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## Climate Policy in the United States and Japan

*A Workshop Summary*

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## Abstract

Resources for the Future and the Institute for Global Environmental Strategies (Japan) convened a one and one-half day workshop on domestic and international climate policy on February 12–13, 2004 in Washington, D.C. On the first day, 55 participants heard presentations from 14 speakers and discussed domestic activities, economics, and politics. The second day featured a smaller group of 27 participants hearing six informal sets of comments and discussing opportunities for international collaboration. Participants included government officials from the Japanese Ministry of the Environment, the U.S. Environmental Protection Agency, and other U.S. administration and congressional staff; representatives from business and environmental groups; and academic experts. Over the course of both days, it was clear that great opportunities exist for informing participants from both countries on recent developments, economic analyses, and political nuances in the other country. For example, American participants were unaware of the *Keidanren*'s success at exceeding required efficiency standards. Japanese participants were unaware of U.S. treaty tradition, by which ratification cannot occur until implementing legislation is in place—a fact that makes the Kyoto Protocol virtually unratifiable. Participants on both sides benefited from a frank discussion of how and why it may be unwise for the international community to attempt to re-engage the United States in international climate policy until the United States settles on its own course of meaningful domestic action.

Looking forward, an important lesson may be taken from U.S. experience with early environmental regulation, where state action provided experience and impetus for federal action. As an alternative to the Kyoto model, distinct national actions may provide experience and impetus for international action. In addition, policies in both the United States and Japan reflect a strong emphasis on technology development and commercialization; this may be an area where bilateral cooperation could be particularly beneficial.

**Key Words:** climate change, global warming, United States, Japan, Kyoto

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# **Climate Policy in the United States and Japan: A Workshop Summary**

William A. Pizer and Kentaro Tamura\*

## **Introduction**

Responses to the threat of climate change are occurring at all levels of society. Businesses and nongovernmental organizations; local, regional, and federal agencies; legislatures; and numerous international policy fora are contemplating mitigation, technology, and adaptation strategies. Keeping abreast of these developments in one's own country, let alone in other industrialized and developing countries around the world, is increasingly difficult, if not impossible. However, the interrelatedness of these developments—in terms of learning from others' experience, synchronizing and cooperating on domestic efforts, improving international efficiency, and, ideally, linking these policies through common measures and mechanisms—makes such awareness essential. For countries like the United States and Japan that have a long shared history, significant trade relations, and common interests in technological development, the opportunity for and importance of cooperation is that much greater.

Since 2001, the United States has been on a different track than most of the rest of the industrialized world. The Bush administration has announced its opposition to the Kyoto Protocol and embraced a mostly voluntary approach to limiting emissions of greenhouse gases. Meanwhile, most of the other industrialized countries, including Japan, have ratified the Kyoto Protocol and are pursuing mandatory policies to meet their commitments (although the pace of policy development and likelihood of meeting these commitments varies significantly from country to country). In addition to the customary interest in policy developments in other countries, this situation has created additional tension and concern on both sides of the Kyoto divide about what is actually occurring on the ground, beyond the official rhetoric. Stakeholders and policymakers in countries such as Japan have a keen interest in understanding—and perhaps

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influencing—the return of the United States to international activism on climate change. Meanwhile, stakeholders and policymakers in the United States want to know whether real action is occurring, and to what extent, in key industrialized countries. Actors in both countries are interested in furthering cooperation wherever possible in order to avoid having climate change policy become even more divisive.

Against this backdrop of divisiveness yet curious mutual interest, Resources for the Future and the Institute for Global Environmental Strategies organized a workshop on U.S. and Japanese climate policy in Washington, D.C., in February 2004. More than a dozen Japanese participants from government, academia, business, and stakeholder groups came for one and one-half days of discussions with a larger group of their U.S. counterparts. There were three main goals:

First, the workshop sought to educate participants about on-the-ground developments in each country. Experts from government, academia, business, and NGOs in both countries gave detailed presentations of proposals, analyses, actions, and likely outcomes. The program included panels on mitigation, technology, and nonfederal activities.

