



CLIMATE CHANGE POLICY IN JAPAN

From the 1980s to 2015

Yasuko Kameyama

Climate Change Policy in Japan

Amidst growing environmental concerns worldwide, Japan is seen as particularly vulnerable to the effects of a changing climate. This book considers Japan's response to the climate change problem from the late 1980s up to the present day, assessing how the Japanese government's policy-making process has developed over time. From the early days of climate change policy in Japan, through the United Nations Framework Convention on Climate Change conferences and Kyoto Protocol, right up to the 2015 negotiations, the book examines the environmental, economic, and political factors that have shaped policy. As the 2015 Conference of the Parties to the United Nations Framework Convention on Climate Change projects forward beyond 2020, the book concludes by analyzing how Japan has placed itself in the global climate change debate and how the country might and should respond to the problem in the future, based on the findings from accumulated history.

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Abbreviations

ACE	Actions for Cool Earth
ADP	Ad Hoc Working Group on Durban Platform
AGBM	Ad Hoc Group on the Berlin Mandate
AIJ	Activities Implemented Jointly
AIM	Asia-Pacific Integrated Model
ANRE	Agency for Natural Resources and Energy
AOSIS	Alliance of Small Island States
APP	Asia-Pacific Partnership for Clean Development and Climate
AR4	The 4th Assessment Report (of the IPCC)
AWG-KP	Ad Hoc Working Group on the Kyoto Protocol
AWG-LCA	Ad Hoc Working Group on Long-Term Cooperative Action under the Convention
BAU	business-as-usual
BOCM	Bilateral Offset Credit Mechanism
CASA	Citizens' Alliance for Saving the Atmosphere and the Earth
CCX	Chicago Climate Exchange
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CGE	Computable General Equilibrium
CMP	Conference of the Parties serving as the Meeting of the Parties
COP	Conference of the Parties
CFC	Chlorofluorocarbon
CH ₄	Methane
CO ₂	Carbon Dioxide
DPJ	Democratic Party of Japan
EA	Environment Agency
ETS	Emissions Trading Scheme
EU	European Union
G8	Group of Eight
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEA	Global Environment Action
GHG	Greenhouse Gas

GNT	Geneva Negotiating Text
HFC	Hydrofluorocarbon
ICLEI	International Council for Local Environmental Initiatives
IEA	International Energy Agency
IEEJ	Institute for Energy Economics, Japan
INC	Intergovernmental Negotiation Committee
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
JCM	Joint Crediting Mechanism
JI	Joint Implementation
JMA	Japan Meteorological Agency
Japan-CLP	Japan Climate Leaders' Partnership
JPY	Japanese Yen
JUSCANZ	A negotiating group consisting of Australia, Canada, Japan, New Zealand, and the United States
LDCs	Least-Developed Countries
LDP	Liberal Democratic Party
LNG	Liquified Natural Gas
LULUCF	Land Use, Land-Use Changes, and Forestry
MAC	marginal abatement cost
MAFF	Ministry of Agriculture, Forestry and Fisheries
MEM	Major Economies Meeting on Energy Security and Climate
METI	Ministry of Economy, Trade and Industry
MEXT	Ministry of Education, Culture, Sports, Science and Technology
MITI	Ministry of International Trade and Industry
MLIT	Ministry of Land, Infrastructure, Transport and Tourism
MOE	Ministry of the Environment
MOF	Ministry of Finance
MOFA	Ministry of Foreign Affairs
MRV	measurement, reporting and verification
N ₂ O	Nitrous Oxide
NIES	National Institute for Environmental Studies
NGO	nongovernmental organization
ODA	Overseas Development Aid
OECD	Organization for Economic Cooperation and Development
PFC	Perfluorocarbon
PKO	Peace Keeping Operations
PMO	Prime Minister's Office
PV	Photovoltaic
QELROs	Quantified Limitation and Reduction Objectives
REDD+	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
RITE	Research Institute of Innovative Technology for the Earth
SAR	The Second Assessment Report (of the IPCC)
SB	Subsidiary Body

x *Abbreviations*

SDPJ	Social Democratic Party of Japan
SF ₆	Sulfur Hexafluoride
TEM	Technical Expert Meetings
TMG	Tokyo Metropolitan Government
UNCED	United Nations Conference of the Environment and Development
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNSC	United Nations Security Council
WCED	World Commission on Environment and Development
WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature

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This book is the product of the many days I spent over the last 28 years studying at, and working for, the National Institute for Environmental Studies (NIES), conducting studies on climate change policy, participating in a series of multilateral negotiations under the United Nations Framework Convention on Climate Change as a member of the Japanese delegation, and being involved in decision-making for the national government, as well as local governments, regarding climate change mitigation and adaptation policies. Over this long time span, the scientific evidence on climate change has gradually solidified. In a manner parallel to the situation with climate change, Earth is surely on a trajectory toward global warming – a phenomenon that has never before been experienced by humans.

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1 Framing Japan's response to climate change

Overview

Haru no umi hinemosu notari notari kana
(Spring ocean / swaying gently / all day long)

Buson Yosa

The Yosa poem is a renowned haiku from the eighteenth century. The beauty of four distinct seasons has long been at the heart of Japanese culture. In haiku, poets attempt to express their deepest emotions by describing nature in simple and beautiful language in the style of a short poem with three lines consisting of five, seven, and five syllables. In Buson Yosa's haiku, he was expressing a typical day in spring with calm waves and warm sunshine.

Spring 2015 in Japan was not the spring Buson described three centuries ago. Early April was as cold as midwinter, with snowfall in Tokyo. Then strong winds and rainfalls hit record highs in scattered areas around Japan. The cold spring was followed by clear days in early May, with temperatures reaching record highs; the amount of rainfall was only about 60% of the long-term average for May.

Summer was also very irregular, starting with extremely hot temperatures for three weeks from late July to mid-August. Temperatures then dropped to below 20 °C, which is much cooler than usual and would not usually be observed until mid-October in Japan. The cool spell was followed by an unprecedented amount of rainfall in the northern Kanto area in early September, which led to serious flooding across a wide area. Most Japanese feel that the climate is changing, and many of them are aware of the terms “climate change” and “global warming.” Despite these extreme weather patterns and a basic knowledge about of climate change, there is little enthusiasm, if any, among the Japanese people and government to start taking actions to address the climate change problem.

This chapter gives an overall introduction to the book. It explains the aim of the book and where the book stands among the large amount of literature related to climate change policy-making in general, focusing on the spectrum across which past literature has primarily concentrated. It also reviews how other published works have dealt with climate change policy-making in Japan.

Aim of this book

Few will deny that climate change has now become one of the most serious global environmental problems and that it requires a global solution (Gore 1993). Climate change alters not only average global temperature but also a series of climate-related events, such as precipitation and wind patterns. These changes have other environmental and ecological consequences, including desertification and loss of biological diversity, all of which directly or indirectly affect living conditions today and in the future.

A global response is required to mitigate climate change, and it has occurred mainly at the multilateral level. The United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992 and entered into force in 1994. The Kyoto Protocol was adopted in 1997 and entered into force in 2005. Ongoing negotiations for the time periods beyond the first commitment period of the Kyoto Protocol (2008–2012) resulted in a political declaration known as the Copenhagen Accords (agreed upon in 2009), which paved a way for countries to move forward, mostly voluntarily, through 2020. The contents of the Copenhagen Accord were anchored to the UNFCCC process as Conference of the Parties (COP) decisions in 2010 in the Cancun Agreement. A new round of negotiations was initiated by the Durban Platform in 2011, which engaged all countries to take part in the newly agreed-upon outcome; the aim was to conclude the agreement in 2015 at COP21. Japan has consistently been engaged in these multilateral negotiations from the early stages in the late 1980s to the present.

