Session 5: Economic Recovery and Post-Kyoto Cooperation: Challenges and Opportunities May 13, 2009

JOAN MACNAUGHTON, Senior Vice President for Power and Environmental Policies, Alstom Power System: Good morning, ladies and gentlemen. Yesterday, we heard from Deputy Secretary of State Steinberg about the prospects for future U.S.-Asia Pacific cooperation under this administration and it was both an impressive and a reassuring speech.

He talked about the potential for cooperation in relation to the economic crisis, and then virtually in the same breath, he talked about the importance of cooperation on climate change.

Ms. Joan MacNaughton, Senior Vice President for Power and Environmental Policies, Alstom Power Systems

I think that gives this topic an appropriate priority because, although with the very immediate impacts vividly felt from the economic crisis, there is no doubt at all that the urgency and the scale of the challenge of climate change is at least as great.

We don't know all that we need to know about climate change and that means we have to be especially prudent, because we are running risks we cannot completely quantify. So tackling climate change is urgent. Delay will add to the costs and add to the risks potentially very, very dangerously. And governments do recognize this throughout the Asia Pacific region.

The U.S. Administration has now committed to tackling climate change and this is a very busy week in this great city as the legislators grapple with their energy and climate change bill. Many countries, such as South Korea, America itself, many in Europe even, have put the move to a low-carbon economy at the heart of their economic stimulus packages with a welcome emphasis on clean and green technologies and jobs.

China has taken several important steps, such as closing inefficient coal stations in order to reduce the CO2 emissions and improve the way it uses energy. This is a very courageous and farsighted move, given the gap between the demand and supply of power in China's fast expanding economy.

Many others are taking action in various ways. We will hear about the work that Indonesia is doing to address its vulnerability and what Japan has been doing as a world leader in using technology to fight this problem.

Role of Technology

And technology has a key role. We have to take the carbon out of energy. Fortunately, we do have the technologies to do this. We could save a gigaton of CO2 by improving the efficiency of power generation. And we could use low-carbon technologies such as renewables, nuclear, or fossil fuels fitted with carbon-capture storage. Carbon-capture storage is a perfect illustration of the need for governments and business to act together.

My own company, Alstom, has committed to delivering a commercially available solution for carbon capture by 2015, but that will depend on governments taking the necessary steps to create the regulatory and financial framework. The International Energy Agency believes that one-fifth of the CO2 emissions we need to save to be reasonably confident of limiting the effects of climate change could come from carbon capture and storage.

But governments have to act and governments in the plural. All must act together to ensure this happens at a large scale and as quickly as is needed.

If we don't act on a business-as-usual scenario, emissions from the Asia Pacific region will double if it contin-

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ues to use domestic coal as it has done in the past. That is Deputy Secretary of State Steinberg's comment from yesterday.

But equally, we must recognize the very special challenges associated with addressing this problem in Asia, including issues like the impact on agriculture. I read with interest the wonderful booklet, Climate Change and the Food System, again produced by this group [PECC].

Energy Use and Economic Growth

Greenhouse gas emissions in Asia are increasing faster than anywhere else. But this is not because they are profligate. This is actually because population is growing and because they are entitled to give their populations, as we all are, a reasonable standard of living, which means economic growth and economic growth is associated with increased energy use.

In many cases, these challenges are aggravated because countries in the Asia-Pacific region lack the technological capacity to address the issues effectively. This may be due to a lack of financial resources, or skills, or market size, or maybe a combination of all of these factors.

Copenhagen Summit

The United Nations Forum on Climate Change is where these issues will be addressed, particularly this year in the run-up to the Copenhagen Summit in December. Issues such as the fair sharing of the burden, financial support for both mitigation and adaptation, and the deployment of cleaner technologies in both the developed and the developing world will be addressed in that context.

But the contribution of the Asia-Pacific partnership for clean development and climate change could be very important as a means of bringing major economies together for developing and deploying clean technologies. Some of the panelists will talk about this.

Trade and markets will play a considerable role, and as we've been hearing over the last day, protectionism must be avoided in the context of tackling climate change. The challenge is considerable. We must find ways to facilitate the economic development of Asia-Pacific nations without threatening the global environmental balance on which we all depend. The opportunities are immense.