Second, the workshop sought to elicit ideas for improving policies in each country. Each panel included ample time for questions, answers, and discussion. Participants debated, for example, how much a voluntary credit-trading program in the United States would encourage emissions reductions and either support or hinder development of a future trading program.

Finally, the workshop sought ideas for bilateral and multilateral cooperation. A key point made by several U.S. participants was the need for the United States to finish its deliberations on meaningful domestic policy before engaging in international mitigation policy. A second point was that sharing incentives and resources for technology development and commercialization might be an area of beneficial international cooperation in the near term.

In the remainder of this workshop summary, we highlight the presentations and discussions from each session, particularly the international policy discussion, and attempt to draw some useful conclusions. The agenda and participant list are attached as an appendix and copies of the presentations can be found online at [www.rff.org/usjapanclimate](http://www.rff.org/usjapanclimate).

## **Summary of Sessions**

The workshop was divided along broad areas of policy: domestic mitigation policy, technology policy, nonfederal policy, and international policy. The three sessions on domestic

policy consisted of two presentations on the U.S. side, followed by two or three presentations on the Japanese side, followed by a moderated discussion. The domestic policy sessions included 55 participants. The fourth session, on international policy, involved six shorter, informal statements (three Japanese and three U.S.), followed by a longer moderated discussion. The international policy session was smaller by design, with just 27 participants.

### ***Mitigation Policy***

The discussion of mitigation policy began with presentations by Pizer and Ellerman on U.S. policy. Pizer presented the Bush administration's policy and highlighted the 18% intensity goal and the proposed enhancements to the emissions registry—namely a plan to create transferable credit for voluntary reductions. An intensity goal, which adjusts in the face of economic growth, has the advantage of diminishing the concern of climate skeptics that limiting emissions will constrain economic growth. As the world continues to seek economic growth absent viable carbon-free technologies, this kind of target or emissions limit could be more appealing and less divisive—especially among countries with high economic and/or population growth. The administration also proposed a credit-trading scheme that has apparently since been abandoned. Such a credit scheme arguably provides a valuable hedging opportunity for businesses facing adverse consequences under a future climate policy, and therefore ought to encourage reductions now.

Ellerman discussed the proposal for a nationwide emissions cap put forward by Senators McCain and Lieberman last fall. That proposal, which garnered 43 votes in the Senate (eight short of passing), was arguably a clearer sign of the sentiments in the United States compared to the earlier Byrd-Hagel resolution or recent debates over multipollutant regulation at power plants. Meanwhile, Ellerman argued, the McCain-Lieberman proposal represented a comprehensive market-based approach to climate change, involving 70–80% of all emissions, off-system credits, multiple gases, and mixed grandfathering and auctioning of allowances.

Shimizu, Niizawa, and Masui continued the session with discussions of Japanese policy. Shimizu discussed both the process and progress of policymaking in Japan, including the “New Climate Change Policy Program” announced in 2002. He described current efforts in the first step of the program, including fuel switching efforts, the new energy conservation law, subsidies for solar, wind, and biomass, as well as a renewable portfolio standard. He also described several additional proposals that have been suggested to achieve more reductions in the second step (beginning next year), including emissions trading and an emissions tax. A central element of

Japan's policy is to encourage global participation, including the United States and key developing countries.

Niizawa presented additional detail on certain policies and emphasized the need for market mechanisms that place a price on greenhouse gas emissions. Regarding the tax, his presentation emphasized the uncertain emissions outcome in the face of Japan's known Kyoto commitment. For all schemes, there are advantages to upstream implementation in terms of capturing small sources. In addition, policy mixture is a major topic of discussion in Japan, particularly relating to the interaction and possible unintended consequences of multiple policies designed to control different emissions sources. Finally, Masui presented an economic analysis of several policy proposals. A particularly interesting proposal involved a combination emissions tax and reduction subsidy, where the tax revenues exactly fund the subsidy. His analysis indicated that a much lower tax level would be required.

