Fifteenth "Science in Japan" Forum

Japan Society for the Promotion of Science (JSPS)
June 15, 2010, Cosmos Club, Washington DC
Session on Government Policy

Closing comments by Neal Lane.

In closing this last session I was asked to make a few general remarks on this year's forum and perhaps add some personal thoughts about the issues we have been discussing.

Of course there is no way to summarize the richness of today's forum. We have had outstanding presentations from experts. I have learned a great deal and expect many of you have as well. I particularly appreciated being brought up to date on the excellent work being done in Japan

Clearly, much more research is needed, especially long-term applied research, as noted by Dr. Richter. But, there is no shortage of scientific and technical knowledge and good ideas about how to begin to address the enormous problems. The barriers to progress are largely political.

I can summarize my takeaway impressions with three points:

1. Meeting the world's future energy demands (particularly for the emerging economies) will require major technological advances on all fronts: fossil, nuclear (fission and hopefully fusion), renewables and increased efficiency.

2. The planet is going to continue to warm, most likely by a lot, so serious attention needs to be given to adaptation and geo-engineering (at least R&D).

3. To use a couple of cliché's, there is some "low-hanging fruit" (e.g. efficiency, land use, methane emissions reductions) but there are no "silver bullets" for the long-term. Sustainable solutions to the energy-climate change challenge will require governments, working in cooperation, in unprecedented ways. It will cost money will require considerable public support, and will take time, which we have precious little of.

4. And I would add a fourth point to the list. Energy and Climate change are national security issues. Wars have been fought over access to energy, fresh water, food and other resources important to people. As the world's population rises to 8 billion or more, disagreements over such resources, combined with the likely displacement of hundreds of millions of people because of climate

change and sea level rise will undoubtedly threaten many governments. Wars will be far more costly – in human lives and money – than dealing with the problem up front.

Let me end my comments with the question many concerned people are asking: “Given the importance of energy and climate-change why are governments, certainly the U.S. government, having such a hard time making any progress?”

Of course, the answer, in large part, is that government leaders can’t do much unless the people they represent agree that the problem is sufficiently serious that everyone should make the necessary changes in their lifestyles. So why aren’t the people demanding action?

Public attitudes are not the same in every country. Here in the U.S. the public is worried about the cost of gasoline and dependence on oil imports, particularly from the middle East. But Americans have not yet decided that GHG emissions and climate change are high on the list of things that need immediate attention. Why is that? Perhaps some of the reasons are that:

The American public knows very little about energy and climate change (Public Agenda polling 2009 – Dan Yankelovich and Jean Johnson):

- 40% of Americans can’t name a fossil fuel
- 60% of Americans can’t name a renewable energy source
- over 50% of Americans believe nuclear energy causes global warming
- nearly 1/3 believe solar energy causes global warming – about the same % of Americans that don’t see global warming as a serious problem

The American public also knows very little about science (half of the American people do not know how long it takes for the Earth to orbit the Sun); and climate science is extraordinarily complicated and counterintuitive – e.g. confusion about climate and weather, average global temperatures and everyday local temperatures (a few degrees don’t seem such a big deal, and in any case, we had a cold, snowy winter in the U.S. so how much warmer could it be?)

Even for Americans who tend to agree that climate change is a problem, they see the “threat” as far less urgent than the economy, jobs, health, the oil spill and other things they see on TV every day.
In this country the two principal political parties, Democrat and Republican are deeply divided on most issues, and climate change has become a partisan issue.

The media message is muddled on almost every matter that is of any importance, energy and climate change included; and the papers and television cover the latest crisis or fear or scandal or whatever topic and in whatever way they think will sell advertising space.

Moreover, in the U.S. – and increasingly abroad – facts and reason get buried by a very well funded campaign of misinformation on climate change. The opposition uses a well-established and well-documented "doubt" strategy, dating from the tobacco debates, which is to confuse the public about the science itself. (A recent book outlining the power of this strategy by authors Naomi Oreskes and Erik Conway goes by the title "Merchants of Doubt." In 2008, David Michaels wrote "Doubt is Their Product" addressing the same issues.)

The internet is powerful; and increasingly the web is where people go to get information – "blogs" are popular but many "blogs" are riddled with misinformation; and studies have shown that people tend to gravitate to those web sites they agree with, especially those that "stir the passions" with messages of conspiracy, hoax, and scandal.

And some climate scientists who are, indeed experts, have, inadvertently, given the media and bloggers negative stories – e.g., the "climategate" stolen emails mess and badly handled questions about the last IPCC report, all fueling stories about conspiracy, science misconduct, and hoax.

Is it really so surprising that the public is confused?
There is some good news - the polls show that the public tends to trust scientists more than any other sources of information, at least on issues like climate change. (I am only familiar with U.S. polls but suspect the same is true in other countries.) I would make a couple of points about this:

1. This public trust in science is precisely the reason the "opponents of reason" and "merchants of doubt" choose to confuse the public about the science and what scientists say.

2. Scientists cannot afford to take public trust for granted. Each incident, like "climategate", erodes that trust and is damaging to all of science.

All this presents a dilemma for scientists who feel passionately about the implications of climate change – its potential consequences and policy actions that government should take, even political strategies for getting it done but who also must be "trusted" by the public and policy makers – not tainted by politics or ideology. Somehow, scientists are expected to be above all that. It is proving to be a difficult line to walk. But we have to figure out how to do it.

What do I think will happen, at least in the U.S.? Of course, I really have no idea, but I'm not optimistic about progress in the near term.

President Obama is serious about the issues and is trying to implement a number of progressive policies to encourage energy efficiency and carbon emissions reductions but he is dealing with several enormous problems, all at the same time.

> And in our system of government, we also have the Congress, a House and Senate. And at least in the Senate, the President's party (the Democrats) have too few votes to push through progressive legislation on any topic.
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> One might expect that the growing public anger over the BP disaster would provide support to those who want to get us away from fossil energy dependence. I think that is true; but any law that places caps on carbon emissions will require tradeoffs for Republican votes, and Congress is no mood for that now. Speculation (NYT 6-13-10) is that some kind of hodgepodge energy bill might get to the President's desk but without carbon emission caps.

In this country, we have lost at least a decade in which we could have made significant progress both on the home front (addressing our domestic energy needs and GHG emissions) and as a serious player in the international discussions. Will we be able to make up any of that lost time and opportunity?

President Clinton once told me "Neal, you need to remember that the American people always get it right!" an optimism that I didn't always share. Winston Churchill's famous quote seems to apply "Americans can always be counted on to do the right thing after they have exhausted all other possibilities."

One thing I think is clear - the American people are not impressed with scare stories. And they don't want to be told what to do; they want options and choices. We scientists have got to figure out how to work with the media (including the blogs) and the politicians to make sure the people get the information they need in order to understand what options are available and help make the choices.

One thing we can do – all of us, whatever our field – is to support those scientists (in and outside government) who are willing to speak up in defense of climate science, even engage in blogging. And our institutions – universities, federal agencies, and other organizations need to help protect climate scientists who are under constant attack.

Conferences, workshops and other fora, particularly those with an international focus, like this one today are increasingly important in reaching the public of our respective countries and the policy makers who make the laws.

So, I want to express my thanks to JSPS and the organizers for allowing me to participate in this Fifteenth "Science in Japan" forum.