Role for Business

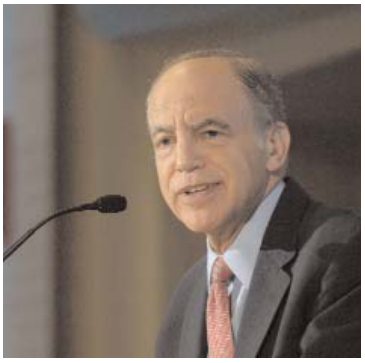
The role for business is clear. Business must direct its talent for innovation towards the challenge of clean technology development. The role for governments is clear. They must establish the policy settings to incentivize that development and ensure that clean technologies can be swiftly and effectively deployed on a global basis.

If ever there were a subject where cooperation was not a zero-sum game but absolutely essential, I think this perhaps could be it. I come back to where I started, though. We need to act with urgency, much greater urgency than we have shown so far.

It's now my great pleasure to hand you over to the experts, starting with Prof. Lieberthal from the Brookings Institution who's going to talk particularly about U.S.-China cooperation in this general area. Thank you.

KENNETH LIEBERTHAL, Professor, University of Michigan, Visiting Fellow, The Brookings Institution:

Thank you very much. I do want to focus on U.S.-China cooperation on clean energy and climate change. I'm not going to lay out what I think should be done, but rather what I think is being done and where cooperation is headed during the course of this year.



Prof. Kenneth Lieberthal, Professor, University of Michigan; Visiting Fellow, The Brookings Institution

Clearly, the U.S.-China relationship is extremely important in dealing with global climate change. As is well known, each of us emits a little over 20 percent of global carbon emissions. If we don't get it better, the world is in very serious trouble. Let me run through basically four major points.

Obama vs. Bush on Climate Change

First, on the issue of clean energy and climate change, President Obama is not different from President George W. Bush—he is the opposite of Bush, which is to say that President Obama regards climate change as one of the greatest existential threats facing all of us in the future. It is therefore among his very top priorities, and unlike President Bush, he feels that there is a critical role for governments around the world to play in addressing this issue. Governments don't do it alone but you cannot rely wholly on the private sector and technology evolution in order to make the issue manageable. This is a top priority for President Obama.

Sobering Science

Second, President Obama is seeking large-scale U.S.-China cooperation on this issue. Why focus on cooperation with China? There are about five reasons. The first reason is that the science has become extremely sobering.

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There is a need to get best efforts coordinated to address this issue. The IPCC [United Nations Intergovernmental Panel on Climate Change] fourth report issued in 2007 had different projections about where carbon emissions were headed in the world. We knew by the end of 2008 those projections were drastically wrong. They were drastically wrong because they took the wrong baseline for China. They were based on China in the late 1990s, which turned out to be a totally anomalous period and missed what happened after 2000 when Chinese emissions took off.

Now, what was the worst-case IPCC trajectory has become the mid-line case, and even that is rapidly being eroded by new scientific data. Also, we've seen that there is a phenomenon called feedback loops. There is a human impact on climate, but that human impact sets off a series of secondary effects that feed back on each other in a complex climate system.

What we're finding is that more often than not those secondary effects are accelerating the problem rather than mitigate the problem. They become autonomous, and what humans do no longer makes a difference. Whether it's the melting of polar ice caps or other issues, these developments are ahead of what the mid-line projections of the recent past.

Secondary effects caused by human impact on climate change are accelerating the problem so that what humans do no longer makes a difference

The second reason for large-scale U.S.-China cooperation on climate change is because the United States and China are the two biggest emitters. We must get together on this.

U.S. Role at Copenhagen

The third reason is that the Copenhagen Climate Conference will take place December 6-18. The U.S. wants to play a leadership role at this meeting and President Obama knows that to do that, the United States must take credible steps in the weeks and months leading up to the conference.

The fourth reason for U.S.-China cooperation on climate change is that there are significant complementarities between the two countries that make cooperation potentially very helpful in moving toward low-carbon economies in the U.S. and China.

The technologies we've developed in the labs, the type of engineering skills we can bring to bear, the advantages of one regulatory framework or another, the capacity to scale up relatively less expensively, the capacities for project management—in all of these areas we have complementary capabilities. The United States and China therefore can do much better together than we can do separately.

The fifth reason is that until 2009, U.S.-China relations always focused overwhelmingly on bilateral issues or issues right around China's periphery. Global issues have been on the agenda but always on the margins. Now with the global economic crisis and climate change, global issues are moving to the center of the relationship and will increasingly shape the future of U.S-China relations. Both sides want a good relationship going forward. Looking at the future health of the U.S.-China relationship—its depth, its stability, the degree of mutual trust—there are incentives to do well cooperatively on this big issue. And it's inherently a very long-term issue.