The discussion that followed revealed a significant interest among participants in policy developments in the other country. U.S. participants asked questions about the effectiveness of voluntary efforts by the Keidanren (a federation that includes all major Japanese companies and industry associations), the legal requirements for ratification in Japan, and how the tax and subsidy scheme might work. Japanese participants asked about intensity and absolute emissions limits. Both U.S. and Japanese participants were interested in the notion of transferable credit for emissions reductions in advance of a future system, and asked how such a system might support or hinder the future system.

### ***Technology Policy***

This session involved presentations by Kruger and Heydlauff on the U.S. side, followed by Sasanouchi and Tsuchiya on the Japanese side. Kruger discussed non-CO<sub>2</sub> greenhouse gases, along with technologies to reduce those gases. Most of the discussion focused on methane and the industrial gases, where there are more low-cost opportunities to reduce emissions, although these opportunities vary significantly from country to country. Methane opportunities include efforts in pipelines, coalmines, landfills, and agriculture—all of which capture methane which can then be sold, often recovering any costs. Similarly, efforts to reduce the use of certain industrial greenhouse gases in production involve cost-savings in material inputs that offset mitigation costs. In these cases, information and voluntary technology programs can be highly successful. Reducing non-CO<sub>2</sub> gases can be a significant part of GHG reductions, particularly in the near term before CO<sub>2</sub> reductions can really take effect. Heydlauff discussed a very different



technology problem: the need to capture and store carbon dioxide from the burning of coal. Because coal is such a cheap and plentiful energy source—not only in the United States, but also in developing countries such as China—finding a way to capture CO<sub>2</sub> is almost essential to any long-term climate strategy. Heydlauff summarized the U.S. FutureGen program, which will produce electricity and hydrogen from coal with virtually no emissions within 10 years. The project involves an 80/20 government/private sector cost share for an estimated \$1 billion cost.

Sasanouchi's presentation discussed both hybrid and fuel cell technologies for automobiles. Hybrid technology contributes to four different technology paths, including fuel cells, making it a particularly valuable area of work. The fuel cell, in fact, is only slightly more effective at reducing greenhouse gases than future gas-electric or diesel-electric hybrids, unless hydrogen can be produced emissions free. Nonetheless, it remains the object of considerable research in both the United States and Japan. Sasanouchi also discussed Japanese automotive manufacturers' policy position, which emphasizes self-regulation over government regulation; he pointed to the manufacturers' voluntary commitment to meet 2010 fuel economy standards in 2005 as an example of success in self-regulation. Finally, Tsuchiya presented a range of technology options for reducing emissions. He noted that some have been successful, such as the compact fluorescent light, and others have failed, such as the electronic book—often on quality issues, rather than energy or cost characteristics. Looking forward, incentives are necessary to not only promote R&D, but also commercialization, which can significantly reduce cost.

The discussion following the technology presentation focused mostly on policies. The audience discussed the range of policies available to encourage technologies, including direct government spending or cost shares, tax credits for R&D, or tax credits for technology adoption. There are also nonfinancial policies, such as the frontrunner program, where manufacturers have to match the energy performance of the top-performing equipment. For non-CO<sub>2</sub> gases, concern was expressed over measurability in an offset program. The audience also discussed how to handle liability for sequestered carbon dioxide in case it is released accidentally. Until the process and risk are well understood, there is arguably a case for government liability to encourage private sector action.

### ***Nonfederal Policy***

The presentations and discussion in this session were more wide-ranging. Grumet presented the efforts of a nongovernmental commission in the United States; Helme presented a

summary of activities at the state level. Saito discussed voluntary industry initiatives in Japan; Chiba and Nishida presented efforts by the Tokyo metropolitan government. Grumet summarized recent activity by the National Commission on Energy Policy, a nonpermanent group of diverse and bipartisan leaders in industry, trade, academia, and the NGO community formed in response to the current paralysis of meaningful energy policy in the United States. The Hewlett Foundation is sponsoring this \$9 million effort to seek a constructive solution to the environmental, security, and economic threats surrounding energy supply and use in the United States. The effort will result in a set of recommendations and a related report slated to be released following the 2004 presidential election.

