000).

2.5 Environmental concern in the government

The national environmental regime in Japan is dispersed throughout several jealously guarded ministerial jurisdictions over water supply, industrial waste management, recycling, forestry, fisheries conservation, agrochemical control, energy conservation, environmental technology development, supervision of commercial nuclear plants, traffic pollution control, aircraft noise pollution control, urban

planning, development of public works including sewerage, urban parks, roads and dams, river preservation and flood control (Barrett and Therivel 1991; Wong 2001; OECD 2002). The list is extensive and clearly the responsible ministries exert considerable influence over the direction of Japan's environmental policy and have significant resources at their disposal to achieve their goals. The main ministries with environment related responsibilities are the Ministry of Foreign Affairs (MoFA), the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Ministry of Economy, Trade and Industry (METI) and the Ministry of Land, Infrastructure and Transport (MLIT).

These ministries dwarf the MoE which is restricted to an advisory role with respect to the control of chemicals, industrial waste control and recycling, factory location control, radioactive substances monitoring, climate change and other global environmental issues, as well as the conservation of forests, rivers, lakes and coastal areas (Wong 2001). It is important to recognize that within many of these ministries considerable emphasis is placed on pro-environmental policies. The former Ministry of Construction (now MLIT), for instance, underwent something of a transformation in the late 1990s introducing new measures to try to improve the quality of the environment through its town planning functions. The consensus view of many commentators on Japan, however, is that the policy-making process still appears to be dominated by a pro-development agenda (Kerr 2001; Kingston 2001; McCormack 2001). Within the overall expenditure of the national environmental regime, the MoE spends around 9 per cent of the total budget. In 2003, this amounted to Yen 262 billion (or US$2.4 billion) from a national environmental budget of around Yen 2.7 trillion (US$25.8 billion). This represents a major increase for the MoE, effectively tripling the budget compared to that of the Japan Environment Agency in 1999 (roughly Yen 86 billion) and is mainly accounted for by the funds allocated for the subsidy system for waste incineration under the MoE's new responsibilities. In comparison, MLIT in 2003 had a total budget of around Yen 6.7 trillion (US$63 billion), which included an environmental component of Yen 1.3 trillion (US$12.7 billion). METI's 2003 environmental budget of Yen 320 billion exceeds the total budget of the MoE (MoE 2003); this is mainly due to the transfer of responsibilities from the previous Science and Technology Agency. Inter ministerial conflict is commonplace and some ministries fared better than others in the administrative

reorganization. For instance, METI benefited significantly from the incorporation of parts of the Economic Planning and Science and Technology agencies (Elder 2003). The Ministry has long been recognized as a guiding force behind Japan's industrial and high-technology policies (Okimoto 1989; Nester 1991; Sigurdson and Anderson 1991) but it has been argued that in the 1990s the Ministry was losing its relevance (Zinsmeister 1993). However, the situation appeared to turn around in the late 1990s, as the Ministry began to shift emphasis to promote broader economic reforms that in turn require greater cooperation with other ministries (Elder 2003).

The Ministry has always viewed environmental issues as energy issues (Wong 2001). However from the late 1990s onwards, METI began to target key environmental areas for industrial promotion including eco-materials, low-pollution (zero emissions) manufacturing, recycling, eco-friendly urban construction materials, building ventilation systems, new transportation systems, refuse derived fuels, clean energy vehicles and solar power. Elder (2003) presents four political reasons for METI's focus on these environment related industries, which include the desire to appear progressive and green, the possibility of obtaining additional funding for research and industrial promotion, the possibility that such funds would be viewed by observers outside Japan as part of environmental policy (heading off possible trade frictions) and the possibility that the mandated recycling programmes would develop into a WTO-legal non-tariff barrier. For instance, the July 2003 interim report from the METI Industrial Structure Council dealing with climate change states: 'Japan needs to demonstrate its diplomatic strategy in the field of global environmental issues as a platform for creation a new national and diplomatic image of Japan' (METI 2003).

Energy is a sector where METI exerts considerable oversight, packaged as part of Japan's response to climate change and linked to the pursuit of new and renewable energy sources. Within its organizational structure, METI maintains the Industrial Science, Technology Policy and Environment Bureau. It also includes a number of agencies with key environmental functions including the Agency for Natural Resources and Energy, the Nuclear and Industrial Safety Agency and the Small and Medium Enterprise Agency. Furthermore, the Ministry maintains a network of regional bureaus that function as its 'eyes and ears'. Through a process of continuity and change, which includes internal reorganization and refocusing of the policy

direction, METI has been able to reassert its authority over a very significant slice of national environmental policy-making and is disseminating messages to wider society that reflect many of the tenets of ecological modernization. This is linked to the reliance on key environmental advisory councils committees, many of which include the same members as the MOE's Central Environment Council, including Professor Akio Morishima, the head of the Institute for Global Environmental Strategies. This sharing of a rather small group (perhaps in the hundreds) of influential thinkers in Japan who are operating at the national level to shape environmental policy implies that significant new areas of inter-ministerial collaboration are developing but as yet through rather narrow discourse coalitions. These collaborative efforts gained further impetus through the strengthening of the Prime Minister and the Cabinet Office in the recent round of administrative reform (Neary 2002). In instances where a policy action concerns two or more ministries, the Cabinet Office takes a coordinating role (OECD 1994). MLIT is another government body with very significant powers related to the actual implementation of environmental conservation measures. As a mega ministry (bringing together the previous ministries for construction and transportation) MLIT addresses a wide range of environmental issues including nature and ecosystem conservation/rehabilitation, marine pollution, airport noise, management of the impacts of road and other construction projects, and recycling of construction byproducts, as well as the development and management of environmentally friendly housing and infrastructure. MLIT is a member of the family of government bodies responsible for the promotion of the recirculatory society (*junkangatta shakai*) and is mainly dealing with the recycling of construction wastes (which represent 20 per cent of all industrial waste) and car recycling. The Ministry is also implementing numerous measures related to global warming including efforts to reduce the CO2 generated from the transportation sector by 13 million tons in 2010 (i.e. from a predicted 81 million to 68 million - the 1995 level). This would involve the promotion of low emission vehicles, a modal shift and road improvements to increase traffic speeds. Measures are also proposed to reduce the emissions from the residential/commercial sector by 27 million tons in 2010. With respect to ecological modernization, MLIT has on occasion introduced strict regulations that work to promote innovation and industrial transformation. For instance, by amending the exhaust emission standards for cars, trucks and buses in September 2003 (which will

go into effect in 2005), MLIT has introduced the most stringent regulations in the world. The new standards drastically lower exhaust emission limits. For cars, both nitrogen oxide (NOx) and hydrocarbon (HC) emissions limits are reduced by 55 per cent from previous levels, while, for heavyweight vehicles such as trucks and buses, particulate matter limits are reduced by 85 per cent, NOx by 40 per cent and HC emissions by 80 per cent. This kind of stringent regulation is important in that it offers first mover advantages to domestic producers (Cohen 1997). MLIT retains control of most of the national planning functions as well as land use and transportation issues in the urban areas and as such it would be impossible for the MoE to attain many of its goals without MLIT collaboration. As the main body responsible for the development of Japan's infrastructure, the Ministry has been at the centre of concerns related to the excessive expenditure on public works projects.

In an attempt to revitalize the economy, national expenditure of public works peaked twice in the 1990s at Yen 15.2 trillion (US$141 billion) in 1993 and at Yen 14.9 trillion in 1998. In between these peaks, public investments on infrastructure fell to Yen 10.5 trillion in 1996 and then to Yen 9.4 trillion in 2001. In its defence, MLIT's basic argument is that public works expenditure is not the main cause for the current fiscal deficit in Japan and that the impact of social security increases and declining tax revenues need also to be taken into consideration (MLIT 2002). The on-going debate on public works expenditure in Japan continues to place pressure on MLIT to reconsider the basic approach to development and perhaps is indicative of a search for a more sustainable model.

2.6 Environmental diplomacy of Japan

Over the past decade, the Ministry of Foreign Affairs (MoFA) has played a key role, working alongside other government bodies, in presenting Japan's environmental activities in a positive light to the international community, which some commentators read as an attempt to utilize a national commitment to international environmental protection as a diplomatic instrument of power (Wong 2001). A unique and important situation arose in the late 1980s when external demands for global environmental action were matched with the support from domestic actors (politicians, civil society, business leaders) associated with the desire to attain some form of global environmental leadership. Nevertheless, some

commentators state that there is a propensity for Japan to pay 'lip service to international concerns by joining international conventions and other arrangements that require a departure from past domestic practices, then simply failing to implement newly enacted national laws or to propagandize the new regime' (Feinerman and Fujikura 1998).

It is argued that Japan tends to adopt an industrial policy regulatory approach that works well for tackling the implementation of some international treaty goals such as ozone protection but performs poorly in areas such as CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) or with respect to the compliance conditions of the London Convention on Ocean Dumping. Perhaps reflecting upon the changes taking place in Japan in the late 1990s, international environmental lawyers remark that: Japan is facing the need to change traditional regulatory approaches. Japan may resort to a more active use of law and legal means to implement international and national environmental policy objectives more effectively, calling for more citizen participation and greater involvement of local government. (Feinerman and Fujikura 1998)

MoFA has played a key role in helping to project an image of Japan realigning its regulatory approach to one better designed to tackle national and global environmental problems. Two main measures have been implemented for this purpose. The first is through the application of Official Development Assistance (ODA) and the second relates to the skilful negotiation of Japan's position in several multilateral environmental agreements. The 2002 White Paper on ODA issued by MoFA presents an overview of some of the main issues and the response measures from Japan (MoFA 2003). The first point to note is that, almost in an identical pattern to general domestic public expenditure on major infrastructure projects, Japan's ODA peaked twice in the 1990s. The first time was in 1995 when it reached US$14.4 billion, well above any other major industrialized country. The second time was in 1999 when it climbed to US$15.3 billion. In the intervening periods the ODA declined to nearer US$9 billion, and in 2001 the United States' ODA overtook that of Japan for the first time since 1990. These fluctuations may be indicative of a general degree of uncertainty on the future direction of Japanese ODA and reflect growing concerns for more strategically targeted, participatory, transparent, efficient and visible aid (Hirata 2002). From a strategic perspective, Japan is focusing on

supporting economic growth in Asia in order to reduce poverty and increase human security, in line with the Millennium Development Goals. Within this framework, Japan announced the Environmental Conservation Initiative for Sustainable Development in August 2002 and the Clean Water for People Initiative at the WSSD in September 2002. Greater efforts are being made to increase collaboration between ODA related ministries and transparency through the Council of Overseas Economic Cooperation Related Ministers, as well as to increase the autonomy of the Japan International Cooperation Agency (JICA) through reforms from October 2003 onwards.

Furthermore, efforts have been made to more fully involve civil society in the ODA process and to build new modes of NGO-MoFA cooperation (Hirata 2002). Specific examples include the launch of regular NGO-MoFA consultations in 2002 and the creation of a Council on Comprehensive ODA Strategy in June of that year with participation from NGOs, academics and business representatives. Another important reform includes the April 2002 announcement from the Japan Bank for International Cooperation (JBIC) of new guidelines for the confirmation of environmental and social considerations of international financial operations and overseas economic cooperation. The guidelines require that the project implementing agency should solicit stakeholders' participation in the project from the planning stage onwards. A checklist has been developed by JBIC that includes social considerations pertaining to resettlement, indigenous people and gender. Furthermore, the provisions for information disclosure have been strengthened and JBIC is now required to make public such items as the category classification of the project prior to loan approval.

Taken together, these innovations represent an initial and concerted effort to modernize Japan's ODA programmes. They are a reaction to considerable problems encountered with ODA in the past including the case of pesticide aid to Cambodia, as well as examples of mishandled dam construction projects such as the Narmada Dam (India) as highlighted by Hirata (2002) and Kotopanjang Dam (Indonesia) (*Japan Times,* 14 August 2003). The changes in policy are indicative of a higher degree of reflexivity in Japan with respect to overseas aid whereby NGOs (in Japan and overseas) and politicians have been able (or willing to try) to influence governmental decisions on major development projects in order to protect the environment.