Congressional Action

Finally, President Obama needs cooperation with China as part of the resources he needs to get his climate-change legislation through Congress. China plays into U.S. politics on this issue and has played in very negatively. We need to turn that around, and the only way to turn that around is to better educate people about what's going on in China and for the President to be able seriously and honestly communicate to the Congress that we can cooperate with China.

By cooperating, we'll both move ahead effectively, and that, in turn, should be protected in U.S. legislation on cap-and-trade and related issues. So the case on the U.S. side for cooperation with China is very strong.

Threats to China

The case for cooperation on the Chinese side is also very strong. China has significantly increased its attention to clean energy and climate change even over the past year. That is, in part, because Chinese scientists have concluded that China is one of the countries in the world more vulnerable countries to the ravages of climate change. The Chinese issued a white paper about this in October 2008 that is quite sobering.

Among the threats to China is a rise in the sea level, which recent projections anticipate to be much faster and more consequential than previously thought. The Pearl River Delta lies about one inch above sea level. The Yangtze River Delta is basically at sea level. If you look at the projections of what happens to these places with even a relatively modest rise in sea level, there are huge consequences. And that's true for many other dimensions of China's future. The Chinese leadership now fully understands this.

China also is facing the upcoming climate meeting in Copenhagen. The United States wants to be a leader at

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Copenhagen. China is determined not to be an object of criticism at Copenhagen. Beijing wants to do well at this meeting and that has become a driver of their current considerations. China also wants good U.S.-China relations. So from that China's side, there's an incentive to move ahead, particularly with the United States.

Chinese Views of the United States

And finally, just as China has played negatively into U.S. politics on climate change, the United States has played negatively into Chinese politics on climate change. Why should China make sacrifices when the United States, which is much richer, more technologically advanced, has larger global cumulative emissions and so forth, isn't doing just as much or isn't doing more that China is doing? Is the United States simply using climate change to hold back China's rise and impose new restrictions on China? We need to turn around where the United States plays in Chinese politics. The capacity to cooperate visibly and affirmatively helps the Chinese leadership move forward their own programs domestically and they recognize that.

Platforms for Multilateral Participation

My next major point is that because of all of this, the United States and China are in the process of working toward what will hopefully be a bilateral clean energy partnership. The U.S.-China Clean Energy Partnership that presumably will be signed when the President Obama and President Hu meet late this fall.

We aren't going to set emissions targets bilaterally for the United States and China . . . this cooperation is synergistic but quite distinct

This is conceived of as a bilateral partnership, but will initiate a set of activities that really should be regarded as open platforms for multilateral participation. It's a bilateral initiative, but many of the efforts are ones that would benefit greatly from the participation of many other countries and companies. I'm sure that that is the spirit as the framework is being developed.

This bilateral clean energy partnership is not designed to do what Copenhagen will do. Copenhagen will set global emissions and a global regimen. The bilateral partnership is project-oriented with specific priorities on which we think we can move ahead rapidly through cooperation, which, in turn, will impart significant momentum to Copenhagen, even though it isn't addressing the same issues as Copenhagen. We aren't going to set emissions targets bilaterally for the United States and China. This bilateral cooperation is synergistic but quite distinct.

Coal-Based Issues

Discussions about the bilateral partnership are focused on developing not only the framework but also the headline initiatives that the partnership can promote. There is not yet full agreement on those headline initiatives. Certainly, I think among the major possibilities would be carbon capture and sequestration because both of us are major coal-based economies and will be for many decades to come. We need to have a way to cope with carbon emissions from that coal base.

Electric Vehicles Markets

In addition, we both have huge markets for electric vehicles. Both of us are working hard on electric vehicles and we have a number of cooperative programs in place that potentially could be beefed up quite a bit.

There are obviously other important spheres of potential cooperation, too, such as the development of clean building technology. The Chinese still build two billion square meters of new floor space every year, half of the global total. Currently, relatively little of that is done on a basis that maximizes energy efficiency. There's a lot of room for cooperation in that area, too. Also, I think the United States will be quite interested in looking at ways that we can help to build institutional capacity in China to move forward.

High Stakes Issue

Let me conclude. First, the U.S.-China partnership would create an open set of platforms in which other countries' talent, technology, and capital can play a role. This is bilateral in conception, but multilateral in opportunity.

Second, this issue is rapidly moving to the center of U.S.-China relations. It will increasingly either move the relationship to a new level of long-term cooperation and increasing mutual trust, or it can create a series of new set of strains if we find we really cannot get our act together on it.

Third, it also will potentially provide impetus to the global negotiations. In short, this is an issue in which the stakes are very high. Thank you.

