THE BROOKINGS INSTITUTION

CHINA ON THE WORLD STAGE: CLIMATE CHANGE,

REGIONAL BLOCS AND RESOURCE INVESTMENT

Washington, D.C.

Monday, November 30, 2009

PARTICIPANTS:

Introduction:

TED PICCONE
Senior Fellow and Deputy Director for Foreign Policy
the Brookings Institution

Moderator:

CHARLES EBINGER
Senior Fellow and Director, Energy Security Initiative,
the Brookings Institution

PANEL 1: THE U.S. AND CHINA FROM THE PRESIDENTIAL SUMMIT TO COPENHAGEN

ROSS GARNAUT
Distinguished Professor of Economics
The Australian National University

BARBARA FINAMORE
Director
Natural Resources Defense Council China Center

ELLIOTT DIRINGER
Vice President for International Strategies
Pew Center on Global Climate Change

PANEL 2: ARE CHINA'S GROWTH STRATEGY AND INTERNATIONAL ECONOMIC POLICY CHANGING?

DANIEL ROSEN
Visiting Fellow
Peterson Institute for International Economics

LIGANG SONG
Associate Professor and Director, China Economy and Business Program
Crawford School of Economics and Government
The Australian National University

WING THYE WOO
Nonresident Senior Fellow
The Brookings Institution

XIAO GENG
Director, Brookings-Tsinghua Center
The Brookings Institution

* * * * *

P R O C E E D I N G S

MR. PICCONE: Good morning -- and the mike is working. Monday after Thanksgiving, so we're a little slow in getting started this morning. Thank you for your patience.

I'm Ted Piccone, I'm a Senior Fellow and Deputy Director for Foreign Policy here at the Brookings Institution.

Welcome, on behalf of the Foreign Policy here at Brookings.

This morning's event is part of a series of joint research and periodic updates on developments in China, sponsored by the Australian National University, the Chinese Academy of Social Sciences, and the John L. Thornton China Center here at Brookings.

It is particularly timely, in light of the high-level, Presidential-level diplomacy taking place these days, involving all three countries -- the "ABC countries," we call them. President Obama's recent return from his first state visit to China, Prime Minister Rudd of Australia is in Washington today to discuss preparations for the Copenhagen meeting on climate change. And both President Obama and, I believe, Premiere Wen Jiabao are slated to travel to

Copenhagen beginning next week to personally convey their respective governments' commitments to reducing carbon emissions.

So it is very fitting today that we take up two of the most important issues facing China. First, the issues of clean energy and climate change. As you know, the U.S. and China are the most important countries in the world in terms of carbon emissions. And during President Obama's visit to China, the leaders signed no less than seven agreements on U.S.-China cooperation in clean energy, and made some notable statements about U.S. and Chinese approaches to Copenhagen.

Both countries this past week have made important pledges regarding cuts in carbon emissions -- though how significant these are is really up to our panelists to help us interpret.

The panel will help provide context on both what has transpired recently in the U.S.-China relationship, and on what we should expect looking ahead to Copenhagen, but also more generally.

The second issue is how China is coping with the global economic crisis. How is China faring? What changes are occurring in its own economy? And how will these affect, and be affected by, the country's international economic behavior. That will be the second panel this morning.

And I'm very pleased that we have panelists here from Australia and China to join our group. And I thank them for traveling so far to participate in today's event. Thank you again to ANU and the Chinese Academy of Social Sciences for their support for this series of meetings. And I'm delighted again that Brookings can host this event, and I'm going to ask the first panel -- and Charlie Ebinger, Director of our Energy Security Initiative, to come up and get going.

Thank you.

MR. EBINGER: Thank you, Ted. Ladies and gentlemen, we're delighted to have you here today.

As Ted was suggesting, these are indeed momentous days as we look towards the opening of Copenhagen, a little more than week away. And we hope that China and the United States will play dynamic roles, obviously, at that forum. Because without both stepping up to the table, I think it's highly unlikely we'll see more than a process for further negotiations put forward. That may be what we have to live with, but we'll hope that there's still time to have more.

We have a very distinguished panel this morning. And let me just briefly introduce them, and then we'll get underway.

Our first panelist will be Ross Garnaut, who is a Distinguished Professor at the Australian National University. Professor Garnaut is a Vice Chancellor's Fellow and Professorial Fellow in Economics at the University of Melbourne, as well as a Distinguished Professor at the Australian National University.