Japan's emission of greenhouse gases (GHGs) is not negligible. With about 2% of the world's population, Japan has been responsible for about 3% to 4% of global emissions. It ranked fourth in GHG emissions in the 1980s, although that ranking has gradually decreased in the past two decades because of growing emissions in some emerging economies. Even though its overall rank has decreased, Japan has been one of the world's major economies since the 1980s, and other countries expect it to play a major role in international affairs, especially regarding climate change.

It has generally been difficult to fully understand how and why Japan has made certain decisions concerning climate change, particularly for many non-Japanese audiences. This is true for several reasons. First and foremost, analyses of Japan's foreign policy have generally tended to emphasize Japan's uniqueness. For many observers, "Japan appears anomalous, if not aberrant or abnormal, in terms of its international behaviour" (Hook et al. 2012: 68). Japan's foreign policy has also been traditionally perceived as reactive, whereas that of other industrialized countries is considered more or less proactive (Calder 1988; Inoguchi 1991). Similar observations can be made for Japan's response to climate change. It is not clear to outside observers how key decision-making individuals and other stakeholders perceive climate change as an issue, how they use logic to arrive at decisions, and why some key factors in other countries do not exert the same level of influence in Japan. There is also little transparency with respect to the process by which the major players in the decision-making process consolidated their final decisions,

including the information chosen to be considered and the reasons why some elements of the climate change problem have been ignored.

Also, most relevant literature and publicly available information on the climate change debate in Japan is written in Japanese, which restricts access to much of the non-Japanese audience. Finally, most Japanese people seem to perceive climate change as an economic and energy issue, rather than as an environmental, ethical, development, or diplomatic issue. Thus, there is a kind of common understanding among Japanese people when discussing climate change, even though the Japanese dialogue does not always seem to properly fit into the climate change policy puzzle in the multilateral arena. This point of view will be explored later in the book in following chapters.

The primary purpose of this book is, therefore, to examine the trajectory of Japan's decision-making processes regarding responses to the climate change problem. It focuses particularly on high-ranking politicians to examine how they approached climate change and how they perceived climate change in relation to other political, economic, and social issues. Because climate change is related to many other national issues, politicians may have dealt with issues that were not strictly related to climate change per se, but that were nonetheless relevant.

A country's decisions regarding climate change are affected by many factors, such as scientific findings and economic conditions. Key influential factors can change over time, depending on specific conditions. In the rest of this chapter, I examine key factors that have influenced Japan's decision-making on climate change policies in the past three decades and note how these factors have evolved over time. I also identify the factors that are unique to Japan and those that are common across countries.

What is the climate change problem?

The climate change mechanism is a phenomenon that can be explained by physical processes. The climate change problem, however, is not merely a physical phenomenon; it is a problem that entails political, economic, and social dimensions. The problem, therefore, can be framed in a variety of ways depending on which dimension is being regarded as the central concern. To investigate Japan's response to climate change, it is necessary to delineate suitable dimensions in the Japanese context of climate change. Generally, climate change dimensions can be categorized in three types: environmental, economic, and foreign policy.

Climate change as an environmental issue

Climate change is no doubt a global environmental problem. It is a mechanism through which people's use of fossil fuel energy, destruction of forests, and emission of other GHGs such as fluorocarbon gases has led to an increase in concentration of GHGs in the atmosphere. Through this increase, more heat is trapped in the atmosphere, resulting in gradual warming in terms of global average temperature and more severe weather patterns at the regional and local levels.