The second area where MoFA has played a key role has been in support of other government ministries, mainly the MoE, in multilateral environmental negotiations, particularly those related to climate change. Moreover, Japan's participation in the WSSD was at the highest level, with Prime Minister Junichiro Koizumi supported by the Minister of Foreign Affairs Yoriko Kawaguchi and the Minister of the Environment Hiroshi Ohki. The 'Koizumi Initiative' launched at the Summit included measures on trade, energy, agriculture, ODA, Africa, climate change, forestry, biological diversity and water. Some of these measures had been around for a while (the Aichi Expo for example) while others were new and could prove very significant (the UN Decade of Education for Sustainable Development from 2005 to 2015). Furthermore, 2002 was a busy year for Japan's diplomatic arm with the ratification of the Kyoto Protocol in June, and also ratification of the Stockholm Convention on Persistent Organic Pollutants. Following on from this, Japan also ratified the Cartagena Protocol on Biosafety in November 2003 and at the Tenth Session of the Intergovernmental Negotiating Committee expressed an interest in ratifying the Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. All of the above are indicative of the Japanese government taking a more proactive stance in international negotiations. (see Appendix 2.3)

2.7 The greening of Japanese politics

The 1990s was a period of political turbulence in Japan which was characterized by the fragmentation of parties and factions as well as the emergence of new oppositionparties, coalition governments and junior politicians (*seisaku shinjinrui*) with policy expertise willing to challenge the bureaucrats (Neary 2002; Shiozaki 2002). In 1993, the Liberal Democratic Party (LDP) lost its majority in Parliament and has since had to rely on its alliance with the New Komeito (NK) in order to pass legislation. The Democratic Party (DPJ) has emerged as the main opposition party winning 177 seats in the November 2003 Lower House Election compared with the LDP's 237 seats.

Most of this growth, however, was at the expense of the other opposition parties—the Japan Communist Party (JCP) and the Socialist Party of Japan. The DPJ contrasts sharply with the LDP: It is has a centre-left platform: 'popular sovereignty',

'respect for fundamental human rights and pacifism,' free market principles should 'permeate economic life,' but individuals should be guaranteed social security and safety, while government should become more transparent and less centralized. (Neary 2002)

While the LDP in the past has relied on its conservative stance promoting stability and pork barrel politics, the DPJ is strongly opposed to the over-reliance on major public works and favours radical restructuring of the public sector (Sasaki 2002). Moreover, the LDP maintains strong ties with the bureaucracy while the DPJ mphasizes its strong anti-bureaucratic stance (Sasaki 2002). The DPJ is much clearer on its environmental policy stance than the LDP, supporting the possible incorporation of environmental rights in the constitution, the enactment of a basic law on global environmental preservation, and further engagement of Japan in environment related diplomacy. Both parties seek to appeal to the 'free floating' voters through catch-all politics while maintaining their support base (rural, older voters and the construction sector for the LDP and urban, young and public sector unions for the DPJ). Consequently, some commentators believe that there has been something of a blurring of their appeal with the LDP being criticized as standing for nothing and the DPJ standing for everything (Kent Weaver 2002). Efforts by the politicians' to exert greater control over the bureaucracy, rather than merely rubber-stamping legislation, also increased in the 1990s. The younger parliamentarians seem more willing to take the policy initiative, although their participation in the policy process is still somewhat limited and *ad hoc,* with the best documented example being the passage of legislation in 1998 for revitalization of the financial system, where junior LDP politicians amended proposals originally drawn up by the Ministry of Finance (Curtis 2002; Shiozaki 2002). The other development highlighted by some politicians in Japan is the use of private member bills (accounting for around 10 per cent of legislative activity), and some recent examples, such as the 2001 bill on stock-market reform, illustrate how it is possible for individual Diet members to develop legislation in areas normally covered by government sponsored bills (Nemoto 2002). While acknowledging the significance of all of these changes and the reforms in the 1990s, some argue that: At the turn of the century, the political world looks little changed. The LDP is still in power, the government is spending vast sums on public works and geriatric elite seems more concerned about propping up a sclerotic system

than in achieving meaningful reform. (Kingston 2001) This 'value persistence' is an underlying factor influencing the behaviour of Japanese political parties, regardless of their ideological hue (Peng-Er 1999). As a consequence, unlike in many European countries, it has proven almost impossible in Japan to establish a national Green party. Vosse (2000) explains that for many years setting up a political party never seemed like a viable option for the environmental movement in Japan mainly for structural reasons (high costs associated with election campaigns, lack of leadership in the green movement, etc.). Others provide some additional insights as to why a Green party did not emerge, arguing that the electoral system based on multi member constituencies employing a single transferable vote favours candidates with a high level of recognition and does not foster ideological debate amongst parties (Schreurs 2002). New parties, when they do emerge, are merely off-shoots from existing parties and are not formed in response to ideological concerns. It may also be possible that the creation of a Green party is not considered a worthwhile endeavour by social movements who recognize the general lack of trust within Japanese society for the established parties and elected politicians and the general frustration at the lack of party alternation, due to perennial LDP rule (Broadbent 2002). For instance, a 1998 survey by the *Asahi Shimbun* revealed that 75 per cent of respondents consider most politicians to be dishonest (compares with 30 per cent in the United States) (Yoshida 2002). Only when domestic or international pressures threaten electoral or economic loss to the pro-growth coalition (LDP, economic bureaucracies and big business) does the government make major changes in environmental policy. For instance, control of the powerful House of Representatives (*Shugiin*) by the opposition parties allowed Japan Environment Agency proposals to shape the 1993 Environment Basic Law (Broadbent 2002). While lacking a national Green party, there has been some progress in the greening of politics at the local level from the 1980s onwards through the Network Movement (NET), formed in 1987 and supported by the Seikatsu Club, an association of 22 consumer cooperatives active in 15 prefectures of Japan, with 250,000 members, most of whom are women (Peng-Er 1999). The Seikatsu Club is extensively involved in environment related activities including recent campaigns against genetically modified foods and environmental hormones. The club uses NET as a means to participate in and reform local politics and as of 2001 there are 141 NET representatives in local assemblies, up from 123 in 1996 (36 in different local

governments in Kanagawa Prefecture alone). According to Peng-Er, NET displays many of the characteristics of the European Green parties such as egalitarian organization, female leadership, emphasis on green issues, clean politics and the adoption of policies reflecting NET's constituency rather than vote maximizing potential (Peng-Er 1999). While recognizing that NET has many limitations it is argued that the party has made a considerable contribution through: 'The enhancement of women's participation in politics, offering a Green option to voters, the injection of New Politics issues in policy formulation, and the formation of Red-Green ruling coalitions in local government' (Peng-Er 1999). The party has enlivened local politics by increasing choice and competition for votes in the metropolitan areas and through the introduction of new issues to the political agenda such as Local Agenda 21, recycling, water safety and the use of environmentally friendly products. From 1998 onwards there has been another Green movement at the local level in Japan under the name Niji to Midori (Rainbow and Green Party). With around 130 representatives in local government assemblies, the party promotes a predominately green agenda focusing on locally relevant environmental policies, control of public works programmes, gender equality, social welfare, education and safety. Niji to Midori is somewhat different to NET in that it has close links with the Environmental Political Party Green Assembly (*Kankyosento Midori no Kaigi*) which began in 2002 and has one nationally elected politician - Atsuo Nakamura - and describes itself as a preparatory step towards the creation of a Green party. It is really too early to judge whether these recent developments mark a significant new phase in Japanese environmental politics and the emergence of a Green party along German lines. However, it is important to recall that in the 1980s, in around only three to four years, the German Green Party jumped from 1.5 per cent to 5.6 per cent of the federal vote and from 1.4 per cent to 7 per cent of the local council seats (Schreurs 2002).

2.8 Conclusion

The most recent round of administrative reforms reflects not only the current difficult economic circumstances in Japan but bundled into these reforms has been a search for a new environmental management regime which has been given a number of labels including the 'environmental protection style society' (*kankyo hozengata shakai*) and the recirculatory society (*junkangatta shakai*) promoting the need for

systemic thinking that goes beyond traditional policy responses. Recognizing that Japan may currently be in the transition to a more decentralized and participatory approach to environmental governance, it is nevertheless difficult to shift away from the dominant view in the literature portraying Japanese policy-making as elitist and closed, where policies are made by a centralized, strongly bureaucratic system with little space for pluralist influences (Johnson 1995; McCormack 1998; Woo-Cummings 1999). In McCormack's critique of the Japanese economic miracle he maintains that: bureaucratic autonomy and privilege, and the exclusion of democratic principles, may have been part of the formula of successful growth in the early post-war decades, but vested bureaucratic interest now constitutes a major blockage to the sorts of fundamental reform of which 21st Century Japan stands in need. (McCormack 1998:41) This viewpoint appears to be well understood in Japan and hence the recent efforts to bring about change. The main concern, however, is whether or not these changes are more than superficial. Some commentators claim for instance that new structures (such as the creation of the Central Environmental Council) are designed to solicit broad input but end up retaining strong governmental control and function as instruments of bureaucratic manipulation (Whittaker 1997). Others contend that the environmental policy networks are relatively closed because of ministerial control of participant selection and the tendency to exclude individuals and NGOs that might criticize government actions (Schreurs 1996). In the past, these practices of social exclusion have worked to reduce the effectiveness of NGOs and to limit public access to environmental information (OECD 1994). Nevertheless, in this chapter we have identified some evidence that the developmental state model in Japan is being transformed and is beginning to overcome the limitations of the communitarian elite corporatist model, where policy-making occurs within a triumvirate of corporate elites, politicians and bureaucrats (Broadbent 1998; Shiozaki 2002).

CHAPTER THREE

Role of non-state actors: NGOs, Business houses and general public

3.1 Introduction

Opinion polls show that 81.9 percent of Japanese are interested in the environment and 70.5 percent would like to take part in environmental activities (Cabinet Office 2001). In fact, however, membership of major societies for the conservation of nature (the Wild Bird Society of Japan has 48,000 members, the Nature Conservation Society of Japan 22,000, and the World Wildlife Fund Japan 35,000 in 2005) is not only much lower than that of the corresponding European or American societies, it is also less than that of Korean societies, though the population of Korea is less than half that of Japan. One of the important characteristics of the Japanese environmental movement is therefore the small number of people who belong to nature conservation societies though many Japanese show great interest in environmental problems. In addition, the networks between the societies are weak (Foljanty-Jost 2003). However, the situation is changing. Since the Kobe earthquake in 1995, there has been rising public interest in volunteer efforts and relevant laws and regulations are being developed.

Environmental problems are social constructs. In the process of constructing a problem, defining environmental issues in new ways, and proposing alternative policies, citizens' movements along with the mass media play a significant role. In Japan, pollution problems had great impacts on everyone during the 1960s, so in the early stages of environmental movements anti-pollution policies were emphasized at the expense of comprehensive environmental management policies. For example, many issues arose in connection with water pollution or water quality, but recently interest in the water environment has become more diversified and the narrow emphasis on water quality has shifted to a broader concern with ecosystems as a whole. This is a manifestation of the change from anti-pollution movements to ecosystem-oriented nature conservation movements. However, the relationship between the various environment-oriented citizens' movements is weak or discontinuous, which has a significant impact on the ability of such citizens' movements to shape public understanding of environmental issues, and public policy.

3.2 Environmental pollution

There is a large literature about pollution problems in Japan, (Ui 1971–1974; Harada 1972; Ishimure 1972; Kurihara 2000; Harada and Hanada 2004; Japanese Association for Environmental Sociology 2000). A basic text by Iijima (1993) reviewed the history of pollution problems in Japan. According to this review, when mine pollution occurred during the Edo period in villages downstream of some mines, farmers and fishermen were treated with comparative respect. However, after the Meiji period, the new government carried out a policy of increasing the nation's wealth and military power. Industry was rapidly modernized but this was accompanied by the occurrence and spread of environmental pollution. Until World War II, under the centralized government, the lives and health of people were considered secondary to the growth of the national industrial economy. After the war, although the political system changed, the government still put priority on economic growth over everything else and anti-pollution measures were disregarded. Then in the first half of the 1960s, outbreaks of notorious diseases caused by pollution occurred in various parts of the country, for example, Minamata disease (mercury poisoning), Yokkaichi asthma (air pollution from petrochemical refineries), and itai-itai disease (literally 'it hurts, it hurts'; cadmium poisoning). These health hazards spread further in the 1970s and Japan was called the 'pollution capital of the world.' Pollution was the main environmental problem at the time, but after the latter half of the 1980s as many of the most visible pollution problems were mitigated by the pollution regulations enacted in the early 1970s, while antipollution movements continued as movements seeking the relief of victims or the like, the general trend of public opinion moved on to global environment problems and the destruction of nature caused by regional developments. As a result, pollution problems were given much less space in the mass media. Environmental problems are social constructs, and citizens' movements play a significant role in the process of constructing societal understanding of the nature of the problem. Movements that have had a real impact on the construction of pollution problems in Japan include anti-pollution movements and movements for the relief of victims. Because industrial pollution had much greater impacts on the poor and the socially vulnerable, pointing out where the responsibility for pollution lies was seen as equivalent to criticizing the political system or the existing social structure, and anti-pollution movements have been closely associated

with reform movements in Japan, such as human rights, peace, antiwar, anti-nuclear, labour, and leftist movements.