He is currently chairman of a number of international companies and research organization, including the international food policy institute in Washington, and the Papua New Guinea Sustainable Development Program Limited in Singapore.

In addition, he is a Director of OK Tedi Mining Limited in Papua New Guinea, and a member of the board of several international research institutes, including the Lowy Institute for International Policy in Sidney, the Asia Link in Melbourne, the Center for Strategic and International Studies in Jakarta, and the China Center for Economic Research at Beijing University.

He is the author of numerous books, which I won't go into. But he also has had a long and distinguished record as a policy advisor, a diplomat and a businessman.

He was the senior economic advisor to Australian Prime Minister Hawke from 1983 to 1985, and subsequently served as the Australian Ambassador to China, from 1985 to 1988. In September 2008, Professor Garnaut presented the “Garnaut Climate Change Review” to the Australian Prime Minister. The review, which has been highly noted, was commissioned by the Australian government, and examines the impact of climate change on the Australian economy, and provides potential medium to long-term policies to ameliorate these challenges.

Our second panelist will be Elliott Diringer. Dr. Diringer is the Vice President for International Strategies at the Pew Center on Global Climate Change. He oversees the Center’s analysis of the international challenges posed by climate change, and strategies for meeting them. He also directs the Center’s outreach to keep governments and actors involved in international climate-change negotiations.

Mr. Diringer came to the Pew Center from the White House, where he was Deputy Assistant to the President and Deputy Press Secretary. In this capacity, he served as a principal spokesman for President Clinton, and advised senior White House staff on press and communications strategy. He previously served as a senior policy advisor, and as Director of Communications at the Council on Environmental Quality, where he helped to develop major policy initiatives.

Before joining the White House, Mr. Diringer was a veteran environmental journalist. As a reporter and editor at the *San Francisco Chronicle* for nearly 14 years, he covered the 1992 Earth Summit in Rio, and authored several award-winning environmental series.

Mr. Diringer holds a degree in environmental studies from Haverford College, and in 1995 and '96, he served as a Nieman Fellow at Harvard University.

Our third panelist, Barbara Finamore, is the founder and Director of the Climate Change Program at the Natural Resources Defense Council. Ms. Finamore leads NRDC's 25 member staff in Beijing to promote innovative policy development, capacity-building and market transformation in China, with a focus on climate change, critical components of energy efficiencies, green buildings, advanced energy technologies, environmental law and a number of other activities.

Ms. Finamore has had nearly 30 years of experience in environmental law and energy policy, with a focus on China for nearly two decades. She has worked in NRDC's nuclear nonproliferation program at the Departments of Justice and Interior, and for the United Nations' Development Program and the Center for Environmental Law.

She has served as President and Chair of the Professional Association for China's Environment -- PACE, and is the co-founder and President of the China-United States Energy Efficiency Alliance, a non-profit organization.

She holds a JD with honors from the Harvard Law School.

So without further ado, let's get Ross Garnaut up to the podium.

MR. GARNAUT: Hi. It's good to be with you again in the ABC meeting on China -- Australian National University, Brookings, and China Academy of Social Sciences. We put out a book each year embodying results of the latest research on the Chinese economy, and the Brookings version of that will be out soon. It's not out for the occasion this year.

We're meeting at an unusually interesting time in China's place in the world and in China-U.S. relations. They're always interesting, but a number of things are coming together right now -- most importantly the two issues we're discussing today: the aftermath of the great crash of 2008, which has left a legacy of continued growth momentum and confidence in China, and concerns about the growth outlook in the United States economy and a very difficult budget situation far into the future as we can see.

So one of the things that the great crash has done is accelerate a tectonic shift that we've all been aware of for a long time -- a shift in the increasing weight in world affairs of the big Asian developing countries -- first of all, China, but also India and Indonesia, and the relative decline in weight in world affairs of the old industrial countries of the North Atlantic.

The acceleration of the shift could not have been more dramatic -- and the panel will be addressing that in the next session.

The great crash and the great recession had important effects on the climate-change discussion. Globally, it temporarily slowed down the growth of greenhouse gas emissions, but not by much -- and certainly not by enough to significantly change the rapid movement of the world towards high risks of dangerous climate change. The slowing gives us just a couple of years of breathing space, if we take as our measure the levels of global emissions. But from some time in the future, like 2030, if we're plotting emissions growth over time, the effect will have only been to shift back a couple of years the attainment of various levels of annual emissions under business-as-usual. And even in the depths of the recession, emissions were still so large that concentrations in the atmosphere were still growing quite rapidly.