Helme presented a very interesting look at state-level actions in the United States and, in particular, emphasized the role of states as both policy laboratories and impetus for federal action. He remarked on the magnitude of emissions in some U.S. states, which exceed national emissions for many countries. He noted specific actions in certain progressive states, including tailpipe standards in California, a regional cap in the Northeast, appliance standards, and renewable portfolio standards in 11 states.

Saito's presentation summarized the general progress of voluntary programs in industries across Japan as well as specifically in the electrical industry. Thirty-five industries participate in the *Keidanren* voluntary action plan, covering 45% of total emissions in Japan, with a wide range of individual targets and an overall target of 1990 emissions levels or lower. On the whole, industry in Japan is 1.9% below 1990 emissions as of 2002, although it varies considerably—with power companies and petroleum significantly above their target and the electrical manufacturers significantly below. Saito discussed both the process involved in the voluntary action plans as well as several case studies. The final presentation by Chiba and Nishida discussed activities undertaken by the Tokyo metropolitan government. These activities include requiring energy management strategies for major energy users as well as efficiency guidelines for new “green” buildings. Looking forward, Tokyo may consider mandatory reductions and building codes.

Most of the discussion in the final session centered on whether the model presented by Helme—that state action often provided policy guidance and impetus for federal action—could be a model for national and international policy. In other words, could national action provide policy guidance and impetus for international policy, rather than the other way around (as characterized by the Kyoto Protocol)?

### ***International Policy***

The international policy discussion began with initial comments by six participants from both the United States and Japan, followed by an open discussion for almost three hours. Because comments from the discussion are not to be quoted directly, we will simply summarize major points made throughout the discussion.

- The United Nations Framework Convention on Climate Change (UNFCCC), agreed to by 188 parties, is the basis for international efforts, and various mechanisms have already been built under it. Therefore, it is sensible to consider future international policy under this framework.
- The international climate regime beyond 2012 needs to achieve participation of all countries, including the United States and developing countries, in order to ensure environmental integrity.
- Certain features of the Kyoto Protocol should be preserved, including quantitative caps, emissions trading, and the Clean Development Mechanism.
- Additional mechanisms in the Kyoto Protocol are necessary for enhancing incentives for participation, including changes to the emissions limits, changes in the binding nature of caps, or price caps.
- For developing countries, development needs to be emphasized, including energy, water, and adaptation—not climate change mitigation.
- An increased emphasis on technology would be less controversial than mitigation for countries like the United States.
- A sub-global regime could provide additional/alternative and easier opportunities for cooperation.
- International policy and architecture needs to follow from domestic policies and architecture. This is particularly important in the United States, where domestic implementation authority must exist before a treaty can be ratified.
- There needs to be attention to international concerns (e.g., competitiveness) in forming a domestic policy. This comment is somewhat at odds with the previous comment.
- Several options exist in the United States with regard to international cooperation: take a step, but, if it is not matched, do no more; obtain congressional authority for

implementation, but make implementation conditional on an international agreement; negotiate and then obtain authorization (e.g., Kyoto approach).

- It is not useful for other countries to pressure the United States back to negotiations; the United States reacts better to a call for responsible/moral action.
- The UN is not the best forum to deal with developing countries because it gives them undue leverage.
- Climate negotiations are in many ways more like donor negotiations (where some countries are financing activities in other countries) than trade negotiations (where every country has something to win); this argues for a non-UN forum where “donor” countries have more initial control and only engage relevant recipients.
- International architecture has been governed so far by lawyers’ notion of “legally binding commitments,” economists’ ideas about “trading,” and environmentalists’ notion of an “environmental outcome.” This needs to be rethought.
- Continuing in the Kyoto framework may not be helpful because (a) it is not a good forum for engaging like-minded countries, and (b) it is a political liability in the United States.
- Kyoto may be useful because it pushes other countries to action and, in turn, creates pressure on the United States.
- Developing countries can be encouraged to participate in an international emissions trading regime through generous allocation of emissions rights (e.g., work in Kazakhstan).
- What alternatives are there to the Kyoto Protocol? How long would it take to get back to Kyoto’s current status (acceptance of rules and process by a large number of nations) along such an alternative route?
- A regional or sub-national approach could occur outside or inside the Kyoto framework.
- What needs to happen on the ground is the fast deployment of low- or zero-emissions technologies. Countries capable of developing these technologies need to step up the pace of production, and then make the technologies available to developing countries.
- With regard to the United States, Japan should consider how its own domestic action will influence domestic U.S. politics, particularly with regard to competitiveness concerns, rather than trying to exert direct pressure on the United States to return to international negotiations.