Scientists have helped formalize the founding basis for multilateral cooperation to tackle climate change. The Intergovernmental Panel on Climate Change (IPCC) has published five assessment reports thus far, and their findings have shown continuous upward trends of atmospheric concentration of GHGs, a global temperature rise, and a higher frequency of extreme weather events (IPCC 2015). From an environmental conservation perspective, the aim is to restrict the temperature increase to a long-term goal of 2 °C, or even of 1.5 °C, a target that was agreed upon in 2010 as an element of the Cancun Agreement (UNFCCC 2010) and in 2015 by the Paris Agreement (UNFCCC 2015). To reach this goal, it is estimated that total global GHG emissions need to be reduced by half of those in the 1990s (G8 Hokkaido Toyako Summit 2008). The mean global temperature has already risen by about 0.85 °C, suggesting the difficulty involved in reaching this goal within a set timeframe (IPCC 2015).

Meanwhile, there are some climate change “deniers” who state that, although climate change may be occurring, it is not because of anthropogenic GHG emissions or that it is not a serious problem. Debates between supporters and deniers of climate change science often include discussion of the political and economic dimensions of the problem (Bradley 2011; Giddens 2009; Jacques 2012).

Japan's climate is already changing. The annual average temperature in Japan in 2014 was 0.14 °C higher than the annual average from 1989 to 2014. In addition, the long-term trend shows a temperature increase of 1.14 °C in the last century (Figure 1.1) (Meteorological Agency 2015). Although the amount of rainfall tends to vary from year to year, the occurrence of extreme events (i.e., too much or too little rain) has been increasing in the last decade. Although it does not directly refer to climate change, the latest White Paper from the Fire and Disaster Management Agency (FDMA) notes an increasing frequency of tremendously concentrated rainfall in limited areas and powerful typhoons and tornados, leading to increased damage incurred by these extreme weather patterns (FDMA 2014). For example, more than 40,000 people have been hospitalized for heat stroke each year since 2010. The number had been less than 10,000 in the previous years.

Climate change as an economic/energy issue

Among a variety of types of GHGs identified by scientists, carbon dioxide (CO₂) is the main target that needs to be addressed to avoid dangerous consequences of global warming on our climate and ecosystem. Reduction of CO₂ emissions is also the core issue of climate change problem in terms of the economic dimension. There are assertions that a reduction in energy use would hamper economic growth (White House 2001). The term “burden sharing,” an expression often used in discussions on ways to set emission reduction targets across countries (particularly in the early years of negotiations), clearly indicates people's recognition that emission reduction is a burden (Ringius et al. 2002). This debate very much depends upon how “economy” and “cost” are defined. In terms of growth of gross domestic product (GDP), there is generally a positive relationship between