3.3 Evolution of non-state actors in Japan

The Japanese system of decision-making is often referred to as Japan, Inc., alluding to a blending of political, bureaucratic, and business circles into one unit. This relationship has also been portrayed as the horizontal bar on the letter T with the vertical bar symbolizing the hierarchically structured society that is subservient to its ruling class (Pempel 1987; Broadbent 2002). Looking at climate governance, specifically the period during 2001-02 when Japan sought to reposition itself after the Bush Administration's withdrawal from the Kyoto Protocol reveals that public opinion and non-profit organizations were influential forces.

Japan is constitutionally a parliamentary democracy, but power has rested primarily with the major ruling party, the Liberal Democratic Party (LDP), the Ministry of Economy, Trade, and Industry (METI, before 2001 called MITI), and business (with the business association Keidanren as its primary mouthpiece). Prime ministerial power is limited not just because Japan is a parliamentary democracy, but because of the strong prevalence of factional politics within the LDP (Orr 1990).

Although non-profit organizations are comparatively weak in Japan, they are gradually emancipating. This chapter examines the role non-state actors in determining climate policy. Many studies on Japanese politics have used the reactive versus proactive dichotomy. While the Japanese-'proactive-state' proponents argue that Japan's foreign policy is primarily internally driven (Yasutomo 1995; Anderson 1993; Nester 1990), the 'reactive-state' advocates claim that it is subject to significant foreign pressure (gaiatsu). However, the advocates are divided over whether this is due to international systemic conditions – that is, Japan's dependence on the United States for defense or trade – or whether domestic factors are the cause of Japan's passiveness (Calder 1988; Schoppa 1997; Orr 1990; Sato 1977). Such factors include the strong sectionalism of Japan's bureaucracy, the absence of a powerful central executive, Japan's unique electoral system, and the factionalism of the ruling Liberal Democratic Party (LDP) (Calder 1988); in fact, they seem to include almost anything in the Japanese political system that is peculiar to the Western eye.

Since assessments of the 'reactive state' theory diverge significantly, it has to be concluded that the extent of reactiveness or proactiveness by Japan on a particular foreign policy issue depends to a great deal on the respective determinants of a policy issue. They can include vested interests, strategic factors such as energy dependence, foreign policy goals or the level of media attention. If these determinants are weak, then Japan is more likely to be reactive to foreign pressure. Campbell (1992) argues that the presence (or absence) of a policy sponsor with sufficient resources, drive and skills to push a particular issue forward (or hold it back) is "the single most important 'variable' in determining whether and when a policy change will occur, and sometimes its contents as well".

This chapter examines the Japanese policy constituency on climate change to ascertain whether there is a policy sponsor and who is driving the Japanese climate change agenda, and what role non-state actors play in this process. It starts from the premise that different types of policy networks exist in Japan, which span from stable, highly-integrated policy communities with restricted membership to unstable, loosely-integrated issue networks with large numbers of participants (Rhodes and Marsh 1992). The central assumption of the policy networks approach is that relationships among policy actors differ depending on which policy issue is being addressed. For example, membership in the policy community on defence issues is more restricted than that on global environmental issues.

Policy networks can be constituted either by institutionalized policymaking processes or by informal channels of communication, such as old-boy networks. Smith (1993) argues that a government ministry is motivated to form a policy community as a means of extending its ability to implement policy in a relevant area, as well as to protect its own interests from external threats. Miyaoka (1997) asserts that this approach is particularly suitable for the analysis of Japanese politics because there are considered to be strong structural relationships between a government ministry and the industries under its jurisdiction. However, there are some shortcomings to this model, such as the fact that the influence of the external environment is neglected, as are the interconnections between different policy issues.

3.4 Non-State Actors

The Japanese industrial sector wields substantial political power. This is rooted in industry's contribution to the nation's post-war economic success that endowed the Japanese people with new confidence and wealth after Japan's defeat in World War II. The reconstruction effort was mounted by both a strong bureaucracy and a vigorous industrial sector. In the beginning, priority was given to key industries such as coal, shipping, and iron and steel. From the late 1950s, these industries grew rapidly, and export volumes increased exponentially. An industrial structure based on imported raw materials and domestic processing for export was developed (Weidner 1995). By 1968, Japan's gross national product had become the second largest in the world. This rapid growth based on heavily polluting industries, however, also produced unwelcome side effects. Japan was among the first industrialised countries to experience serious health crises caused by toxic industrial waste. Yokkaichi, Minamata and Itai-itai are some examples of early pollution-borne illnesses. Tightening environmental regulations stemming from these health crises, as well as the oil price hikes of the 1970s, triggered a shift away from oil to gas, and from heavy industries to industries utilizing high technology and sophisticated machinery, such as electronics and automobiles. As a result, Japanese manufacturing became not only less energy consuming and less polluting, but also increased its profits significantly. Japan's new high-tech market triggered high economic growth and ultimately resulted in Japan's bubble economy of the 1980s and early 1990s that made Japan the world's wealthiest country. Numerous studies have testified that Japan was among the most successful countries to delink GDP growth from reducing industrial emissions (Jänicke 1991).

Another important reason for this economic success was the strength of Japan's organised business community, which consists of a number of highly powerful national organisations. The most influential one is Keidanren (Japan Federation of Economic Organisations) that had been created right after the end of World War II in 1946. It is a private and non-profit economic organisation representing almost all branches of economic activity in Japan. It includes around 1200 corporations and associations representing a large diversity of industrial sectors. The organisation's overarching goal is to maintain a profitable environment for business, both domestically and internationally. While the leaders of Keidanren

traditionally constituted the core of the Japanese *zaikai*, i.e., the financial and industrial business community's power elite, the organisation has recently lost some of its political power and unity due in large part to an increase in the diversity of interests within Japan's business community. (Curtis 1999)

Nonetheless, Keidanren still wields strong influence on the Japanese policymaking process. It runs committees on different policy issues, where the opinions of the business community are gathered. Position papers are then delivered to the government and to political parties for consideration. In addition, *amakudari* meaning 'the descent from heaven' practices are still widespread. They allow bureaucrats to obtain executive posts in private firms after retirement from the civil service, thereby sustaining an informal network of ties between the Japanese bureaucracy and big business. As a result, the mutual influence on policymaking between the two sectors is maintained. Keidanren introduced a 'Voluntary Action Plan on the Environment' in June 1997. It requested each industrial sector to set its own target and report regularly on progress made. The participating industries have pledged to reduce CO2 emissions from the industrial and energy-converting sectors to below 1990 levels by 2010. Keidanren conducts follow-up surveys of measures under this action plan and publishes the results in an annual report. In 2001, industrial emissions from participating industries were already 3.2 percent lower compared to 1990, although this may have been mostly due to Japan's current recession.

Keidanren has repeatedly argued that voluntary efforts are an effective measure because their planning and execution are carried out by the business operators themselves, who have the greatest knowledge of the businesses concerned. Not only are they highly effective from a cost-benefit standpoint, they also take into consideration broad-ranging issues such as technical trends and other concerns requiring managerial judgement. Keidanren therefore asserts that Japan's efforts should be based on voluntary action, rather than regulation including environment taxes and a government-regulated domestic emissions trading scheme. Keidanren dismisses the ability of environmental taxes to suppress CO2 emissions because of the low price elasticity of demand for energy. However, this stands in contrast to the fact that Japan effectively reduced its CO2 emissions since the oil shocks in the 1970s. Furthermore, Keidanren believes that not only would the imposition of new taxes cause a decline in industry's international competitiveness, but it would also impede

technological development and capital investments aimed at energy conservation. By inducing the transfer of production to developing countries where environmental costs are low, it would foster a situation in which CO2 emissions increased globally, thus contradicting the purpose of the new tax. (Drifte 1998) Keidanren also argues that a carbon tax would not give companies immediate returns for their increased costs; however, it has acknowledged that production costs would be reduced in the long run.

Moreover, Keidanren opposes domestic emissions trading, arguing that the establishment of compulsory emissions limits would amount to creating extremely tight economic controls that would be unsuitable to a market economy, and be difficult to administer fairly. Moreover, it claims that particularly in the case of Japan, the goals for energy conservation have been set at very high levels, which suggests that businesses may not generate sufficient leeway to enable them to release unused emission credits onto the domestic market. Despite industry's opposition to government regulation and emissions trading, there are clear indications that many Japanese industries are gradually turning more environmental. This is, to a great extent, due to pressure exerted not only from the government, but increasingly also from environmental NGOs and civil society at large. An indicator for this development is that the number of Japanese companies releasing annual environment reports is increasing: In 2001, some 430 companies listed on the first section of the Tokyo Stock Exchange said they issue environment reports, up from 270 firms in 2000. Also, the number of businesses that have obtained ISO 14001 certification27 has grown to 6,786 in July 2001 from 4,131 a year earlier, higher than that of any other country.28 Japan hosts the highest number of ISO 14001 certificates.

After the conclusion of COP7, a compromise was achieved between the Japanese government and Japanese industry that Japan would ratify the Protocol, and industry, in return for its cooperation, would not be subjected to new regulation by the government until 2004 (when the situation would be reassessed). This international and domestic consensus on the conditions for Japan's ratification was, above all, brought about by the excellent capability and tact of former Environment Minister Yoriko Kawaguchi. Although she was criticised by Japanese NGOs at COP6 for representing the interests of Japanese industry, this was arguably necessary in order to gain enough domestic support, i.e., support from METI and industry, for Japan to proceed to ratifying the agreement. The rejection of the Kyoto Protocol by the United

States had significantly reduced Japan's domestic win-set for ratification, which had to be accommodated by stronger Japanese claims at the international level.

3.5 Non-Profit Actors

Japan's organized non-state and non-market sector is weak compared with that of other developed countries (Pekkanen 2000). This tradition of a weak civil society has deep-seated roots in Confucian thinking. It was, for a long time, considered a form of revolt for private citizens to trespass the boundaries of their status in society and intervene in the realm of activity deemed to belong to the government. In the words of Makoto Iokibe, "the tradition of respect for authority and disdain for the masses (*kanson minpi*) is deep-rooted in Japan. Officialdom monopolizes the public realm while the people, the masses, are permitted the pursuit of private gain, personal welfare, and individual happiness insofar as these things lie within the legal and political frameworks dictated by the government" (Iokibe 1999).

Given this background, the sharp rise in the number as well as the status of non-profit organizations in recent years in Japan is considerable. Despite remaining skepticism, there is growing recognition from all sectors, including the government, the bureaucracy and industry, of the added value to public welfare of a strong citizenry. Moreover, the capacity of civil society to put pressure on the government and industry to change their positions and policies is increasing. This is evident also in the climate change debate (Schroeder 2003). According to Gough and Shackley (2001), the legitimacy of NGOs as policy actors emerges from their claim to represent a sizeable body of public opinion that is not adequately represented elsewhere in the policymaking process. This claim for legitimacy of NGOs is bolstered by public surveys and public support for their actions. In Japan, it surged enormously after the Great Hanshin earthquake in January 1995. In the immediate aftermath of this devastating earthquake, where more than 6,400 people died and some 350,000 people became homeless, around 1.3 million volunteers and a large number of NGOs and NPOs rushed to Kobe and the surrounding areas to help earthquake victims. This event became a major turning point in the development of civil society in Japan. Its recognition improved sharply as a result of the immediate and effective contributions from volunteers, which by far outstripped those of government agencies.