JOAN MACNAUGHTON: I'd now like to invite Dr. Hu Tao, who is coordinator of the China Climate Change Partnership Framework at the Un Development Program. Thank you.

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HU TAO, Coordinator, China Climate Change Partnership Framework, UNDP, Beijing: Thank you very much, Joan.

Dr. Hu's PowerPoint presentation is available at—http://www.pecc18.org/materials/hu_pecc.ppt

Dr. Hu Tao, Coordinator, China Climate Change Partnership Framework, UNDP, Beijing

The United States and China urgently should take actions on climate change. The two countries actually are so close economically, environmentally, and financially. Let's look at the financial crisis. Obviously, there is less consumption, less trade, less production as a result of it. **[Slide 1]**

From the perspective of climate change, that actually is good because less GHG emissions are generated. **[Slide 2]** Coal consumption and electricity consumption have been declining in the past couple of months. That's really good for the world environment, but not for the economy.

America's greenhouse gas emissions relate to current patterns of consumption, production, and trade. On consumption, the United States is consuming more than China and China is also increasing consumption, but there is a perception that China is producing more than the United States by the trade of volume and carbon, not by the value.

China is one of the biggest trade partners of the United States, but in terms of U.S. consumption and Chinese production, our modeling found that China's foreign trade generated 23 percent of carbon emissions, 39 percent of sulfur dioxide emissions, and 12 percent of water emissions. Those emissions are not for Chinese consumers, but for the rest of the world. U.S. greenhouse gas emissions are increasing about one-third as a result of importing commodities.

G2 Concept

I agree that politically and economically, there is not a G2 power structure in the world. But if you look at things from another angle and consider the impact of trade and climate change, then perhaps there is a G2 structure. **[Slide 3]** Earlier, Prof. Lieberthal mentioned that the two countries generate more than 30 percent of total world emissions. The impact of trade is similar. The United States and China are ranked number one and two in the world.

After the financial crisis, more people are talking about the effect of greedy human beings in causing the crisis. But I want to argue that greedy human beings also have caused the climate change crisis. We consume too much and we produce too much.

So what should we do? We are in the process of recovering from the financial crisis, so I think we have two options. Either we back to normal, business as usual, or we promote green consumption, green production, and the green trade. **[Slide 4]**

Wal-Mart Example

The United States really should consume green and less, like a Wal-Mart. Last October, Wal-Mart launched a sustainable sourcing initiative in Beijing. I think it's very significant for both countries and for the world. **[Slide 5]** Wal-Mart is trying to purchase items in as green a way as possible.

The United States not only should Buy American, but also buy green. If the United States buys more green from China, we would export more green. The following are existing programs in China: the Environmental Friendly Label Scheme; the energy-saving label scheme; the circular economy program.

IPR Protection

From a production perspective, China needs cleaner technology, but IPR [Intellectual Property Rights] protection obviously is of concern to the United States. **[Slide 6]** From my point of view, China's use of clean technology not only is for China's benefit, but also for the benefit of the world. If China uses less clean technology, it will produce more greenhouse gas emissions.

Clean coal technologies currently are out of date. When HIV broke out in Africa, so-called compulsory licenses were issued for various pharmaceuticals. It also might be time for issuance of compulsory licenses for climate change technologies.

Promoting Green Trade

We should promote green trade between both of the countries. **[Slide 7]** There should be more carrots than sticks to promote trade of environment goods and services. One of the negotiating topics in the WTO is that global environmental goods and services should be carbon-friendly.

China already has a policy aimed at constraining exports of its own energy- and pollution-intensive products. So far, there are no other countries that restrict exports owing to high pollution or high energy consumption.

With respect to other sticks, in the United States and Europe there are discussions about imposing so-called border adjustment taxes to serve as a kind of trade sanc-

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tion for countries that do not take actions on climate change. Border tax adjustments have been discussed for some time, but in my view they do not constitute a green trade measure.

The United States so far has not signed the Kyoto Protocol, but it is considering imposing trade sanctions against countries that have signed the Kyoto Protocol. As I mentioned, China has already applied an exporting tax, but the United States is considering applying an import tax. The United States and China must cooperate as part of a green recovery, and part of that means less "sticks" like the border adjustment tax.

JOAN MACNAUGHTON: Now we turn to Mr. Hajime Ito, who's the President of the JETRO New York Center.

HAJIME ITO, President, JETRO, New York: Thank you very much.

Mr. Ito's PowerPoint presentation is available at—
http://www.pecc18.org/materials/ito_pecc.ppt

First of all, two speakers already mentioned that China and the United States are the biggest emitting countries in the world. I do not want to emphasize too much the G2 issue since APEC is a multilateral cooperative regime.