- The United States and Japan have a considerable mutual interest in shifting China to lower-carbon technologies—less oil and less liquefied natural gas—for security reasons. This suggests a large opportunity for cooperation on efficiency, renewables, and clean coal.

## Conclusions

Significant divisions exist between the United States and Japan over climate policy, with the United States rejecting the Kyoto Protocol and Japan endorsing it. Policy actions, however, are moving forward in both countries, if with some delay in the United States. Both countries could benefit from the other's experience. Indeed, we already see policy ideas transferred across the Pacific, whether in references to the Japanese frontrunner program in a recent U.S. automobile fuel economy rulemaking notice, or Japanese use of U.S.-style renewable portfolio standards. While some experiences do not translate—there is no equivalent of the *Keidanren* in the United States—many do.

One of the interesting observations from the two-day workshop was the idea that state action in the United States often influences and provides impetus for federal action, and that this same dynamic could work at the international level. Just as some states take unilateral action, somewhat to their own competitive disadvantage, in order to demonstrate both commitment and possibility, some nations may take unilateral (or at least not universal) action in the same way. Eventually, moral sensibility and a business interest in standardizing regulation could force wider-ranging international commitment and action.

A second observation is that, even absent agreement on mitigation steps, there is considerable scope for technology cooperation, especially between the United States and Japan. While it is unclear how this might proceed—joint standards, commercialization policies, or R&D programs—it is a fruitful area for further work.

In summary, by bringing together government officials, business and NGO leaders, and academic experts from both the United States and Japan, we found considerable scope for policy improvements and cooperation, as well as interest in each other's activities, economic analysis, and political insight.

**Climate Policy in the US and Japan**  
**Resources for the Future and the Institute for Global Environmental Strategies**  
**February, 2004**

<b>Name</b>	<b>Organization</b>
Chris Hessler	AJW Group
Dale Heydlauff	American Electric Power
Josh Busby	Brookings Institution
Nigel Purvis	Brookings Institution
Eric Williams	Center for Clean Air Policy
Ned Helme	Center for Clean Air Policy
Ted Gayer	Council of Economic Advisors
Haruhiko Nishimura	Embassy of Japan
Eric Haxthausen	Environmental Defense
Sasha Golub	Environmental Defense
Kentaro Tamura	Institute for Global Environmental Strategies
Shuzo Nishioka	Institute for Global Environmental Strategies
Tae Yong Jung	Institute for Global Environmental Strategies
Kiyoshi Saito	Japan Electrical Manufacturers Association
Hiroaki Takiguchi	Japan Ministry of Environment
Yasuhiro Shimizu	Japan Ministry of Environment
Toshihiko Masui	Japan National Institute for Environmental Studies
Hyun-Sik Chung	Joint Global Change Research Institute
Hidenori Niizawa	Kobe University of Commerce
Denny Ellerman	Massachusetts Institute of Technology
Satoru Kasahara	MIT Joint Program of Global Change
Jason Grumet	National Commission on Energy Policy
David Hawkins	Natural Resources Defense Council
Jacoba Johnson	Natural Resources Defense Council
Jeff Fiedler	Natural Resources Defense Council
Christie Jorge	Pew Center on Global Climate Change
Elliot Diring	Pew Center on Global Climate Change
Neil D. Strachan	Pew Center on Global Climate Change
Vicki Arroyo	Pew Center on Global Climate Change
Haruki Tsuchiya	Research Institute for Systems Technology
Baruch Boxer	Resources for the Future
Billy Pizer	Resources for the Future
Carolyn Fischer	Resources for the Future
Dallas Burtraw	Resources for the Future
David Lankton	Resources for the Future
Dick Morgenstern	Resources for the Future
Jeff Chow	Resources for the Future
Jhjh-Shyang Shih	Resources for the Future
Joe Kruger	Resources for the Future
Jonathan Halperin	Resources for the Future
Kenny Gillingham	Resources for the Future
Lesli Creedon	Resources for the Future
Lisa Crooks	Resources for the Future
Ray Kopp	Resources for the Future
Roger Sedjo	Resources for the Future
Rafe Pomerance	The Climate Policy Center
Seiichi Sugai	The Tokyo Electric Power Company, Inc.
Toshiko Chiba	Tokyo Metropolitan Government
Yuko Nishida	Tokyo Metropolitan Government
Masayuki Sasanouchi	Toyota Co.