This new awareness of the resourcefulness of the non-governmental and non-profit sector was further fostered by the emergence of the Internet that made it easier for NGOs to communicate their activities and objectives to the general public, on the one hand, and the general public to obtain information on such activities and find like-minded citizens to organize into special-interest groups, on the other. In Japan, donations to public interest groups by individuals or corporations are still not tax deductible. NGOs in other industrialised countries receive most of their funding from donations by individuals and corporations that can deduct these payments from their taxes, which is a major incentive to donate. This shortcoming in Japan stems mainly from the intent of the government to remain in control over how the resources of the country should be divided between the various actors. This mind-set can be attributed to the legacy of the citizen's movement of the 1960s and 1970s. After defeat in World War II, Japan had placed utmost priority on achieving economic growth and prosperity. As a result, in the 1950s and 1960s, Japan witnessed rapid economic expansion. The economic growth policies of that time, however, completely neglected the environment. The Minamata, Yokkaichi and the Itai-itai diseases began to surface in the 1950s as alarming outcomes of this neglect. The failure of the Japanese government to act upon the growing pollution problems eventually led to the creation of citizen movements. After having unsuccessfully consulted, petitioned and demonstrated against local industries and governments at local and state levels, these groups eventually turned to the courts. In Japan, where litigation is not a common approach to solving disputes, this was a significant development. The courts eventually decided in favour of the pollution victims. As a consequence of these decisions, from around 1970, the Japanese Diet passed major anti-pollution laws and regulations making Japan's environmental laws among the strictest in the world and one of the world's most successful air pollution control programmes at the time. The courts and the media attention had opened the decision-making process to public and judicial scrutiny, forcing the government ultimately to pass anti-pollution legislation. However, the government issued new tax laws to restrict the formation of new NPOs. Because of these new restrictions, the environmental movement remained local in focus. (Schreurs 1997)

Furthermore, the conservative view on NGOs is still a rather negative one in Japan. NGOs are still regarded to be lacking professionalism and their activists are

more often than not 'merely' housewives, school or university dropouts or otherwise unemployed persons. They are assumed to be protest groups, and therefore outsiders. The main reasons for their weakness lie in their lack of financial resources, which is particularly problematic given Japan's high living and operating costs. Japan's non-profit sector lacks well-trained research personnel with advanced degrees. Also, networking with other international NGOs is still limited, although this is slowly changing. (Schroeder 2003) Despite these weaknesses, there are a number of NGOs that are working actively on the climate change issue. In addition to international environmental organizations that opened subsidiaries in Japan such as Friends of the Earth, Greenpeace and the World Resources Institute, environmental groups formed an umbrella organization called Kiko Forum (Climate Forum) as a platform to communicate their own policy ideas for COP3 in December 1997. In April 1998, it was turned into a cooperative umbrella organization called Kiko Network to strengthen the voices of around 150 smaller NGOs in the policy process (Schreurs 2001). The activities of Kiko Network include undertaking research on the international and domestic decision-making processes, policy research, information dissemination and lobbying of the government and other relevant institutions. Kiko Network perceives itself to be most successful in lobbying politicians, who as representatives of citizens tend to appreciate recommendations from NGOs. As regards ministry officials, there tends to be agreement on policy issues with the Environment Ministry, but disagreement with METI. Although Kiko Network is attempting to establish a policy dialogue with certain companies, this tends to be a one-sided affair. Kiko Network claims that it is lamentable that Japan has not taken on its full responsibility in reducing greenhouse gas emissions. Kiko Network regularly issues newsletters and reports on how Japan could reduce its emissions significantly. It also attends the international climate change negotiations, collaborating with NGOs from other countries and publishing daily newsletters. These are claimed to be read by every Japanese delegate. However, officials are said to have never taken up any proposals from NGOs nor asked their advice. Although the relationship between NGOs and government officials has improved since COP3, personal relations on conference corridors and collaboration are still lacking. Relations between other countries' NGOs and delegates are said to be much more constructive, which reflects a stronger standing of NGOs outside Japan. Furthermore, recent developments clearly

demonstrate this conflict between a higher profile of NGOs within Japanese society, on the one hand, and a lack of acceptance from among conservative circles of the role that NGOs are already playing, on the other. There are various examples that underscore this observation. For example, the fact that a conflict over the participation of NGOs at an international conference hosted by Japan led to the resignation of Japan's Foreign Minister illustrates this gap. The former Japanese Foreign Minister Makiko Tanaka was forced to resign over a scandal that had been evoked by the Foreign Ministry's barring of two Japanese NGOs from participation at an international conference held in Tokyo on rebuilding Afghanistan in January 2002. Muneo Suzuki, an LDP parliamentarian and a high-ranking member of the Lower House Committee on Foreign Affairs with major influence on the Foreign Ministry, had been responsible for the ministry's decision, which provoked strong criticism in Japan over the Foreign Ministry's handling of such affairs. Furthermore, NGOs were instrumental in the adoption of resolutions by both houses of parliament in April 2001 urging the Japanese government to ratify the Kyoto Protocol. This resolution, coupled with opinion polls that portrayed broad public support for ratification was crucial in bringing Prime Minister Koizumi, whose power rests strongly on the popular backing of his policies, to officially endorse ratification of the Kyoto Protocol.

That Japan ratified the Kyoto Protocol despite a split LDP on this issue, a reluctant METI, and a business community that would rather only adopt voluntary measures, is remarkable. It can only be explained by looking at the positions and interests of a wider group of stakeholders. Within the Diet there was a small environmental *zoku* which, with the help of NGO representatives, pushed through a unanimous resolution strongly supporting the ratification of the Kyoto Protocol. This happened despite some opposition to the Kyoto Protocol in the Diet. Opposition party candidates made ratifying the Kyoto Protocol into an election campaign topic. Although the Japanese bureaucracy formally remains in charge of policymaking in Japan, the fact that the ministries involved have maintained different standpoints on the climate change issue has enabled other actors to exert influence on the decision-making process. The climate issue was reframed during the late 1990s from being an energy issue dealt with primarily by MITI to also being a global environmental and a foreign policy issue which came under the responsibility of the Environment Ministry, the Ministry of Foreign Affairs, and METI. This happened as a result of Japan

becoming more active on global environmental issues to enhance its international reputation and strengthening its case for a permanent seat in a reformed UN Security Council.

In this ministerial triangle, the Environment Ministry took the lead. The Environment Minister was the head of delegation during the international climate negotiations. With the interests of METI and the Japanese business sector in mind, then-Environment Minister Kawaguchi negotiated a watered-down version of the Kyoto Protocol through increasing Japan's sinks credit to make it ratifiable in Japan. This proactive stance had the support of a wider policy constituency, including a majority of the Diet, the Prime Minister, NGOs, and the general public.

3.6 NGOs: Kiko Network and Japan for Sustainability

Kiko Network is a non-governmental organization (NGO) supported by individuals, organizations and regional networks from all over Japan. Its goal is the practical implementation of the Kyoto Protocol and the prevention of dangerous climate change. They engaged in activities relevant to five objectives.

Five Objectives

1: 6 % reduction of greenhouse gases emissions by drastic domestic measures

2: Construction of environmentally sound socio-economical systems

3: Promoting climate change prevention under leadership of citizens and communities

4: Citizen Participation and information disclosure into the policy-making process

5: Cooperation among NGOs in developed and in developing countries to achieve global justice

Continuous Efforts to being Watch Dog

To work on the policies, it needs to collect information. Kiko Network communicates with various relevant ministries and industrial groups, and gathers information from these groups. And also Kiko Network continuously observes discussion of various governmental councils such as the Central Environment Council, the Industrial Structure Council, and the Advisory Committee for Natural Resources and Energy.

Participation in Government Committees, responding public comments

Kiko Network' s President, Ms. Asaoka, became a member of a government committee to present the perspective of an environmental NGO. In addition, Kiko Network gave its opinion during opportunities for public comment.

Lobbying to Members of the Japanese Diet (Parliament)

In order to influence decisions relevant to environmental issues, Kiko Network participated in international and domestic negotiations, and lobbying members of the House of Representatives and the House of Councilors of Japanese Diet.

Pressuring the Japanese Diet to Make Laws

Kiko Network with other NGOs has been actively promoting the enactment of new laws.

Making Policy Suggestions to the Japanese Government

Kiko Network has worked with NGOs and academics to research and present policy options to the government. In 2000, we presented a citizens alternative proposal to achieve a 6% reduction target of the Kyoto Protocol. This proposal showed that achieving 6% reduction target is possible to meet without relying on carbon sinks or Kyoto mechanisms. It is also economically feasible.

Japan for sustainability

After the Kyoto Conference on climate change in 1997, activities to address global environmental problems gained momentum in Japan and expanded across many sectors. Today one can see many initiatives by the central and local governments, industry, research institutes, universities, non-governmental organizations and individual citizens. It is felt that every country has something positive to contribute, and that people in other parts of the world may find useful ideas from Japan, in some of its advanced technologies, systems and partnerships, approaches to information disclosure, and other developments.

There may also be lessons from the past before the modern day Japan had a tradition of sustainability. The Edo Period, lasting about 300 years, from the early 17th to late 19th century,

appears from today's perspective to have been one model of a sustainable society. During that period Japan was self-sufficient in food and energy, had low population growth and recycled almost all materials. One may find clues for a new type of sustainability in the wisdom, craftsmanship and lifestyles of the past.

Only limited information on Japan's new developments, technologies or even traditional approaches actually arrives overseas. Only a small portion of information on the environment and sustainability gets translated from Japanese into English and even then its distribution overseas is often limited to a small audience.

This context sets the scene for the creation of Japan for Sustainability, a non-profit platform for environmental communication. By sharing the latest developments and visions from Japan to the world in English, we aim to accelerate the movement toward sustainable society in developed and developing countries.

The mission of Japan for Sustainability is to make this world a more sustainable place for current and future generations, by

- delivering to the world useful ideas and information on the latest developments and activities in Japan that promote sustainability, and
- providing a communication platform and information to help people envision a sustainable future and to seek ideas that can fill the gaps between our current society and the sustainable future society we would like to live in.

(Sources: official websites of Kiko Forum and Japan for Sustainability)

To reverse the current declining trends in sustainability, it aims to be a **"fountain of hope"** by offering positive information that inspires and empowers the people of the world. Thus, Japan for Sustainability also functions as **"World for Sustainability."** They provide opportunities to share news about the latest noteworthy initiatives in Japan and the world and to communicate, learn, and develop ideas together, in order to accelerate progress toward a more sustainable world. To move Japan toward sustainability, it identifies and describes the gaps between visions of a sustainable Japan and the current status. By raising awareness, it promotes national debate on how Japan can create a sustainable society and provide opportunities for dialogue about how we can make a comprehensive national strategy to become more sustainable. It seeks leverage points that can move Japan toward sustainability, and offer communication platforms as levers of change. It believes that the younger generation is important as a leverage point of change. It offers them

opportunities to learn and ask what sustainability is, and how they can create a sustainable society. It helps them develop their own ideas and envision the future, and give them the tools to be change makers.

2.1 Conclusion

Ever so gradually Japan's government is providing greater opportunities for citizen participation in environmental affairs. There is the NPO law, the EIA law, and the other examples mentioned earlier. More government money than ever is now available to NGOs engaged in a diverse range of activities. Bureaucrats are beginning to find that, at least in some instances, it is advantageous to work with NGOs. Because of its weakness relative to such powerful bureaucratic players as the Ministry of International Trade and Industry (MITI) and the Ministries of Finance and Foreign Affairs, the Environment Agency has an interest in working with those NGOs that can help it to be further certain of its bureaucratic objectives. The Ministry of Foreign Affairs has established a formal communications channel with NGOs, principally to deal with support schemes for NGO projects in LDCs. At the 1994 United Nations World Conference on Population and Development held in Cairo, NGO representatives were - for the first time - part of Japan's official delegation. In 1996, the United Nations University and the Environment Agency jointly opened the Global Environment Information Center, which provides meeting space, telecommunications facilities, and library resources for NGOs and fosters working relationships among business, governments and NGOs. And the "Environment Partnership Office," managed by the Environment Agency along with representatives from NGOs and Keidanren, has begun to gather information and organize seminars in conjunction with United Nations University (UNU). But perhaps these steps do more to bring international visibility to Japan's efforts than to meaningfully advance NGO participation in policy decisions. Some environmentalists are hopeful that pending reforms will make government more directly responsive to citizen environmental concerns. But under the guidelines contained in the Administrative Reform Basic Law, approved by the Diet in June 1998, government powers might actually be increased. If the reforms are carried out - and their fate is uncertain given the July 1998 electoral rebuke to the LDP and Prime Minister Hashimoto's subsequent resignation - the Construction Ministry, National Land Agency, and Transportation Ministry would become part of a huge new National Land and Transportation Agency. Just as the Ministry of Construction was becoming a bit more open to citizen concerns, it may lose its autonomy. A sceptical, but perhaps accurate, view of recent events is that government agencies are becoming more adept at co-opting NGOs. NGOs may increasingly become partners with

government agencies, providing information, expertise, and credibility. Reliance on NGOs allows agencies to increase their administrative capacities without necessarily having to increase their budgets. The Environment Agency has broadly embraced the public-private partnership concept.