Mr. Hajime Ito, President, JETRO New York

Rather, I'd like to show that the 21 member economies of APEC comprise 62 percent of total global emissions. **[Slide 1]** It's a very huge number. In other words, if APEC as a whole made significant contributions to addressing this challenge, this would have a big impact globally.

Energy Efficiency

Another thing I'd like to focus on is energy efficiency. Many people, including in the IEA [International Energy Agency], emphasize that the cheapest, most effective way to reduce the emissions is through improvements in energy efficiency. **[Slide 2]** Japan has the highest level of energy efficiency. The United States is two times the Japanese level, China, nine times, and Russia, 18 times.

This is not a bad thing. Rather, it means these countries have big potentials to reduce CO2 emissions by improving their levels of energy efficiency, and in some cases with negative cost. Negative cost means that the savings of energy prices is larger than the cost for investment for the energy efficiency.

So one challenge is to improve the energy efficiency of APEC member economies. The last couple of years, I was deeply involved in the negotiating side as a representative of the Japanese government. When we talked to our Chinese friends about environmental matters, they are very cautious.

It is the responsibility of the developed countries. If you improve energy efficiency domestically, it is almost equivalent to create a new energy independent source. Also, if you improve the energy efficiency of products, it would undoubtedly make them more competitive. Our Chinese friends listened very seriously. We should encourage our friends to improve their energy efficiency and environmental goals by their own actions. That is the point on which we should focus, particularly in APEC context.

Accelerating R&D&D

There are three pillars for our challenge. **[Slide 3]** One is to promote energy efficiency. The second pillar involves accelerating R&D&D, that is to say, research and development and demonstrations. Maybe I could add yet another D for deployment of new technologies.

And third pillar is to contribute to building the future international framework. I know APEC is not a negotiating body. But APEC could create very strong momentum, particularly from the leaders' level for climate change negotiations.

APEC Declaration

APEC already made a lot of contributions in the last couple of years, particularly during 2007, thanks for the good leadership of the Australian government. **[Slide 4]** At the 2007 APEC summit, we issued a declaration on climate change, energy security, and clean development, and set the targets. These include reducing energy intensity by 25 percent of 2005 levels by 2030. Another was to establish an Asia-Pacific network for energy technologies, so called AP-Net. One thing I'd like to emphasize is that the target is not binding, but it is a mutual goal.

APP Goals

The so-called APP, Asian Pacific Partnership on Clean Develop-ment and Climate is another good example of an APEC initiative on climate. [**Slide 5]** It started in 2005 and involves seven countries, six of them APEC member economies, and covers eight sector areas. There is a more concrete approach for each sector.

First, extract the potential of improved energy efficiency and then list the technology priorities of each country. We then develop ways to facilitate these initiatives, particularly in leading developing countries, China and India.

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The notion of the sector is a very promising idea in negotiations because many American senators and congressmen fear so-called the leakage. The opportunity for leakage is fairly limited to the steel and cement sectors. The U.S. and Chinese steel and cement industries comprise more than 40 percent of global shares. So although it is not easy challenge, we could find a common ground based on a sectoral approach rather than a very complicated, economy-wide approach.

Transformational Technologies

In order to make the significant reductions of CO2, we need so-called transformational or innovative technologies. The Japanese government has identified the 21 most effective and promising technologies in this field, including solars and fuel cells and electric cars and so on. **[Slide 7]**

We need some kind of internationally binding framework to reduce CO2 emissions

We would like to create a common understanding on the world map about which technologies are the most important and effective, where we stand, what kind of technology that developing countries need and also what money should it be allocated and who should take what responsibilities. If we share the common roadmap, then we could make another step toward the real outcome. **[Slide 8]**

Environmental taxes and emissions trading are just policy tools. Our real purpose is to accelerate the development, the demonstrations and deployment of the conventional technologies, as well as innovation technologies.

Obama Message

I said that APEC is not a negotiating body, but on this slide **[Slide 10]** is President Obama's message on these issues. His clear position is very encouraging. He has said that the only real solution to climate change requires all major emitting nations to join in the solution. I do not know their national interests, but we have to find common grounds. Also, the United States must make a concerted effort to develop an effective climate change policy at the global level. U.S. must reengage with UNFCCC.