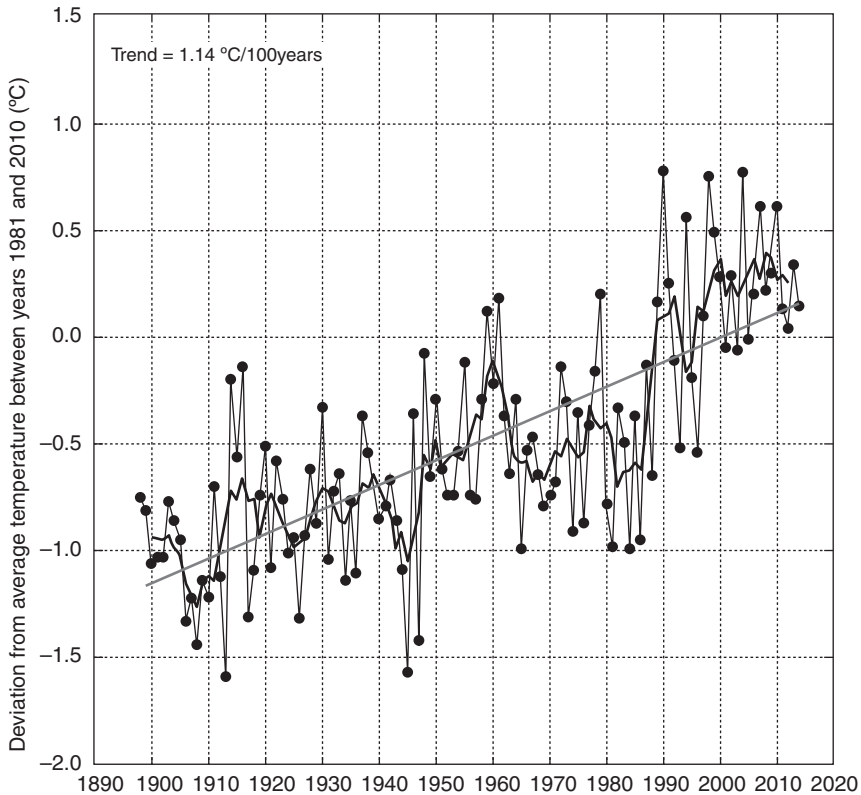


Figure 1.1 Annual average temperature and long-term trend

growth in CO₂ emissions and GDP, but “decoupling” between the two has also been observed in some countries and time periods (Grubb 2014). Decoupling tends to occur in countries where the energy price is relatively high and where the diffusion of new technology has occurred. The economic cost of climate change mitigation itself is a complicated notion. At least some extra expenditure would have to be made if a new, less-carbon-intensive technology were to be installed all at once in a short timeframe. This is perceived as an economic cost or burden in the short term. For example, for many individuals, an increase in the price of gasoline or electricity would not be welcome, because they will perceive this as an increased household “cost.”

Many studies have calculated the total economic cost of reducing GHG emissions worldwide (IPCC 2014: Chapter 6), but the estimates are wide ranging, primarily because of the diversity of various underlying assumptions. Examples include the prospects for future population and economic growth with and without climate change mitigation policies, the price of crude oil, possible utilization

of innovative technologies, and the availability of renewable and nonrenewable energy resources.

Decreased energy consumption, however, also saves money, and many energy-saving actions have yet to be implemented. From this perspective, expenditures required to save energy should be considered as investments that may end up saving money in the long term. The benefit of cost saving through the reduced use of energy increases when the prices of fossil fuel resources increase. From a government's fiscal policy perspective, reducing subsidies for fossil fuels is a climate change mitigation policy that actually reduces government expenditure (IEA 2015: 81). Many developing countries used to operate energy subsidies to support the poor, but the use of subsidies has been re-evaluated in many countries in recent years.

From an industry perspective, many fossil fuel industries such as the coal and oil industries and many other energy-intensive industries such as the iron and steel, aluminum, and cement sectors are likely to be negatively affected economically by GHG emission reduction policies. These industries are, in many cases, politically powerful and have influenced national governments' behavior on climate change policy in many countries (Gelbspan 2005). On the other hand, there are emerging industries such as those related to renewable energy and low-carbon technologies that could benefit by ambitious emission-reduction policies. The notions of "green growth" or a "green economy" aim to express the concept that sustainable economic activity and environmental conservation can be achieved simultaneously (Stern 2013). In general, the overall impact of climate change mitigation policies on a country's economy needs to be viewed from many perspectives.

Climate change as a diplomatic/foreign-policy issue

Climate change is a long-term policy problem that lasts at least one generation, exhibits scientific uncertainty, and engenders a public goods aspect at the stage of problem generation and at the response stage, both at the global level (Sprinz 2009). When it comes to multilateral negotiations, it can be a contentious issue between rich and poor countries. Past CO₂ emissions are mostly from rich developed countries that burned fossil fuels. Today, many developing countries with emerging economies hope to become wealthy through increased industrialization, and they criticize the developed countries for the double standard of using their own past emissions to grow while requesting that the developing countries restrict their GHG emissions. The use of official development assistance in the fields of climate change mitigation and adaptation in the least developed countries is considered a precondition for these countries to be able to take action against climate change. From the developing countries' viewpoint, climate change is an issue of the right to development, justice, and equity (Pinguelli-Rosa and Munasinghe 2002; Sagar 2000; Shukla 1999; Tóth 1999).