Individual NGOs respond in various ways to the threat of cooptation. Some become engaged with government or industry because it may be the only way to secure substantial funding and status. Others reject government funding and affiliation outright. One of their fears - that they may simply be used as researchers and helpers in validating and implementing government policies - is well founded. Those NGOs that do not impinge on bureaucratic authority are much more likely to gain government acceptance than are those that challenge policies and procedures. Indeed, the many groups involved in recycling projects, distribution of organic food, and certain types of overseas development projects pose relatively little threat. While there is always the prospect that they will lead participants in more overtly political directions, they do allow citizens to expend civic energy, feel that they have "done something" about environmental problems, and quite possibly reduce the threat of coordinated citizen action at the national level. As Japan's environmentalism continues to evolve, many environmental groups look to the U.S. movement as a model. Yet much of what thrives in the American context is not necessarily appropriate to Japan. Litigation, lobbying, and even routine public participation in environmental decision making are not likely to become mainstays of a strengthened Japanese movement. Nor would American-style environmentalism necessarily produce "better" environmental policies or a more efficient policy-making process.

CHAPTER FOUR

Assessing Japan's international position with respect to global climate change agenda

4.1 Introduction

Japan is one of the largest greenhouse gas emitters in the world, after the United States, China, the EU-25, Russia and India (Baumert 2005), and its emissions are still on the rise. In 2006, Japan's greenhouse gas emissions grew by 6.2% from their 1990 levels (MOE 2008). As Japan's Kyoto target is -6% from 1990 levels, this means that Japan is now obliged to cut emissions by 12.2% from 2006 levels during the first commitment period of the Kyoto Protocol. Although the Japanese population has started to decrease since 2005, the rise in greenhouse gas emissions is still expected to continue. Additional measures are thus required to achieve the 6% reduction target (Kameyama 2008).

4.2 Regime approaches and international climate change policy

Much of the early effort to interpret international climate co-operation proceeded from the basis of the regime approach (Paterson 1996a, 1996b; Rowlands 1995; Saurin 1996; Ward 1996; Young 1989). This is not surprising because, until very recently, the regime approach was the dominant theoretical lens for the study of international rule-based co-operation (Haggard and Simmons 1987; Hasenclever et al. 1997; Keohane 1984; Keohane and Nye 1977; Krasner ed. 1983; Young 1980). Besides, as Newell (2000) points out, regime analysis was particularly attractive since it 'responds to a number of overlapping concerns' that traditionally characterize the global environmental problematic'. These include the desire to regulate states' behaviour in order avoid the "tragedy of commons", the need to control tendencies towards "free-riding", and the need to respond to the distributive questions arising from the collective response to global environmental challenges. The regime approach also proved popular because it was able to provide a relatively neat account of international rule-based co-operation by focusing on the actual strategic behaviour of states actors while treating the sources of interests as exogenous. It not much of a surprise then that notwithstanding the appeals of this perspective, it does not, suffice

as a way of conceptualizing the increased profile of NNSAs in the global governance of climate change.

Despite differences, however, there are still a few connecting ideas that enables one to speak in terms of a "regime approach". The first is that regimes are generally seen as a medium through which state actors solve problems or respond to challenges that are *international* in nature. The critical assumption implied here is that it is easy to differentiate between issues that are national and the ones that are international in scope (Paterson 1995, 1996). This assumption relates to the basic paradigmatic conception about the nature of the state and its spatial characteristics in mainstream international relations literature. Here, the state is for the most part regarded as a bounded and largely self-sufficient entity and the complex independencies of the global natural system are hardly emphasized (Bulkeley 2005). The second and perhaps the most important factor is that the regime approach is more or less a state-centered theory. The approach, as Newell (2000:23) puts, it 'takes as given the preeminent status of the nation-states as the key point of reference in seeking account for the ways issued unfold in the global agenda'. Critically, there is very limited space for the account of the involvement of NNSAs in international institutions building. There are some stands of regime theory, especially the constructivist approaches (Kratochwil 1989; Ruggie 1998; 2004; Vogler 2003; Wendt 1999) that attempt to accommodate the role of NNSAs, however much of the endeavor is couched in terms of the roles of this group of actors in influencing state actors rather than in being 'governors' in their own right (Auer 2000; Betsill and Bulkeley 2004).

Furthermore, under the regime approach states are mostly conceived as homogenous unitary actors with well-defined orders of preference. In conceptualizing states as "black boxes" (Stokke 1997:29), the regime approach critically ignores the significance of internal politics including the diverse motivations and interests that are mixed up in this process (Newell 2000; Paterson et al. 2003).10 The reason for this may be that under the regime approach, power is basically conceived as 'territorially bounded' and 'equated with the nation state' (Betsill and Bulkeley 2006:146). Moreover, in this view, a zero-sum notion of power is assumed. Accordingly, once the central state is identified as the location of authority, it is impossible to ascribe non-state actors with the power or legitimacy in the international arena.

Given that the nation-state has the monopoly of power, and that all other sub-national actors act merely within the purview of the state and or in a bid to influence it, regime theory attempts to account for the outcome of international co-operative effort by focusing exclusively on the possible strategic options or behaviour of national governments (Biermann 2005; Keohane 1984; Paterson, 1996a; Ward 1996).

By maintaining a rigid divide between the national and the international and a state-centric account of agency, regime theory manages to provide a neat and parsimonious account of international co-operation. The functionalist strand goes even further to increase its attraction by making allowance for modicum of changes in the behavior of state actors and in the outcome of international negotiations (Hansenclever et al. 1997; Paterson 1996b 72). This is possible by retaining the core assumptions mentioned above and building in the hypothesis that nation states have a wider space (zone of maneuver) under which they can compute and pursue their national interests. Enlargement of the zone of maneuver is important because it accommodates some measure of uncertainty and variations in outcomes without sacrificing the theoretical gains associated with a tight conceptualization of motive, agency and structure (Keohane 1984; Young 1989). In practice, this means that whereas preference over policies, that is the strategic behaviour of states may change, preferences over outcomes remains fairly stable such that the direction and end results of international co-operative arrangements could all be fairly accurately predicted per time (Hasenclever 1997; Keohane 1989; Snidal 1985; 1986).

4.3 Japanese domestic climate policy: an overview

Climate change policy in Japan evolved in response to international policy developments. After the Kyoto Protocol was adopted in 1997, the Guideline of Measures to Prevent Global Warming was announced in June 1998 (MOE 1998) by the newly established Global Warming Prevention Headquarters, which was headed by the prime minister, and was mandated to coordinate policy measures among relevant ministries and government agencies. This Guideline formed the core of Japan's climate policy. It did not introduce new policy measures, but was rather a list of existing policies at the time, as the operational details of the Kyoto Protocol had not yet been made clear. The Guideline was revised in June 2002 after the Marrakech Accords were agreed upon in 2001. The revised Guideline took a step forward in

setting emission reduction targets and introducing policy measures for different sectors. The next step was taken after the Kyoto Protocol's entry into force on 16 February 2005. The Kyoto Protocol Target Achievement Plan was introduced in April 2005 'in order to stipulate the measures necessary to reliably achieve the target of a 6% reduction promised by Japan under the Kyoto Protocol'. By then, the Plan included more detailed policies and measures. It reported that the industrial sector had made some progress, while other sectors such as transportation, households and business were considered to be areas where emission reductions still needed to be attained. More than a decade after their establishment, the Headquarters have not yet been able to exert strong leadership in coordinating between the different ministries with a view to agreeing on a common, consolidated climate policy position (Fisher 2004; Kameyama 2008). Traditionally, there have been two conflicting perspectives within the country, which have developed in parallel and have been advocated by different ministries, namely the powerful Ministry of Economy, Trade and Industry (METI) and the Ministry of Environment (MOE) (e.g. Takeuchi 1998; Kawashima 2000; Fisher 2004; Oshitani 2006).

In addition, the Ministry of Foreign Affairs (MOFA) coordinates the country's international position on climate change, meaning that there are thus three main players at the government level. METI has a strong history of contributing to the economic growth of the Japanese industry sector, making it one of the most competitive in the world, and it has acted as an important contact point between industry and government bureaucracy. One of its main interests has been to protect and promote the competitiveness of the Japanese industry. MOE, on the other hand, is a relatively young institution. Established in 1971 as an agency, it was upgraded to a ministry only in 2001. MOE is responsible for coordinating environmental affairs. However, it is in a rather weak position compared to other ministries, due to its low financial and human resources. Therefore, MOE is often not able to effectively coordinate government deliberations on environmental issues. Due to the substantive differences in position between the three ministries involved and the lack of effective coordination mechanisms, the government's foreign policy on climate change has been both ambiguous and fragmented (Takeuchi 1998; Hattori 1999). At times, Japan put itself in an awkward position, having two distinct speakers with different views speaking up on behalf of the same government in the international negotiations. The

run-up to the Kyoto conference in 1997 was an important exception in this context, as the Prime Minister's Cabinet Office intervened in the process and forged a common position just in time before the summit.

These diverging views notwithstanding, there are some signs of progress. Japanese Prime Ministers in the past few years have each taken action on the issue of climate change. Most notably, in 2008, Prime Minister Fukuda announced a long-term Japanese emission reduction target of 60–80% from current levels by 2050, after having been criticised by international NGOs for rejecting a strong quantified emission reduction commitment at the climate conference in Bali in 2007. In addition, the discussions on a Japanese emissions trading scheme have picked up steam. Following Fukuda's initiative, a trial emissions trading scheme was started in 2008 (Fukuda 2008). The Japanese government has not been able to agree on a medium-term target for the country going beyond its Kyoto cap, in contrast with, for example, the EU. Nevertheless, Environment Minister Tetsuo Saito proposed in January 2009 that Japan should set a medium-term target of reducing its emissions within the range of 25–40% as suggested by the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR4), and this issue is at present under consideration.

4.4 Japan and international climate policy

Having sketched the domestic context for Japanese climate policy, we now move on to Japan's position in international discussions on future international climate governance. We first describe Japan's position in the UNFCCC negotiations. We then explore Japan's role in other initiatives, most notably the Major Economies Process and the Group of 8 (G8) process, which both played an important role in bringing the climate change issue to the attention of Japanese Prime Ministers. Finally, we provide an overview of Japan's involvement in the APP.

4.5 Japan and the post-2012 UN climate negotiations

Starting with the Montreal summit in 2005, questions about the shape of global climate governance beyond 2012 have moved to centre stage in the UNFCCC process. Particularly important in this regard is the issue of mid-term and long-term target setting. Negotiations on a follow-up agreement to the Kyoto Protocol were

formally launched at the 13th UNFCCC Conference of the Parties (COP) in Bali, Indonesia in December 2007. After intense negotiations, Parties to the UNFCCC finally adopted a series of decisions together referred to as the 'Bali Road Map'. The key decision, known as the Bali Action Plan (UNFCCC 2008), constitutes an important landmark in the development of international climate policy. However, the decision avoids any explicit reference to a quantitative elaboration of a long-term objective, and does not go further than calling for 'deep [emission] cuts'. It also does not indicate specific ranges for short- to medium-term targets as the IPCC AR4 suggested. Japan, together with the United States and Canada, was initially one of the countries opposing the inclusion of any numerical targets in the decision, although it changed its position after the Bali conference (Cle´menc¸on 2008). The decision leaves open a wide range of possibilities of how a post-2012 agreement might look, and does not clarify whether such an agreement will include binding emission reduction targets for developed countries (Rajamani 2008).

In its submissions to the various bodies under the UNFCCC, Japan has provided an outline of its post-2012 negotiating position. First, in line with the 'Cool Earth 50' strategy, the Japanese government has proposed a non-legally binding 'shared long-term vision' of at least halving global greenhouse gas emissions by 2050 (UNFCCC 2008). Second, Japan emphasises the importance of promoting technological innovation through, among others, expanding investment in research and development, and strengthening frameworks for international cooperation (UNFCCC 2008). Third, Japan has been one of the staunchest supporters of including a 'sectoral approach' in a future climate agreement. What exactly it meant with such an approach was long unclear, but recent submissions shed some light on Japan's ideas (UNFCCC 2008). Essentially, under the 'cooperative sectoral approach' envisaged by Japan, countries would engage in a bottom-up process of setting quantified mid-term emission reduction targets, by aggregating abatement in a number of sectors. Such calculations could then serve as a basis for negotiating numerical caps for all the countries. These sectoral emission reduction potentials are in turn calculated by factors such as the technology to be used, mitigation potential and expected production. The sectoral approach also entails identifying 'best practices' for each sector and conducting technology needs assessments in developing countries. Whether the sectors would be assigned specific targets remains unclear.