APEC Impetus to Copenhagen

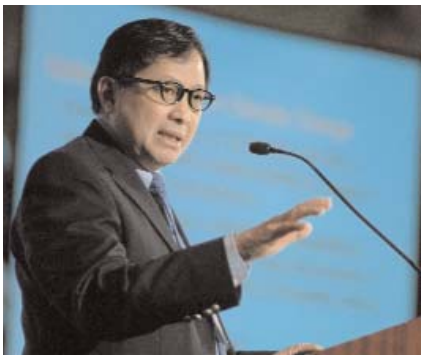
The last thing I'd like to emphasize is this year's calendar. **[Slide 12]** Many people already mentioned the Copenhagen Climate meeting, which begins December 7. One month before that very important gathering, is the APEC summit in Singapore. As I said, APEC is not a negotiating body, but we could show our strong political commitment at the leaders' level, which would have a very big impact on the outcome of the Copenhagen meeting.

Internationally Binding Framework

In conclusion, I do believe in order to significantly reduce the CO2 emissions, we need some kind of internationally binding framework. But also, we need a forum focused on fostering encouragement, support, and cooperation in the area of climate change. I think that is the role of APEC. APEC can and should make big contributions aimed at meeting that global challenge. Thank you.

JOAN MACNAUGHTON: We now turn to Dr. Hadi Soesastro, who is the Chief Economist at the Center for Strategic and International Studies in Jakarta and he's a member of the Terrestrial Carbon Group.

HADI SOESASTRO, Chief Economist, CSIS, Indonesia; Member, Terrestrial Carbon Group: Dr. Soesastro's PowerPoint presentation is available at—http://www.pecc18.org/materials/hadi_pecc.ppt



Dr. Hadi Soesastro, Chief Economist, CSIS, Indonesia; Member, Terrestrial Carbon Group

Thank you very much, Madame Chair. I'm going to talk about Indonesia and an APEC agenda on climate change.

There are three points I am going to make. First, I'd like to provide you a picture of Indonesia's climate change challenge.

My second point concerns the Copenhagen Climate Meeting and beyond. My third point concerns the role of APEC. Basically, my interest is to see how APEC can take a part in this and both help in the global negotiations as well as to assist its members in dealing with this challenge. **[Slide 1]**

So Indonesia is an example of a country that is highly vulnerable to climate change. At the same time, it is also a major source of greenhouse gas emissions and I would like to discuss with you some of the policy weaknesses and policy constraints that a country like Indonesia is facing. **[Slide 2]**

Vulnerability of Indonesia

If you read the World Bank Report on Indonesia and

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climate change produced two years ago and another one, the Asian Development Report on Indonesia, the Philippines, Thailand and Vietnam, which was issued just a few months ago, you will see how vulnerable Indonesia and a number of its Southeast Asian neighbors are. **[Slide 3]** This is a very quick picture to show the degree of vulnerability in the region of Southeast Asia. **[Slide 4]** It varies from one part to another, but you can see that in the case of Indonesia, for instance, Java, in particular, West Java, and that's the seat of the central government, is highly vulnerable.

Third-Largest Emitter

Indonesia is seen as the third-largest source of emissions after the United States and China. **[Slide 5]** But it comes mainly from deforestation and land-use change, which contribute about 85 percent of CO2 emissions and the others about 15 percent.**[Slide 6]**

But it's also growing rapidly by about seven percent, close to seven percent annually. And these are the sources of the other emissions: industry contributes about 40 percent; electricity generation about 27-30 percent, transportation, 20 percent, and so forth. **[Slide 7]**

National Action Plan

Now, how do we respond to this? We have signed the Kyoto Protocol and we have ratified it in 2005. **[Slide 8]** Since then, we have formulated a national action plan for climate change in 2007 and we have a long list of priority projects in the area of mitigation. The focal point here is the Ministry of the Environ-ment. They have set up a climate change division.

At the same time, we now have a national council on climate change, which is chaired by the President himself. **[Slide 9]** And the function of this national council is to formulate policies, in particular to coordinate activities given that many parts of the government should be involved, to monitor and evaluate the implementation, and also to support international negotiations. For this, seven working groups have been established for the different issues: mitigation, adaptation, technology transfer, financing, and so on.

Policy Weaknesses

What we have observed so far is that even with all these efforts, Indonesia continues to face severe policy weaknesses and capacity constraints in implementing its national action plan. **[Slide 10]**

Forestry policies are, of course, of key importance here, but the enforcement is so weak. Bio-fuel protection, something that has been recently introduced, has not taken account of the risk of deforestation. Power generation—we began with a program to overcome some of the power shortages, but unfortunately, all this power generation is coal fired.