The second effect of the crash on climate change was that it increased public investment in all spheres, and part of the stimulus programs of most countries, including China and the United States, included investment in emissions-reducing technologies. That was quite significant.

And in the case of China, the period of huge fiscal and monetary expansion has been associated with quite large investments in emissions-reducing activities, and that's increased confidence in China that it can seriously change the relationship between economic growth and emissions, and helped to give the confidence that led to the statement by the Chinese government late last week.

And the third change, the third effect of the crash on the climate change outlook is that it made the political economy of taking action more difficult in all countries, but especially in the countries, the Western countries most affected by the recession. And I think we'll be living with the overlay of that difficulty for some time.

Just looking at three countries, in particular -- Australia -- not because it matters so much on the world scene, but because it's quite an interesting example of management of climate change issues in the aftermath of the crash, with much in common with the United States -- the United States, itself, and China, I'd highlight a few points.

In Australia, we're going through a rather dramatic period. Like the U.S., we have a House of Representatives and a Senate, and the Government's position is stronger in the House of Representatives than the Senate.

Like the U.S., we had a government, until quite recently, that at first contested the science of climate change, and then was seeking to slow down international movement on doing something about it. That all changed in Australia a year before the United States in November 2007, with the election of the Rudd Labor Government, which had campaigned strongly on the need to change climate-change policy. It was probably the second main election issue in 2007, the biggest being industrial relations policies. And that preceded by a year a similarly large turnaround in approach to climate change in the United States.

The Australian and the United States positions influenced each other under the Bush and

Howard Administrations, and probably are continuing to influence each other. Prime Minister Rudd is in Washington today to discuss the approach to Copenhagen with the President.

Today, American time -- you call it "Eastern Time," and on Tuesday, Australian time, we're probably going to see a change in the leadership of the opposition in the Australian parliament over the climate-change issue. So we've not only had our first climate-change election, we're about to have our first climate-change change of high-level political leadership. And all of this is rather dramatic in the politics of Australia. And the history of it is the difficulties of the opposition parties, the Conservative parties, in coming to grips with the changes that have occurred under the Rudd government.

Rudd came to power committed to introducing an emissions trading scheme, and having Australia play an active role in international discussions on mitigation. This wasn't all that easily politically in Australia, as it isn't in the United States and for much the same reason. We're both economies with an abundance of fossil fuels, and we've developed patterns of consumption and investment that are premised on the availability of relatively cheap fossil fuels.

Australia, the United States and Canada stand out as the three developed countries with far higher emissions per capita than any other developed countries -- about twice as high as Europe, Japan, New Zealand. So there are plenty of interests that are threatened by a change in policy.

The government doesn't control the numbers in the Senate, and the Green Party, which is quite strong in the Senate, wants very strong action on climate change. They thought the government wasn't doing enough, and the Conservative Party thought it wasn't giving enough assistance to high-emitting industries. And so Mr. Rudd's legislation was held up in the Senate. He finally made some concessions in the form of giving out more free permits to over-subsidized heavy-emitting industries, and reached agreement on those lines with the leader of the opposition. And the opposition parties are probably in the process of getting rid of him for accommodating the government's legislation.

In the United States -- you're much closer to that than I am, and I look forward to learning more about that today -- but the announcements last week were, I think, historic: the President committing himself to a version of the bills which have passed through the House but not the Senate. That must increase the chances of something like that becoming law. I'll say a few more words about that later.

And in China, we also had announcements last week -- not accidentally in the immediate wake of the American announcements. China was always going to show its hand more clearly after the United States had.

It has committed itself to 40 to 45 percent reductions in the emissions' intensity of production between 2005 and 2020. There's been a fair bit of commentary here about how that's not really much of change, because China had been reducing emissions intensely at something like that rate, anyway. And also, it's not an absolute reduction in emissions.

I think it's a very big change. In the first half dozen years of this century, China's emissions were growing about as fast as GDP. The energy intensity of output wasn't falling. The huge falls of the '90s, which were the product of introducing pricing for energy and moving away from some of the processes of central planning had brought down energy use per unit of GDP. That process had come to an end by 2000, and energy use had continued to grow more or less in line with GDP.