Fourth, Japan has called for 'meaningful participation' of all the major emitters (UNFCCC 2007). In this context, it favours differentiation among developing (non-Annex I) countries on the basis of specific criteria (e.g. income per capita and share of global emissions). The sectoral approach proposed by Japan applies to both developed and developing countries - in particular the major emitters - although different economic and geographical circumstances are taken into account (UNFCCC 2008). The Japanese push for a sectoral approach stems from the concern that the country's leading import and export markets are China and the US, which both do not have binding numerical targets under the current climate regime. Furthermore, the sectoral approach allows Japanese actors to emphasise their relative high efficiency—and hence, limited potential for further emissions abatement—in certain sectors. The various elements proposed by Japan in the context of the UNFCCC negotiations also play an important role in the country's activities in non-UN initiatives, as we will see below.

4.6 Japan and non-UN climate change initiatives

A number of international climate change-related initiatives have been started outside of the UNFCCC process, taking a different approach than the climate regime. The existence of a variety of governance arrangements could exert both a positive and negative influence on the efforts under the UNFCCC umbrella (Biermann et al. 2009, in press; Kanie 2007). On the positive side, overlapping approaches could lead to policy innovation through competition. On the other hand, the mere existence of these voluntary, non-binding arrangements could reduce the incentive to participate in the UN climate regime (McGee and Taplin 2006; van Asselt 2007). A host of different approaches to international climate policy could also reduce the overall consistency and coherence in global climate governance. Given these possible synergies and conflicts, developments outside of the UN climate regime are potentially relevant in shaping the future of global climate governance. Although Japan actively participates in the post-2012 negotiations under the UNFCCC and the Kyoto Protocol, it is also involved in several international non-UN arrangements. Japan's role in the APP is described in the next section. Here we briefly discuss Japan's role in two other prominent non-UN fora: the G8 climate change dialogue and the Major Economies Meeting.

In July 2005, the G8 initiated a three-year Dialogue on Climate Change, Clean Energy and Sustainable Development at a meeting in Gleneagles, Scotland (Karlsson 2009). The Dialogue not only included the G8 countries, but also engages five major developing countries—Brazil, China, India, Mexico and South Africa ('G8 plus 5'). Also in this venue, long-term climate targets have received greater attention since the 2007 G8 Summit in Heiligendamm, Germany. Just before the summit, then Prime Minister Abe announced his 'Cool Earth 50' plan, which involved halving greenhouse gas emissions by 2050. This influenced the chair's summary of the summit, which stated that the G8 countries 'will consider seriously the decisions made by the European Union, Canada and Japan which include at least a halving of global emissions by 2050' (G8 2007). The process became of great importance to Japan when it hosted the G8 meeting in Toyako in July 2008. In the run-up to the summit, Japan tried to convince other G8 countries of its long-term vision, as it wanted to further develop the G8 statement from the previous year and present a result for 'serious consideration' of a long-term target under its chairmanship of the G8 Summit (Kanie 2008). It also promoted the usefulness of a sectoral approach in post-2012 climate policy (Point Carbon 2008). Although countries like Germany and the United Kingdom were supportive of the long-term goal, the Americans were more reluctant to accept a quantified long-term objective. Eventually, Japan more or less got its way, and the countries present—including the US—agreed 'to share (...) the vision (...) of the goal' to at least halve global emissions by 2050, although without specifying a base year (G8 2008, para. 23). On sectoral approaches, however, Japan did not achieve the full endorsement it had sought: G8 leaders merely regarded sectoral approaches as 'useful tools to improve energy efficiency and reduce emissions through dissemination of existing and new technologies in a manner compatible with economic growth' (G8 2008, para. 24). Japan also participated in the Major Economies Meeting on Energy Security and Climate Change (MEM), which was launched by the United States in September 2007 and included 17 of the world's largest economies. Like the G8 process, the MEM became of significance to Japan in the run-up to its hosting of the G8 summit in 2008. At the meeting in Japan, countries agreed to 'promote the exchange of mitigation information and analysis on sectoral efficiency, the identification of national technology needs and voluntary, action-oriented international cooperation, and consider the role of cooperative sectoral

approaches and sector-specific actions' (MEM 2008). For Japan, the APP is one of the examples of 'voluntary, action-oriented international cooperation'. There was thus some recognition of the usefulness of sectoral approaches, which Japan has also been pressing for in its submissions to the UNFCCC (Vihma 2009). However, contrary to the G8 summit, the countries were not able to agree on a quantified long-term goal.

4.7 Japan and the Asia-Pacific Partnership on Clean Development and Climate

Japan's preference for sectoral approaches to climate change mitigation is arguably most visible in its participation in the Asia-Pacific Partnership on Clean Development and Climate (APP). The APP is a non-legally binding 'compact', aiming 'to meet (...) increased energy needs and associated challenges, including those related to air pollution, energy security, and greenhouse gas intensities' (APP Charter 2006, para. 1.1). The countries participating in the APP intend to achieve their goals through international cooperation with a view to the development, diffusion, deployment, and transfer of clean, efficient and cost-effective technologies (APP Charter 2006, para. 2.1.1). Amongst the original six participating nations, Japan was the last one to join the APP, and only at the very last minute. Initially, the US White House Council on Environmental

Quality feared that Japan would push for emission reduction targets and other 'Kyoto-like ''anti-growth''' provisions. When it joined, the Japanese government emphasised that the APP was complementary to the Kyoto Protocol, and that it saw the APP as a way of promoting cooperation on climate and energy issues in the Asia-Pacific region. In a press statement, a representative of MOE stated that 'Kyoto remains in place, and the new initiative focuses on transferring technology to developing countries'. Furthermore, the Japanese government has referred to the APP as a positive example of (sectoral) cooperation in its submissions to the UNFCCC, emphasising its potential to diffuse clean and efficient technologies developed in Japan (e.g. UNFCCC 2008). Moreover, it has argued that the practical work carried out in the context of the APP could form the basis for its 'cooperative sectoral approach' as proposed in the post-2012 negotiations. In particular, Japan suggests that the APP could support in the calculation of sectoral emission reduction potential (UNFCCC 2008). Although the partnership is not aimed at any technology or sector in particular, at the inaugural meeting held in Sydney in January 2006, eight areas

were singled out for the establishment of 'task forces': (1) aluminium, (2) buildings and appliances, (3) cement, (4) cleaner fossil energy, (5) coal mining, (6) power generation and transmission, (7) renewable energy and distributed generation and (8) steel. Japan chairs the cement and steel task forces, which are both hosted by METI. In addition, Japan proposed to establish a new task force for the road transport sector in 2008.

A closer look at the various APP project descriptions shows that most projects are designed to facilitate transboundary sectoral interactions through, for example, exchanging specialists or conducting joint sector analyses. Despite its last-minute inclusion, Japan has become an avid proponent of the APP. The Japanese government (or in various cases a Japanese private organisation) is involved in over 30 projects. In the steel task force, Japan manages two projects. The first project seeks to review a number of indicators for energy saving in the sector. The second project consists of a 'diagnosis' of several steel plants in China and India (APP 2008). In the cement task force, Japan is involved in developing benchmarks, as well as analysing the efficiency of cement kilns in China and India (APP 2006). The Japanese government is optimistic about the information exchange through the APP: 'To maintain (...) high efficiency over a long period of time, the industry has developed various methodologies and know-how of operation, maintenance and management. Sharing them with the engineers of participating countries makes it possible for Japan to contribute to global-scale reduction in greenhouse gas emissions' (UNFCCC 2008). It remains to be seen, however, whether and to what extent the data collection and information exchange activities eventually will lead to actual emission reductions. Although the APP was agreed upon by governments, it foresees a crucial role for the private sector in the implementation of activities. By directly involving important actors that ultimately need to reduce their emissions - business and industry - it arguably addresses one of the weaknesses that critics have pointed out for the intergovernmental UN climate regime (Kellow 2006). The APP aims to promote information exchange within the private sector, and to establish procedures to identify, evaluate and to provide solutions for the challenges and obstacles faced in technology development. Nevertheless, the APP still requires the indispensable support of the various governments (Pezzey 2006).

On the one hand, the APP has a number of characteristics that fit well with the Japanese position in the post-2012 discussions in the UN climate regime: (1) its focus on emissions in specific large emitting sectors that are subject to international competition, (2) the emphasis on technological innovation and the transfer of clean technologies and practices, and (3) the participation of other major emitters (China, India and the US) in climate change mitigation efforts. On the other hand, it also lacks some of the elements that Japan has embraced in the UN context. Notably, APP activities are not linked to any long-term objective for global emission reductions. Whereas a long-term 'vision' is now being discussed in the UNFCCC, the G8 and the MEM processes, the APP refrains from mentioning any quantified objective, not even as an aspirational target. Furthermore, the sectoral approach of the APP differs from the one that Japan advocates in the UNFCCC discussions.

In the APP, sectoral activities are voluntary in nature, whereas Japan's proposal in the climate regime intends to use sectoral analysis as the basis for a country's (legally binding) commitments (UNFCCC 2008). The differences between approaches of the APP and the UN climate regime raise the question of why the country is active in the different fora. The next section examines three possible explanations for Japan's participation in the APP alongside the UN negotiations.

4.8 Explaining Japan's participation in the UN climate regime and the APP

One of the first plausible explanations for Japan's choice to participate in both the Kyoto Protocol and the APP lies in domestic interest group politics. Japanese industry, of which about 80% is united in the Federation of Economic Organizations (FEO or Nippon Keidanren), have historically been a powerful interest group, with strong ties to the leading political party (LDP) and METI (Okimoto 1989). Their power is also visible in domestic climate politics, as Fisher (2004) argues: 'The regulation of climate change in Japan is a case in point that the government has only taken steps that are approved by industry'. In the 1990s, Keidanren pre-empted the outcomes of the Kyoto negotiations by announcing its own voluntary action plan in 1997. The plan was established at least in part out of fear of possible government regulations (Matsumura 2000). Although Keidanren did not explicitly consult with the government in drawing up the plan, the government later approved it (Schroeder

2003), and policy measures for the industry sector in Japan have been based on Keidanren's voluntary action plan (Tiberghien and Schreurs 2007).

Keidanren has strongly opposed government interventions, including the use of economic instruments such as carbon taxes and emissions trading (Nippon Keidanren 2007). Their main rationale is that the costs imposed would damage the competitiveness of Japanese industry on the international market, especially given a situation where both the largest import (China) and export (the US) markets are not subject to emission caps. This situation would arguably result in the relocation of production and jobs abroad, and would thus harm the overall economy (Miyaoka 2004). After the US withdrew from Kyoto in 2001, industry representatives called the Protocol a failure for allowing the largest emitter to walk away so easily (Nippon Keidanren 2001). Critics from industry also viewed the Kyoto Protocol as unfair, as some EU Member States, notably Germany and the UK, had achieved emission reductions due to non-climate policy related political and economic changes, and the EU could use the 1990 base year of the Protocol to its advantage. Japanese industry were opposed to the use of a 1990 baseline, insisting that Japanese energy efficiency improvements and energy substitutions occurred mainly in the 1970s in response to the two oil shocks in that decade. Hence, for Japan, it would have been more beneficial to compare emissions with the 1970s, or by using other criteria, such as sectoral emissions reduction potential, as a yardstick for abatement.