And on renewable energy, there is a lot of potentials but they continue to be underdeveloped. And also, we have not made good use of the many opportunities that have been created under the UNFCC, as well as the Kyoto Protocol, like the clean development mechanism, land use and land use change, and forestry at UCF, as well as REDD. But we are the most ill-prepared in the area of adaptation.

Capacity-Building

Enhancing capacity therefore becomes of great importance and, in that regard, international cooperation can play an important role. **[Slide 11]** One example of this is the Indonesia-Australia Forest Carbon Partnership, which was concluded last year. This partnership includes such areas as policy development and capacity-building as its key element, technical support for forest carbon monitoring and measuring, and development of demonstration activities to reduce emissions from deforestation and forest degradation. But this is just one example. The government of Norway has also come in another big way.

Impetus of Bali Actions

Personally, I hope that the Bali Roadmap and the Bali Action Plan, for instance, which resulted from the meeting in December 2007, would provide a framework for countries such as Indonesia in which, it can clearly link its national policies to this international effort. This would give a push to domestic efforts and its capacity to participate internationally. But at the same time, through this framework, we can also cooperate with other countries because Indonesia can make a major contribution to climate change given that it is a major source of it.

Copenhagen and Beyond

Now, let's quickly look at where we are in terms of the process towards concluding an agreement in Copenhagen and beyond. **[Slide 12]** We all understand it is a very complex international agreement and I'm very glad to hear what has been said already, that is to say, that we may in fact hope for some kind of a breakthrough in the negotiations given that the United States is on board. And we have seen that major developing economies, including China and India, do want to participate more actively now.

I will begin quickly with what has been described as an ideal process in negotiating this very difficult topic by this pyramid. **[Slide 13]** Ideally, you should have an agreement about "A," the top part of this pyramid, which

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is the ultimate objective of the convention. Derived from that is long-term global emissions as well as the medium-term level of greenhouse gas stabilization and so on.

And only at the end do you begin to negotiate the so-called MRV—the measurable, reportable, and verifiable—fair and viable nationally appropriate mitigation commitments by developed countries as well as the so-called NAMA—nationally appropriate mitigation actions—by the major developing countries.

Green Protectionism/Green Stimulus

I talked a little bit about the hope for a breakthrough. **[Slide 14]** President Obama has taken some leadership by inviting this meeting of 16 major economies that are going to meet at Magdalena Island in July. But one of the problems is the so-called green protectionism that is emerging now and how to deal with it given the economic crisis.

In the major developing countries, China is already doing much more than many of us have realized, and in fact, about 40 percent of its fiscal stimulus package can be regarded as green stimulus. These are important for an agreement in Copenhagen. We need binding legal commitments on targets for the developing countries and also some commitment on the part of major developing countries, particularly China and India, on the financing of the delivery of clean technology as well as governance of the funding. Those are all important issues. **[Slide 15]**

Role of APEC

If I may just take one final minute about the role of APEC, which to me is something that we need to discuss seriously. Why APEC? APEC has always been something that is meant for community building. Yes? It's certainly not a negotiating forum. But it can do a lot, in fact, in the area of climate change.

APEC is contributing a large part of global gas emissions, certainly, and Mr. Ito already said, can help in this process to build confidence. **[Slide 17]** I was thinking of something similar to the area of trade and investment. APEC could develop an action plan framework to strengthen NAMA, this Nationally Appropriate Mitigation Actions in each of the countries.

This would not be new. In Sydney,.APEC members already declared that they want to support these international efforts, although they only came up with aspirational goals. **[Slide 18]**

Adaptation

Finally, I would like to suggest that APEC focus on the issue of adaptation, which is one of the most difficult aspects here. **[Slide 19]** This relates to this whole concept of enhancing resilience in the region. We want to promote resilience in this part of the world given that the poor and the vulnerable are the most affected by climate change, in part, because they are the least prepared and they have the least resources for adaptation.

It is in this area that APEC can make a contribution. And, in fact, the declaration itself has already indicated this will be an important aspect for APEC. Thank you.

JOAN MACNAUGHTON: Thank you very much. You give an appropriate reminder of the significance of adaptation given that we have been too slow with our efforts on mitigation. But also, this is an important insight in to what APEC as a whole might contribute from the perspective of the vulnerabilities of some member economies. Is there anybody who would like to ask a question?

QUESTION & ANSWER PERIOD

HYUNMIN KANG, PECC Youth Delegate, Korea: I want to direct my question to Mr. Hadi Soesastro on the question of green protectionism. Would you please give us some examples of green protectionism?