From the perspective of diplomacy among wealthy countries, climate change and other environmental issues can be viewed as useful tools to exert leadership

(Underdal 1997; Young 1994). Environmental diplomacy could be seen as a type of “beauty contest,” in which some countries are vying to be seen as clean or green as possible. For countries that do not have hard military power, making contributions to global environmental issues can lead to increased “soft power” (Nye 2004).

The timing of the emergence of global environmental issues in the late 1980s is not by accident. What had been called “high politics,” such as those related to security matters, largely disappeared in the late 1980s because of the end of the Cold War. Then issues related to “low politics,” including environmental and humanitarian agendas, became elevated to high politics. Politicians and government officials sensed the importance of climate change as a new international agenda that could also affect other fields and agendas (Sands 1992).

Who determines a country's position on climate change?

A long list of published works deals with decision-making processes and decision-making factors regarding countries' responses to environmental problems, particularly in the fields of comparative politics and public policy (Boehmer-Christiansen and Weidner 1995; Collier and Löfstedt 1997; Hajer 1995; Harrison and Sundstrom 2010; Jänicke and Weidner 1995; O'Riordan and Jäger 1996; Social Learning Group 2001; Steinberg and VanDeveer 2012; Vogel 1986). A large portion of the literature uses Western industrialized countries under democratic governance as case studies or as the given underlying community.

Official positions and decisions of democratic nation-states are formalized by national governments. In a way, the decision-making of countries can be considered a process of “corporatist consensus-seeking through elitist bargaining” (Opschoor and van der Straaten 1993). Members of government committees (Howlett and Ramesh 2003) and policy elites (Heinz et al. 1990) tend to be examined in studies of nation-states' consolidated decision-making in the realm of political science literature in general.

Relatively few studies in this field focus particularly on inter-ministerial or inter-departmental debates inside a bureaucracy. Rather, the scope of analysis usually perceives countries' decisions as a result of formal and informal consultations among various nonstate actors and stakeholders relevant to the issue (Hochstetler 2012; Kingdon 1995; Meadowcroft 2004). Nonstate actors in this case include scientific experts, environmental nongovernmental organizations (NGOs), interest groups (particularly industry and business groups), members of governmental committees, policy elites, and politicians. These actors form a kind of issue network (Heclo 1978), policy network (Marsh and Rhodes 1992; Rhodes 1990; Richardson and Jordan 1979), or coalition (Sabatier and Jenkins-Smith 1993; Smith 1993) to push their respective points of view. A country's decision can thus be interpreted as an outcome of interactions among interest groups in the country, the underlying rules of the interaction, and common values shared among the participating groups.

These subnational actors have different aims and norms, so that environmental issues must be framed in dimensions that differ from those discussed in the section above.

Political leaders

Political leaders in the modern party system are political entrepreneurs, “a team of men seeking to control the governing apparatus by gaining office in a duly constituted election” (Downs 1957). Their primary objective is reelection. Most political leaders expect to stay in power, so it can be assumed that they more or less reflect the preferences of some individuals and industry groups in order to gain their support at the time of elections (Urpelainen 2012).

Studies of politicians in the field of environmental studies have focused mainly on the emergence of Green Parties in the 1980s and 1990s (Alber 1989; Chandler and Siaroff 1986; Kitschelt 1993; Rüdig 1985). The proliferation of Green Parties was, however, observed predominantly in Western European countries, and, even in this limited region, traditional political parties regained power by incorporating environmental concerns into their own mainstream agendas (O'Neill 2012).

Rather than continuing to view green political parties as the key determinant group, more attention needs to be paid to individual political leaders and members of parliaments. They may want to be viewed as “green” to win votes from citizens with high levels of environmental awareness, or they may not want to be viewed as “green” to win votes from individuals related to energy-intensive industries. In countries like the United States with a stable two-party system, it is difficult to envision the emergence of a dominant Green Party. Nevertheless, there are surely individual politicians, such as former vice president Al Gore, who are known as active environmentalists.