This debate intensified in 2009, when the discussions over a Japanese mid-term target were mounting. On 17 March, Keidanren and its associated members published a full page advertisement in major newspapers in Japan, arguing to re-consider the costs of greenhouse gas emission reductions on the basis of Japan's high level of industrial energy efficiency. It also argued that out of the six options for a Japanese mid-term target - ranging from a 4% increase to a 25% emissions reduction in 2020 - the 4% increase of emissions would be the most appropriate. Given the above lines of thought, it is perhaps not surprising to see why industry representatives in Japan have been enthusiastic about the APP, and even argue that the APP could form the basis for a global sectoral approach (Nippon Keidanren 2007; Sameshima 2007). They emphasise the importance of the sharing of know-how and best available technologies, and applying common benchmarks at the sector level. The APP displays some features that fit well with Keidanren's approach to climate change mitigation, or

at least suit their preferences better than the proposed 'cooperative sectoral approach' in the UNFCCC. First, the voluntary nature of the APP matches the voluntary approach Keidanren has implemented since the mid-1990s. Second, the APP includes the US and China, thereby mitigating competitiveness concerns of Japanese industry. Third, the public–private nature of the APP allows business and industry representatives to directly engage in its implementation, in cooperation with governments. As task-force activities require detailed information about sectoral emissions, technologies and mitigation potential and are thus inherently technical, the involvement of business and industry actors is key. Fourth, the APP builds partly on existing business and industry networks, such as the World Steel Association and the Cement Sustainability Initiative. Business actors thus see the APP as an alternative forum through which they can influence the design of post-2012 climate policy more directly than in the UNFCCC. At the same time, there is some pressure to stay involved in the UN process. Although environmental NGOs have not been as powerful and influential as in other countries (Foljanty-Jost 2005), their voice is increasingly being heard in some parts of the government (Fisher 2004; Tiberghien and Schreurs 2007). Both domestic and international environmental NGOs in Japan are sceptical of the APP, instead supporting Kyoto's targets and-timetables approach. In particular, they have argued that the APP is aimed at deploying already existing technologies, and that the transfer of clean technologies requires market incentives that the APP does not offer.16 Furthermore, there is a high degree of public awareness of the climate change problem and the Kyoto Protocol (e.g. Cabinet Office, Japanese Government 2001). Respondents to a poll by the Ministry of Foreign Affairs were strongly in favour of the Japanese government taking a leading role on the issue in the international community (MOFA 2005). Finally, nationwide newspapers such as the Asahi shinbun and the Mainichi shinbun repeatedly argue in their editorials that staying within the UN process is the best way forward to tackle climate change. In sum, from the perspective of interest group politics, Japan's continued active participation in the APP can be explained by the fact that the APP has received support from the country's powerful business and industry lobby. At the same time, Japan's continuing participation in the UNFCCC is broadly supported by other domestic actors including the public and media, as well as environmental NGOs.

A second explanation relates to politics at the government level. Japanese climate-policy making in the 1990s has been characterised by rivalry between METI and MOE. Since the period leading up to the Kyoto conference, the basic decision making procedures on climate policy in Japan have stayed the same and 'the same ministerial battle lines have remained to this day' (Tiberghien and Schreurs 2007). Each ministry has its own networks with 'interlocking self-interests among bureaucracy, politicians and interest groups based on reciprocal political exchange' (Oshitani 2006), and each ministry is protecting its own realm of competence. Japan thus faces the same challenges with regard to the post-2012 process that it had to deal with in the 1990s in getting to a national position on the Kyoto Protocol.

Ever since the United States' withdrawal from the Kyoto Protocol, METI, backed by Keidanren, has argued that a future institutional framework does not necessarily have to be similar to the Kyoto-type cap-and-trade approach. METI's 'Special Committee on a Future Framework for Addressing Climate Change under Industrial Structure Council', which is instrumental in devising the ministry's climate policy, published a report during COP-10 in 2004 (METI 2004), reflecting critical views of the Kyoto Protocol, and arguing that Japan's emission reduction target was proving to be difficult to achieve, especially for the industrial sector. It argued that emissions were rising, and that the policies in place did not seem to be sufficient to change this trend. Based on METI's critical view of the Kyoto Protocol, the future climate regime should include broad participation by all the major emitters. In order to ensure a level playing field for the various industries, it was considered necessary to apply common standards to international competitors. The report argued that incentives for the development and deployment of climate-friendly technologies would be greatest when such a common standard was shared by both industrialised countries and developing countries (METI 2004). In addition to METI's critical view of the Kyoto Protocol, the ministry supports the APP as it directly involves private actors. Furthermore, as the host of two task forces (cement and steel); METI has a direct interest in continuing the partnership. While METI drafted its ideas for future climate policy, MOE devised its own post-2012 strategy (MOE 2004). The ministry acknowledged the Kyoto Protocol's influence on Japan's domestic climate policy. If no agreement had been reached in Kyoto, there would not have been any pressure to set up the Global Warming Prevention Headquarters in 1997. Furthermore, important

parts of domestic climate policy were established after 1997, and it might have been impossible to agree upon in the absence of the quantified emission reduction target under the Kyoto Protocol. With a view to further mitigation action, the report argued that some kind of stringent commitment would be necessary also in the next round of negotiations. Although this did not necessarily have to be an absolute emission reduction target, some kind of quantified figure was seen as necessary. The report still welcomed any other ideas that would be more environmentally effective, thereby not completely excluding other approaches than targets-and-timetables. At the same time, it considered participation of other large emitters indispensable in reaching the ultimate objective set out in Article 2 UNFCCC. While MOE thus clearly preferred the Kyoto approach, it also did not discard other approaches like the APP altogether.

The primary concern for the third ministry involved, MOFA, has been to promote Japan's environmental reputation abroad. Since the 1990s, environmental policy was considered one of the rare fields where Japan could exert international leadership. Given its World War II history, and particularly the constitutional restriction that the country will not hold any military power, international security and military issues have been controversial domestically, whereas environmental diplomacy has been regarded as politically neutral. The decision to host the Kyoto conference in 1997 fits well with this line of thinking. MOFA's responsibility for safeguarding Japan's international reputation in environmental diplomacy has been challenging given the fragmented domestic constituency (Hattori 1999). However, with respect to the APP, it has tended to side with METI, mainly to uphold its relations with the United States. As Tiberghien and Schreurs (2007) explain: 'while having ratified the Kyoto Protocol (...) the powerful METI and MOFA have continued to search for other policy alternatives that powerful domestic interests and Japan's most important ally, the US, are willing to accept and support'. Although there are some apparent differences between the ministries, there may also be a common strategic element underlying their implicit support of Japan's participation in both the APP and the UN climate regime, which is related to the possibility of creating synergies between the two (Vihma 2009). First, Japan views the APP as an appropriate mechanism for getting major emitters involved in climate action (UNFCCC 2008). In fact, this was one of the primary reasons why METI, which holds the main responsibility for the Partnership, decided to join. Although the APP

does not necessarily result in additional emission reductions in these countries, they are formally treated as equals in the context of the Partnership. Second, even though the sectoral approach as promoted by the APP may not be the same as the sectoral approach advocated in Japan's submissions to the UNFCCC, the APP could lay the groundwork for a future sectoral approach in the climate regime, through sectoral data collection and capacity building (UNFCCC 2008).

In short, METI argues that Kyoto should be revisited and climate policy should be based on technology development and deployment, which is in line with the approach taken by the APP. MOE, on the other hand, continues to emphasise its support of the targets-and timetables approach taken by the Kyoto Protocol, although is not inherently opposed to alternative approaches such as the APP. MOFA tries to maintain Japan's reputation in environmental diplomacy, but does not reject its participation in multiple fora if this is seen as important for safeguarding good relations with its allies. While the Cabinet Office got involved in ministerial deliberations before the Kyoto conference, interventions by the office can so far only be witnessed in the debate over the mid-term target. Despite apparent differences between these ministries, however, it can be argued that they hold the common view that the APP could support achieving Japan's negotiation objectives in the climate regime.

4.9 International politics: mediating between the United States and the rest of the world

A third perspective that can help understand Japan's apparently ambiguous position looks at developments and relations at the international level (Fisher 2004). Various pressures come from other actors in the international climate regime, including the US and the EU. Already in the creation of the climate regime, Japan 'tried to take a middle course between environmentally passive America and active Europe and to play a mediating role in coordinating their different stances' (Miyaoka 2004). Japan attaches great importance to keeping a good relationship with the United States, not only in the area of climate policy, but also with respect to security and economic issues (Inoguchi 1993; Iida 1999; Ikenberry and Inoguchi; 2003; Kawashima 2003). In the climate change negotiations, Japan originally sided with the US on several occasions, although the countries' positions have not always been

aligned (Matsumura 2000). In the negotiations on the UNFCCC, Japan initially opposed a system of targets-and-timetables together with the US and China. However, it eventually accepted (non-legally binding) common targets - i.e. the UNFCCC's aspirational goal to stabilise emissions by 2000.

Similarly, in the negotiations for the Kyoto Protocol, Japan was a member of the JUSCANZ negotiation coalition, which originally opposed binding caps. However, Japan has increasingly taken up an intermediary role, especially since the US rejection of the Kyoto Protocol (Kanie 2006). For example, the compromise text of paragraph 38 of the Johannesburg Plan of Action, stating that 'States that have ratified the Kyoto Protocol strongly urge States that have not already done so to ratify it in a timely manner' stems originally from a Japanese proposal (Kanie 2003). The same attitude could be witnessed at COP-6bis (2001), which was held right after the US rejection, and where Japan's position was of vital importance for the future of the treaty (Hamanaka 2006).

4.10 Conclusion

In conclusion, Japan's foreign policy on climate change is influenced by historical and economic ties with the US. However, compared to conventional diplomacy, Japan's ties in international climate politics are closer with the EU. Both the EU and Japan ratified the Kyoto Protocol, and have been firm supporters of the treaty, although for different reasons. Whereas the EU wants to promote the Protocol in terms of environmental integrity, Japan has above all a symbolic tie with the treaty, given the place of its inception (Kanie 2006; Tiberghien and Schreurs 2007). By joining the APP, Japan has been able to continue its cooperation with the US—as well as with important Asian trade competitors/partners—on climate change issues, while at the same time staying involved in the post-2012 discussions under the UN climate regime.

This chapter sought to explore the reasons for Japan's simultaneous participation in the UN climate regime and the Asia-Pacific Partnership, two institutional arrangements that some have argued to be at odds with each other. Although Japan only joined the rank of the founders of the APP at the last minute, it has been particularly active in the implementation of the Partnership's projects. At the same time, Japan clearly has not given up on the UN climate regime and the treaty

that bears the name of its former capital, the Kyoto Protocol. What at first may be seen as an ambiguous decision can in fact be explained by a number of factors. At the domestic level, stakeholders have expressed both sympathy and scepticism about the APP. At the government level, the key Ministries have pursued diverging post-2012 strategies, emphasising different design elements of a future climate agreement. However, they seem to share the view that the APP could support the future climate regime, by building on the sectoral activities undertaken in the partnership. Finally, Japan's decisions are influenced by its determination to engage with various other actors at the international level, including the US and the EU. These explanations at various levels provide reasonable arguments for why Japan would join, and continue its participation in the APP, while at the same time not turning its back to the UNFCCC negotiation process following the US rejection to the Kyoto Protocol. In conclusion, we would argue that Japan's position in international climate policy is primarily the result of trying to accommodate conflicting viewpoints at the domestic and international levels, which is in line with previous research on Japan's policy-making process (Kusano 1983; Hashimoto 1999; Shindo 2001).

The impact of Japan's dual participation on its carbon emission reductions is not yet clear at this stage, as the APP has only recently started, and it will be difficult to attribute specific additional emission reductions to the effects of the Partnership (Karlsson-Vinkhuyzen and van Asselt 2009, this issue). However, there may be some synergies in terms of data collection between the UNFCCC and the APP. While data collection under the UNFCCC is useful for sketching an overall picture through emissions inventories, the APP could provide practical information to enable technology transfer and deployment. Exploiting this synergy could allow Japan to ensure complementarities between the two approaches. The shape and substance of the post-2012 institutional framework for international climate policy remains unclear. However, what is clear is that a sectoral approach to climate policy constitutes a radical departure from the current approach taken by the Kyoto Protocol (McGee and Taplin 2009); even though Japan has argued that its 'cooperative sectoral approach' may be compatible with quantified national emission reduction targets. However, sectoral approaches inevitably require the participation of private actors, which does not fit well with the character of negotiations between sovereign nation states. Furthermore, sectoral approaches involve activities that may be too technical to

be dealt with by bureaucrats at the international level, including data collection on emissions, projections of mitigation potential and the identification of state-of-the-art technologies. However, there might be a role for public–private initiatives such as the APP to support a sectoral approach within the UN climate regime to implement concrete activities at the sector level, including sectors in both developed and developing countries.

In order for the APP and similar initiatives to constructively support the UNFCCC's objectives, a strong link would be required between the two. This could even take the shape of a formal provision in a new UN climate treaty that requests countries participating in the APP to report on progress as part of an obligation to measure, report and verify mitigation actions. If such a synergetic institutional architecture is achieved, then Japan's ambiguous position towards the UNFCCC and APP might be positively evaluated.

CONCLUSION

Japan's environmental policy was influenced by developments in some of the western countries, though Japan developed distinct characteristics as an consequence of Japan's need to confront some of the worst environmental problems experienced by any advanced industrialised country in the world. Rapid economic growth and the failure of government and industry to appreciate the need for pollution control led to the environmental crises. Hence, Japan had to seriously rethink its strategies for sustainable economic growth with environmental concern forming the core of the policy-making.

