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## **Innovation Policies and Global Issues**

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## **INNOVATION POLICIES AND GLOBAL ISSUES**

### **Remarks to the Institute for International Policy Studies (IIPS)**

#### **The World Order and a Vision of Japan in the 21<sup>st</sup> Century Globalization and Japan's Science and Technology Strategy**

*November 19 – 20, 2007*

Ambassador Okawara, fellow panelists, ladies and gentlemen –

One of the key questions facing us today in terms of innovation and society is how we can meet our needs for energy and also meet our needs to safeguard our environment. The topic is front and center in the news. We saw it this past weekend with the release of the IPCC [Intergovernmental Panel on Climate Change] Synthesis report. We will see it in the UN Climate Change Conference December 3 – 14 in Bali. Japan is talking about climate change and energy being focal points of its upcoming G-8 presidency.

I would like to talk a bit today about how the U.S. government sees these upcoming events and how technology can help mankind address the challenges of climate change, of other environmental problems, and the need for energy in meeting the demands of people around the world for better lives.

Let me start with a basic point, climate change has been a top priority of the United States government for years. Let me also go back to June 11, 2001 when President Bush stated:

- “First, we know the surface temperature of the earth is warming... There is a natural greenhouse effect that contributes to warming... And the National Academy of Sciences indicates that the increase is due in large part to human activity.”

In the six years since the President made that statement – one of many he has made about the seriousness with which the U.S. treats this issue – countries have continued to debate how the world can and should address climate change. Scientists too have continued to look at the evidence and improve their understanding, and that of policy makers and others who need to act to meet the energy and climate change challenges. The IPCC report issued this weekend, the Fourth Assessment, synthesizes the latest thinking. I should note as well that U.S. government funding for climate change sciences helped with a major part of the science included in the report – according to one USG estimate, we are talking \$12 billion in climate change science that has been funded by the U.S. Federal government.

#### **The U.S. Strategy**

The U.S. strategy looks both at the science and at the same time addresses climate change in the broad context of how it affects people, including in terms of economies, standards of living, and alleviating poverty. Energy is central to human economic activity. We certainly see this in our developed industrial economies. However, developing economies too need access to energy. Energy is not a luxury, but a key component of development, of the sort of healthy, beneficial way of living people around the world want, and indeed we talk about providing energy in the context of the internationally agreed Millennium Development Goals. People in developing countries around the world want to be able to light, heat, and cool their homes, but need electricity to do so. And as we know, generating electricity with the technologies available today generally means generating greenhouse gas emissions.

The situation may be most dramatic in large, developing countries like China and India, which are turning into the engines of economic growth of the 21<sup>st</sup> century. China recently may have surpassed the U.S. in greenhouse gas emissions. Next fall, an Indian car manufacturer is scheduled to introduce a “People’s Car” with a price tag of \$2500. Analysts predict the market for such a car could reach 300 million by 2020. With such an explosion in the numbers of drivers, it is easy to see why it is the fast-growing developing countries that will be the source of much of the growth in emissions in the coming decades.

Renewables can help. Improved energy efficiency and greater conservation can help. But we have to recognize coal, oil, and other sources of energy we know today, including nuclear, will remain essential. So the question we in the U.S. and other countries want to answer is: How do we move forward with an increased global use of energy, but do so in an environmentally responsible way?

I would suggest we need to employ a range of policies and other tools – conservation, new technologies, renewables – if we are to develop and implement meaningful solutions.

So, when President Bush met with his fellow G-8 leaders this past June in Heiligendamm, he presented a new strategy to help lead the way in developing a new framework on climate change to succeed the Kyoto Protocol after it expires in 2012. Our strategy is based on the successes we have achieved at home and includes a multi-part strategy.

The President’s Major Economies initiative, recognizing no one country can act alone to meet the climate/energy/environment challenges, brings together the world’s major consumers of energy and producers of greenhouse gas emissions for a series of meetings, planned to culminate in a leaders meeting in 2008. The first of these meetings was in Washington this past September and included high level representatives from 15 countries producing 80 percent of the world’s greenhouse gas emissions. Minister Koumura represented Japan, one of his first acts as Japan’s new Foreign Minister – a step on the part of the Japanese Government that we deeply appreciated.

Though these meetings, participants will develop a new approach to energy security and climate change, contributing to a global agreement under the UN Framework Convention on Climate Change by 2009. This approach will include establishing a long-term goal for

reducing greenhouse gas emissions and a strong and transparent system for measuring progress. The Initiative foresees each country designing its own strategy for achieving this goal. We expect other countries, like the U.S., will find they need to rely on a mix of mandatory, voluntary, and market-based policy tools. The difficulty Japan and many others are having reportedly in meeting their Kyoto Protocol commitments demonstrates that there is no one-size-fits-all answer. We need to think creatively and learn from one another's experiences.

A second part of the strategy is to involve all of the participants in the U.N. Framework Convention on Climate Change to see if we can develop a common agenda around several main areas: 1) sustainable land use through better forestry practices, better agricultural practices, and better thinking through our cities; 2) increasing energy efficiency; and 3) technology sharing to bring technologies from the developed world and help apply them in developing countries.

The third element is an accelerated program for advancing technology and its application. The U.S. has already committed to boosting investment in advanced clean energy technologies. In his State of the Union speech this year the President indicated that we will put \$179 million more into advanced bio-fuels and \$650 million more into clean coal, along with other technologies, as part of his \$2.7 billion Advanced Energy Initiative.

Let's look further at advancing clean energy technologies. By developing new, low-emission technologies, the world's major economies can help meet the growing demand for energy while cutting air pollution and greenhouse gas emissions. For years, those who worried about climate change and those who worried about energy security were on opposite ends of the debate. But these challenges share a common solution: technology.