HADI SOESASTRO: This has to do with the issue of a level playing field. Some industries, for instance, in the United States would argue that if they produce in a more green manner but other countries like China and India do not, U.S. industries would be at a competitive disadvantage. They therefore ask for protection. That is seen as "green protectionism."

CHIEH-CHI HSIEH, PECC Youth Delegate, Chinese Taipei: I have a question regarding to the cooperation between U.S. and China in developing green technology. The United States has put a lot of R&D into green technology. If you were to pursue U.S.-China cooperation on climate change, that might entail the transfer of these technologies to China. I was wondering if the United States would be willing to give up such highly profitable technology. Thank you.

JOAN MACNAUGHTON: Could I ask Prof. Lieberthal to have a go at that one?

KENNETH LIEBERTHAL: Concerns about protection of IPR will have to be addressed. When you transfer a technology, you generally do so for a fee and the fee doesn't make sense if that technology then is abused and spread elsewhere. Some safeguards therefore will have to be developed. But I think the notion of a model where the U.S. has the technology, China doesn't, and the U.S. transfers the technology to China misses most of what is going to take place.

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This is joint development of new technology, where, for example, the U.S. has stronger basic sciences, but the Chinese actually are very good at appropriate engineering, have lower costs of scaling up and a better regulatory environment so that you can move a lot of projects forward much faster than you can in the United States. So you have co-investment to conceptualize technology not only as basic science, but also how to apply it, how to scale it up, how to make it into a viable business model. And in that, we can work together and both sides can profit from it

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JOAN MACNAUGHTON: Dr. Hu?

HU TAO: Yes, I think Prof. Lieberthal is quite right. Actually, it is not only a one-way flow from the United States to China. I'll give you an example. The United States has very good basic science on the photovoltaic technology. But the best applied production actually is in China, not in the United States.

The case is similar with respect to wind power. And in the future, I assume that Chinese renewable technology products will be re-exported back to the United States because of the comparative advantage in the area of labor. This is two-way communication. Thank you.

HADI SOESASTRO: I'd like to add a couple of comments. One is that there are many technologies. The top-notch technologies are very attractive, but we could consider the contribution of reusing CO2. The saving is much higher than the cost of the introduction technologies. So from the other side, companies in developed countries should be flexible in considering whether to give these technologies at the very low cost for developing countries vis-à-vis the top-notch technologies.

And another thing is that already China is introducing a lot of technologies commercially. The government is ready to support additional technologies that the commercial sectors in developing countries cannot afford to develop. But we should take different approaches for the levels of the technologies in question. I think it is very important.

JOAN MACNAUGHTON: Thank you very much. Just to round off, I'd like to say that the discussion and questions we've just heard illustrate the importance of both business and government acting, but perhaps we've not been quite as quick or imaginative as we might be in tackling them. That's one of the themes I think comes out from the presentations.

Prof. Lieberthal made an incredibly important point about cooperation here being at the heart of the political relationship between the United States and China. I'd like to broaden that vital insight from him and say that if the major countries of the world actually work well together on tackling the climate change challenge, this could have very important benefits in terms of increasing trust, to use Prof. Lieberthal's phrase. Obviously, if we get this wrong or we fail to make the needed progress, then there's a very significant downside.

We've heard quite a lot about the economic recovery,

From left, Ms. Joan MacNaughton, Senior Vice President for Power and Environmental Policies, Alstom Power Systems; Mr. Hajime Ito, President, JETRO New York; Dr. Hu Tao, Coordinator, China Climate Change Partnership Framework, UNDP, Beijing; and Dr. Hadi Soesastro, Chief Economist, CSIS, Indonesia; Member, Terrestrial Carbon Group

issues of trade and IPR. I think one of the challenges for policymakers is going to be to get the framework both general enough to allow for innovation and to avoid unintended side effects, but equally, to have it deep enough to tackle some of these undoubted barriers and challenges.

Mr. Ito talked about the appeal to enlightened self-interest, if you like, and he did it in the context of the ability within APEC to share thinking, which I think is perhaps an appropriate point to end on. APEC clearly has a vital role to play, not just because of its general economic and political weight, but also because of the breadth, the variety of countries it encompasses.

This couldn't have been more clearly illustrated than in Dr. Soesastro's talk, and in bringing those different perspectives together and hopefully then contributing to the overall global advancement of solutions in this vital area. The potential impact if APEC did this successfully could be enormously positive and we all hope very much that it will succeed.

I'd like to thank all of the panelists who gave us such a wonderful and rich breadth of insights and who stimulated a lot of thinking for me, and I'm sure, for all of you. Thank you very much. ♦