As an outcome, in the 1970s Japan initiated an ambitious nationwide project to clean up its pollution problems. The most significant achievement coming out of these efforts was the development of stringent framework environmental legislation that did much to stem and cleanup pollution problems without impeding or slowing down economic growth. What is so significant about the legislations in Japan? In many countries, environmental regulations are established, but problems emerge in the implementation stage; Japan is quite different here from other countries in terms of implementation. The drive for cleaning up pollution, especially industrial pollution was fuelled by motivation from its past experiences with economic and health problems caused by pollution. Strength of the Japanese approach has been that once environmental targets are set, government and industry cooperated in sometimes unique ways, and in many cases meet those targets. This was possible with both local and national policy instruments resulting in effective policy implementation. Various issues have been dealt in this dissertation like strategies for the development of pollution control technologies, financial mechanisms for promoting pollution control technology research and development and voluntary pollution control agreements. It also tried to assess environmental institutions that have emerged and the changes that have occurred in the relationships among the government, industry and non-governmental organisations (NGOs) from one of contention to one of greater inter-actor cooperation.

Japan is still in the learning curve when it comes to the question of pollution control, environmental protection and sustainable development and new policy

approaches. At present Japan relies more on the voluntary actions of the market and initiatives of businesses and citizens, moving away from its interventionist government style. The role of government in environmental policy has changed from that of a regulator to that of a planner that encourages voluntary environmental protection efforts by stakeholders.

Japan's approach to environmental protection has produced many improvements, although struggle to gain more on environment front remains. The Japanese government and industry were criticised for not giving citizens a greater voice in the policy-making process, for ignoring damage to natural areas in an effort to promote a 'resort society' and neglecting the environmental degradation of host countries in which Japanese investment went in large numbers, Partly in reaction to this criticism and partly in effort to play a larger global role, since the 1990s, Japan's environmental policy has entered a new phase in terms of its scope and objectives. So greening of ODAs is one of the prominent policy instruments of the Japanese government when it comes to addressing the global environmental concern with regards to pollution and climate change.

The most notable achievement of Japan has been its success in enforcing strict environmental regulations. Japan's real success story is in its enforcement of environmental policies. The OECD conducted a review of environmental policies in Japan three times; first in 1976-77, second in 1993-94 and the recent one in 2001-02. The first OECD report (1977) concluded that Japan had won many pollution abatement battles although it had not yet won the war for environmental quality. It identified the Japanese approach to environmental protection as being based on a combination of regulations and sophisticated technologies, but pointed out the need for Japan to develop a broader-based approach to environmental protection that dealt not only with pollution control but also with the preservation of natural and cultural heritage and with the promotion of well-being in general. Almost a quarter of a century later, the third OECD report (2002) concluded that while there was still room for improvement, especially in terms of opening up decision-making processes to greater NGO participation and using more economic instruments (like instrument taxes) for policy enforcement, on the whole, the mix of instruments used to implement environmental policy is already highly effective.

An important policy instrument of the Japanese central and local governments is the use of action plans. There are various national and local plans for economic development, energy supply and demand, construction of infrastructures and environmental management. This is a legacy of the control the government had overall economic and social activities in the country especially when Japan was seeking to become a rich and strong nation economically and militarily in the first half of the twentieth century. Implementation of Japan's national and local environmental policies is also based on environmental plans. The national Basic Environment Plan, drawn up in 1994 in accordance with the Basic Environmental Law of 1993, is being utilised to set environmental goals and targets for actors to achieve. Greening of industries and business voluntarism added to the successful implementation of environmental safety plans and Japan's tryst with climate change. Most of the countries are finding it difficult to enforce environmental regulations on the industries; Japan's case is unique where voluntary actions by industries and businesses have become an integral part of the business and the market. This speaks a lot about the effect of the Confucian ethics on Japanese society in general. But, the voluntarism shown by the industries and business are not solely based on these religious and philosophical ethics, it has to do with the financial incentives planned out by the government and tax rebates. Japanese government encourages the industry and business to voluntary follow the environmental protection guidelines and become beneficiary of government's financial helps and loans at cheaper rates for a longer period of time. Japan's technological advancement played a vital role in these rapid developments in terms of abating pollution and moving towards sustainability. Japan is one of the pioneers of green technology; and the other country would be Germany. Innovation in technological field due to the oil crisis and environmental degradation helped the industries to not offset the economic growth along with managing environmental safety. Some of the smaller industries felt the pinch, but the government was more than willing to help them overcome the oil crisis period, so that they could also switch to greener technological rather than still using the older technology.

At the global level, Japan's role has been that of a leader in terms of leading the global community towards a sustainable regime in combating climate change and

environmental degradation. Japan is participant to all the organisations, conventions, treaties and agreements. It also has created a regime outside the realm of the UN and tried to bring in US and negotiate between the rest of the world and the US, (since US is out of almost all the major agreements), especially Kyoto Protocol which is very important for the Japanese. In a liberal institutional framework, institutions play larger roles rather than the states themselves. The Japanese industries pushed for a regime outside the UN framework with their voluntary actions as the governing principle of the Asia Pacific regime to counter climate change. Managing participation in a regime outside the UN precincts shows that Japan has achieved a larger role in the global leadership of action against climate change and improving environmental quality minimising the GHG emissions. Japan is making an effort to bring US on board to at least accept the voluntary actions and then influence the global opinion towards post-2012 agreement of the Kyoto Protocol. Japan seems to lead from the front, since the last government (DPJ) has announced the ambitious target of cutting 25% GHG emissions of the 1990 levels. Japan has at times been working together with Germany to forge an alliance wherein these two countries can lead the global community. At present, this seems to be moving towards a distant success. After the war and the post-war pollution disasters, Japan always tried to raise the issue of environmental degradation and climate change at the global level. This gave Japan a definitive edge over others. Japan's green diplomacy has ushered in Japan at the global scene as one of the most important actors in combating climate change in its present dangerous stage.

In the face of a decade of tremendous global pressures and competition, which have worked to both undermine the vitality of the Japanese economy and bring about major institutional changes in various domains, the national and local environmental regimes in Japan have flourished. The analysis of Japan's case provides fairly convincing evidence of its emergent ecologically modern nature, mainly when defined in economic and technical terms (Jänicke 1996, 2000; Mol 2001b: 132–134) but with growing diversity in the patterns of institutional and cultural politics reflecting a stronger role of civil society organizations and social movements. The development of various environmental discourses in Japan and show how environmental sociologists (Funabashi 2001) argue that over time environmental

responsibilities (constraints) are being internalized into governmental structures and into other entities including corporations. This phenomenon, although one cannot be sure how deep the changes actually are, is consistent with ecological modernization and represents a shift away from the traditional approach in Japan where environmental issues were treated as an add-on. Environmental concerns have moved beyond the control of one single government agency (although this was always difficult in Japan - Barrett and Therivel 1991) to a situation where in key areas like global warming and recycling responsibilities are spread across government, business and the rest of society, with this trend beginning to take shape after the release of the first Environment Basic Plan in 1994. In this context, the new MoE is no longer a 'steward' or 'watchdog', but functions more as a facilitator or partnership builder within and outside of government. Looking at the environmental performance of Japan, in general, it is possible to argue that the process of 'superindustrialization' (Buttel 2001) fits closely with the Japanese development model as best exemplified by new policies measures from METI including the re-circulatory society or zero emissions (Elder 2003) involving the implementation of ecologically efficient manufacturing processes designed to try to loosen the couplings between economic growth and environmental deterioration (Low 1999). This process of industrial change and environmental reform is in part stimulated by the implementation of strict government regulations (Cohen 1997). While Japan does have a long tradition of support for the use of voluntary agreements, the whole array of recent recycling laws and the new strict controls on automobile emissions, amongst others, illustrate how tight regulatory controls can force through technological changes. Related to this, Japan has been promoting integrated pollution management from the 1970s particularly at the local government level but also within the context of individual firm management (exceptions being the smaller firms - Revell 2003). This approach (Barrett 1994; Gouldson and Murphy 1997; Murphy and Gouldson 1998) is crucial in preventing the transmedia movement of contaminants and also in encouraging the use of systems theory in the design of manufacturing approaches along the lines of the zero-emissions concept (Suzuki and Kuehr 2003). While acknowledging the progress made in some areas, particularly with regard to the legislation of environmental impact assessment, the OECD (2002) called upon the environmental administration in Japan to further develop a number of anticipatory planning measures including risk

assessment and strategic environmental assessment. It is important to note that one such anticipatory planning measure, the precautionary principle, gained greater acceptance in the 1990s (Schreurs 2002:241) bringing the Japanese environmental management system one step closer to the German model (Cohen 1997). Finally, it has been argued that changing discursive practices, the creation of new coalitions and new ideologies are very important in bringing about environmental restructuring (Mol and Spaargaren 1993; Hajer 1995). Since 1997, there has been a general upswing in civil society activity and that this has also impacted on the opportunities for social movements organized around environmental issues. Japanese civil society is expanding and becoming more pluralistic, moving away from the patterns of government and business dominance typical of the developmental state (Tsujinaka 2003). The antagonism and conflict that characterized the pollution problems in the 1960s and 1970s are now less apparent and have been replaced, in some instances, by significant (but still not extensive) cooperation between civil society and the development community. There still remain many obstacles to the full participation from civil society in environment related decisions, which are mainly institutional including the strict regulatory environment in Japan for non-profit organizations (Yamamoto 1999; Vosse 2000; Danaher 2002a; Schwartz 2003). Significant changes are taking place in some key areas but it is not clear how deep or sustained they are and it is possible that the progress made could be wiped out when the economy begins to pick up. Nevertheless, after a decade of environmental gains matched by changes in institutional structures and social practices, Japan stands tantalizingly close to being able to project itself in the twenty-first century as a relatively good model of a clean, green state.

APPENDICES

Appendix 2.1

Basic Environment Plan

The Basic Environment Plan was drawn up in December 1994 based on the Basic Environment Law, which outlines the general direction of Japan's environmental policies. The Basic Environment Plan is designed to engage all sectors of the society in a concerted effort to protect the environment. The Plan maps out the basic approach of environmental policies with the mid-21st century in view and identifies four long-term objectives. It also sets the direction of measures to be implemented by the early 21st century for achieving these objectives.

The purpose of this law is to comprehensively and systematically promote policies for environmental conservation to ensure healthy and cultured living for both the present and future generations of the nation as well as to contribute to the welfare of mankind, through articulating the basic principles, clarifying the responsibilities of the State, local governments, corporations and citizens, and prescribing the basic policy considerations for environmental conservation.

Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Law on Promoting Green Purchasing 2001)

The Basic Environment Law (1993)

Law Concerning the Promotion of Business Activities with Environmental Consideration by Specified Corporations, etc, by Facilitating Access to Environmental Information, and Other Measures (Provisional Translation) (2003)

Environmental Impact Assessment Law (1997)

Law for Enhancing Motivation on Environmental Conservation and Promoting of Environmental Education (2003)

Appendix 2.2

Waste & Recycling laws

Law on Special Measures concerning Removal of Environmental Problems Caused by Specified Industrial Wastes

Law for the Recycling of End-of-Life Vehicles

Construction Material Recycling Law

Waste Management and Public Cleansing Law

Law for the Recycling of Specified Kinds of Home Appliances

The Basic Act for Establishing a Sound Material-Cycle Society

Law for Promotion of Effective Utilization of Resources

Law for Promotion of Recycling and Related Activities for Treatment of Cyclical Food Resources

Law for the Promotion of Sorted Collection and Recycling Containers and Packaging

Law concerning Special Measures for Promotion of Proper Treatment of PCB Wastes (PCB Special Measures Law)

Law to Promote the Development of Specified Facilities for the Disposal of Industrial Waste

Law for the Control of Export, Import and Others of Specified Hazardous Wastes and Other Wastes

Law for the Control of Export, Import and Others of Specified Hazardous Wastes and Other Wastes

Appendix 2.3

Global Environment

Law concerning the Recovery and Destruction of Fluorocarbons (Fluorocarbons Recovery and Destruction Law) (June 2001)

Law Concerning the Promotion of the Measures to Cope with Global Warming (1998)

Law relating to Protection of the Environment in Antarctica (1997)

The Law Concerning the Protection of the Ozone Layer through the Control of Specified Substances and Other Measures

(Source: Ministry of Environment, Government of Japan website: http://www.env.go.jp/en/index.html)

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