We have to recognize as well achieving the vision of an age of clean energy will require significant investments from all major economies. Today, the United States and Japan fund most research and development of clean energy technologies. While we hope others will do more to fund technology development, countries must also work to make clean energy technologies more widely available by eliminating tariff and non-tariff barriers on clean energy goods and services. I would also note President Bush has proposed the creation of a new international clean technology fund to help developing nations harness the power of clean energy technologies.

Since the President took office, the federal government has invested nearly \$18 billion to research, develop, and promote clean and efficient energy technologies and help get them to market. The private sector has responded with significant investments, ranging from corporate research and development to the venture capital markets.

Since 2001, the United States has invested more than \$2.5 billion to research and develop clean coal. In addition, in partnership with other nations and the private sector, the U.S. is moving closer to producing energy from the world's first zero emissions coal-fired plant. As the efforts to build new power plants in China and elsewhere show, coal will remain an essential source of power for years to come. That fact does not mean we should keep using our grandfathers' coal-fired technologies, however.

The United States is working as well to reduce barriers to new nuclear power plants in the country without compromising safety. Each year the world's 439 nuclear power plants prevent the release of 2 billion additional tons of carbon dioxide in the atmosphere. Nuclear power is the one existing source of energy that can generate massive amounts of electricity without causing any air pollution or greenhouse gas emissions. Japan has long played a key role in the safe development of nuclear power generation. In the U.S. this fall, a company filed the first application since the 1970s to build new nuclear reactors.

Last year, the U.S. established the Global Nuclear Energy Partnership. This partnership works with countries with advanced civilian nuclear energy programs – such as France, Japan, China, and Russia – to help developing countries obtain secure, cost-effective, and proliferation-resistant nuclear power. The U.S. has been joined by 15 partners, both developed and developing, in this partnership.

Since 2001, America has increased wind energy production by more than 300 percent and launched the Solar America initiative to lower the cost of solar power. Taken together, low-carbon technologies like wind and solar power have the potential to contribute significantly to America's electricity production.

Transportation, like power generation, is a major source of greenhouse gas emissions. An age of clean energy also requires transforming how we fuel our cars and trucks. In the U.S. we are working to develop the next generation of sustainable bio-fuels like cellulosic ethanol, made using everything from wood chips, to grasses, to agricultural wastes.

The Administration is providing a Federal tax credit of up to \$3,400 to encourage Americans to buy fuel-efficient hybrid vehicles. Moreover, U.S. automakers are working to develop plug-in hybrids that could be able to travel nearly 40 miles without using a drop of gasoline. Having just been to the Tokyo Auto Show this month, I can attest that Japan's car-buyers share this interest in new, greener technology.

In the U.S. the Administration has spent more than \$1.2 billion dollars over the past five years to develop advanced hydrogen technologies and hydrogen-powered vehicles that emit pure water instead of exhaust fumes. Moreover, the President's "Twenty in Ten" plan will help ensure cost-effective new technologies reach the market. The plan aims to help cut U.S. gasoline consumption by as much as 20 percent in ten years by setting a new mandatory fuels standard that requires up to 35 billion gallons of renewable and other alternative fuels in 2017. It also looks to reform mandatory fuel economy standards for cars, as the Administration did for light trucks.

Let me add another point, the U.S. government pays for a lot of research and development of new technologies. We often make that technology available to U.S. manufacturers at very low cost. We are proposing to extend that policy globally, so that Americans who are producing new clean energy systems will make them available globally, as long as other countries make the same commitment.

All this work should provide our two countries with a platform for excellent cooperation given Japan's recognized role as a world leader in climate-friendly technology. Whether it is the pioneering work done by Japanese automakers on hybrid cars, or Japan's leadership position in solar panel production, Japanese firms are developing technologies that will prove vital to halting and then reversing the build-up of greenhouse gasses.

All this discussion about energy and greenhouse gases and the environment and the role of technology thus comes back to the point that we need to think and work globally. The U.S. wants to speed up the clock on the UN process. Instead of meeting in the once-per-year UNFCCC Conferences of the Parties, we should have an ongoing conversation that in 18 months can reach agreement on the basic elements of the next climate framework. We need to realize more actions in terms of developing and applying technologies of conserving and using energy more efficiently and of reducing the amount of energy used to produce a unit of GDP. We also have to gain broad acceptance of the fact that a "one size fits all" approach to countries' greenhouse gas emissions won't bring the reductions that we need. Instead governments, scientists, engineers, businesses, and civil society need to come together and create a new conversation. And the product of that conversation will be brought into the U.N. process with several years to go before Kyoto expires.

The United States is often criticized for too much faith in technology. However our faith in human creativity and the application of those inventions, combined with financial commitments and policies, is showing positive results. Our emissions performance since 2000 is among the best in the world. According to the International Energy Agency, from 2000-2004, as our population increased and our economy grew by nearly 10%, U.S. carbon dioxide emissions increased by only 1.7%.

In sum, we think what we have achieved in moderating the growth of emissions in the U.S. speaks volumes to the value of our approach. We believe discussions among countries who are the biggest emitters of greenhouse gases – especially on how to transfer and apply clean energy technology – can lead to genuine reductions in emissions and real progress in combating climate change while helping afford the energy people need, whether in developed, emerging market, or developing countries. I talk to my counterparts in Japan's Ministry of Environment, Ministry of Foreign Affairs, and Ministry of Economy, Trade and Industry regularly about these very topics. There are continuing high-level consultations between the U.S. and Japan on climate change, the need for energy, and the role of technology. All of us in the U.S. government hope for continued close coordination between Japan and the United States and our other key partners as we proceed with our strategy this fall. These are global challenges and our countries have to work together to solve them.

Thank you.