Dina Kruger	U.S. EPA
Reid P. Harvey	U.S. EPA
Sue Gander	U.S. EPA
Kevin Rosseel	U.S. EPA Integrated Envl Strategies Program
Jonathan Pershing	World Resources Institute
Kazuyoshi Okazawa	Yale University

## Climate Policy in the U.S. and Japan

Thursday, February 12, 2004

Welcome (8:30-8:45) – Lesli Creedon, RFF Vice-President for External Affairs, and Shuzo Nishioka, IGES Climate Policy Project Leader

Session I (8:45-10:45): Mitigation policy discussion

Chair: Dick Morgenstern (RFF)

Speakers: Billy Pizer (RFF), Denny Ellerman (MIT), Yasuhiro Shimizu (MOE), Hidenori Niizawa (Kobe University of Commerce), Toshihiko Masui (NIES)

- National policy update: *What are the current mitigation policy proposals at the federal level in the U.S. and Japan?*
- Economic analysis: *What are estimated costs, benefits, and competitiveness issues associated with proposed policies?*
- Discussion

Session II (11:15-1:15): Technology policy discussion

Chair: Tae Yong Jung (IGES)

Speakers: Dina Kruger (US EPA), Dale Heydlauff (American Electric Power), Masayuki Sasanouchi (Toyota), Haruki Tsuchiya (Research Institute for Systems Technology)

- Technology roadmaps: *What are the most promising technologies for both CO<sub>2</sub> and other greenhouse gases, barriers to their development, and likely time frame?*
- Perspectives on technology policy: *What are the private sector's perspectives on technology policy?*
- Discussion

Lunch (1:15-2:15)

Session III (2:15-4:15): State, local and nongovernmental initiatives

Chair: Ray Kopp (RFF)

Speakers: Jason Grumet (National Commission on Energy Policy), Ned Helme (Center for Clean Air Policy), Kiyoshi Saito (Japan Electrical Manufacturers' Association), Toshiko Chiba and Yuko Nishida (Tokyo Metropolitan Government)

- U.S. initiatives: *What role do state, local, and non-governmental initiatives play in climate policy development?*
- Japan initiatives: *What role do local governments and private sector initiatives play in climate policy development?*
- Discussion

General Discussion (4:30-5:30): Moving Forward

Chair and Remarks: Ray Kopp (RFF) and Shuzo Nishioka (IGES)



## Climate Policy in the U.S. and Japan

Friday, February 13, 2004

Chair: Billy Pizer (RFF) and Shuzo Nishioka (IGES)

Presentations and Discussion of International Architecture (9:00-11:30)

*Brief remarks by Hiroaki Takiguchi (MOE)*

The Kyoto Protocol includes five main elements: (1) a U.N.-sanctioned multi-lateral basis, (2) internationally negotiated, legally-binding absolute emission limits for industrialized countries, (3) facilities for trading reduction commitment among industrialized countries, (4) no emission targets for developing countries, (5) project-based activities in developing countries. Based on our experience over the past six years, how can we develop and improve international climate architecture and institutions?

This group discussion will identify strengths and weaknesses of the Kyoto Protocol and examine how international policy ought to evolve. The chairs will comment on these elements, followed by a brief presentation by Mr. Takiguchi from the Ministry of the Environment and brief comments by US and Japanese experts before opening it to the floor. Aside from providing a starting point for discussion, we believe the focus on *evolution* will provide a useful and practical way to organize participant ideas.

Concluding Remarks (11:30-12:00)