The scientific community

Scientific findings and expert judgment are the fundamental bases of debates over any environmental policy. Meanwhile, a fundamental debate on the relationship between science and politics existed even before the establishment of the IPCC. Scientific research cannot always answer high-priority questions in terms of policy decisions with the precision, confidence, and timeliness that policymakers want (Weinberg 1972). Decision-makers therefore tend to use the best-available scientific findings to justify their respective views (Collingridge and Reeve 1986; Ezrahi 1980; Gieryn 1983; Weingart 1982; Zehr 2005).

Literature in the field of international relations has argued that scientific knowledge and expert judgment by an epistemic community can be influential in the domain of multilateral agreements (Haas 1989, 1992, 2007; Litfin 1994; Miller 2007; Miller and Edwards 2001; Parson 2003). This is also true of scientific communities in the national domain. The interplay between science and policy-making has been widely studied (Bryner 1993; Guston 1999; Jasanoff 1990, 2005; Latour 1987; Shackley and Wynne 1995). In the case of climate change, science or knowledge can affect decision-makers' perception in both directions, either for or against stringent GHG emission reductions. As can be found in the IPCC assessment reports, scientific findings on the mechanisms of climate change, future projections, plausible temperature increases, and the

impact of climate change suggest that climate change should be mitigated “at a level that would prevent dangerous anthropogenic interference with the climate system” (UNFCCC Article 2). At the same time, there is a wide variety of studies on both the costs incurred by the adverse impacts of climate change and the costs required to reduce GHG emissions to avoid such damages, and some may suggest it may be more rational for nations to choose not to reduce their GHG emissions (Sprinz and Vaatoranta 1994).

Environmental NGOs

Similar to scientific experts, environmental NGOs also affect policy decisions on global environmental issues at both the international and the domestic levels. The transnational activities of environmental NGOs have been a focus of studies since the early 1990s (Betsill 2011; Betsill and Corell 2011; Conca and Lipschutz 1993; Doherty and Doyle 2006; Keck and Sikkink 1998; Princen and Finger 1994; Wapner 1996). Studies of these groups' domestic activities have also demonstrated how environmental NGOs have gained the power to influence national decisions on environmental issues (Desombre 2000; Dryzek et al. 2003; Inglehart 1982; Tarrow 1998). In the area of domestic policy-making, the NGOs' level of influence on decision-making varies from country to country. In some countries, particularly in the Asian region, NGOs have become more established when the form of governance has transitioned from central organization to a more diffused democratic style (Jancar-Webster 1998; Lee and So 1999).

Industry and business

Industry and the business community are among the most influential groups in countries' decision-making on environmental issues, both as transnational actors influencing multilateral level decisions (Schmidheiny 1992) and as influential domestic actors (Kraft and Kamieniecki 2007). In terms of the climate change problem, however, climate mitigation policies offer different costs and benefits to different industries. For example, many energy-intensive industries cannot avoid energy use in manufacturing their products (e.g., steel and aluminum). They would most likely have to reduce their level of production to reduce CO₂ emissions. These industries traditionally have been, and in many respects still are, the strongest advocates against domestic emission reduction policies. Meanwhile, some other energy-related industries have shifted their focus from fossil fuels to innovative low-carbon emission methods of operation to reduce emissions (Kolk and Levy 2001; Kolk and Pinkse 2005; Skjærseth and Skodvin 2003). Some industries also have taken the opportunity to gain economically by reducing CO₂ emissions or by publicizing their activities to consumers to create a positive image as a “green” company (Frankental 2001). Some emerging industries, such as those related to renewable energy, have welcomed countries' decisions to take positive action on emissions reductions.