Early this century, the emissions-intensity of energy use remained very high because of the dependence on coal. And it was actually a change in policy that led, over the last two years, to substantial reductions in the emissions-intensity of GDP. I don't think the fact that China had already succeeded in getting itself onto a new path diminishes the significance of it committing itself to continue on that path to 2020.

For what it's worth, in my climate change review -- it was published by Cambridge University Press last year, and it's on the web, Garnautreview.org.au. I did some careful calculations of what each country would have to contribute if the world was to achieve the 450 ppm concentrations goal that the Europeans have for some time accepted as a reasonable objective of policy, and which Australia and the U.S. are heading towards.

And what China is doing is substantially more than their part in the arithmetic that I presented in that review.

The United States, on the other hand, with 17 percent reduction from 2005, by 2020 is not doing as much as developed countries will need to do. My own view is that the rest of the world has to accept that as a reality. The most important thing is that the rest of the developed world -- our country included -- doesn't start to see the United States' position as the norm, because we won't get strong global mitigation if it becomes norm.

We have to see it as an exception that the U.S., for its own political reasons, at this moment in history, can't do much more than that. And we have to see it as an exception, and not something that we all have to weaken our own positions to move into line with. And I think that strong global mitigation is feasible within that context, as long as we see clearly the position of the U.S.

In the U.S., as in China, confidence in starting to make movement towards reduced emissions -- in China's case, first as a ratio to GDP, and later on, absolutely confidence in progress will make it politically possible to do more.

The mitigation of climate change has a cost. I estimated, in my review, after the most elaborate set of long-term modeling of the Australian and global economies I think has been done anywhere, that the cost to the middle of this century to Australia of participating, playing its full proportionate part in a strong mitigation regime directed at 450 ppm, would take something approaching, but something less than, 0.2 percentage points of GDP growth per annum of the total. It would delay by a few years Australia reaching the average per capita level, income level that it would otherwise attain in 2050.

That all because part of the Australian debate, and people were prepared to accept those costs. But we're probably making the costs a good deal higher than that, and higher than they need to be, by the way we're going about supporting high emissions industries as a result of the political process that's gone on.

This is happening in all countries. All of them are subsidizing trade-exposed, emissions-intensive industries, because each country fears that its trade-exposed, emissions-intensive industries will become less competitive because others aren't doing as much on climate change as it is. And the net effect of this everywhere is to increase greatly the cost of mitigation in all countries. We need to use the reality of an emerging global agreement for all of us to get rid of this highly distorting stuff.

And it's important in budget matters -- the U.S., Australia, every country in the West faces a dreadful budget outlook, the U.S. much worse than Australia's. Being able to auction permits rather than giving them out free to high-emissions industries would have a material effect on budget prospects. So it's how we handle this issue is not only important for managing the big effort that's required on climate change, but it's going to have a significant effect on our capacity to bring budgets back into shape in the aftermath of the great crash.

The U.S. and China announcements last week I took as being very helpful in the approach to Copenhagen. We would like both to have been stronger, but both do represent good shifts in position from a couple of years ago. The whole world needs China and the U.S. to be taking strong positions if we're going to get a strong global agreement. And I don't think that we should use disappointment that the U.S. or, for that matter, China is doing enough as an excuse for the rest of us becoming less ambitious, because there's too much at stake.

Thank you.

(Applause)

MR. DIRINGER: Good morning. My thanks to Brookings and ANU for the opportunity to share some thoughts with you this morning.

As the theme for my remarks, I want to pick up on a word that Professor Garnaut used a few times in his remarks, and that word is "confidence." Because I've come to believe that the ultimate objective of climate diplomacy -- whether we're talking about bilateral summitry, or multilateral negotiations -- is to build and maintain confidence between and among nations. That's because I believe countries will ultimately deliver their strongest possible efforts only if they are confident that others -- their counterparts, their competitors -- are also delivering their strongest possible efforts.

We all need confidence that others have the ability to act and are intending to act. And once they've committed to a set of actions, we need confidence that, in fact, they are fulfilling those commitments.

And this is something of a virtuous circle, because we need greater confidence to get us to agreements and then, hopefully, good agreements delivery greater confidence in turn. And I think it's reasonable to argue that one of the greatest obstacles to achieving global progress on the issue of climate change has been a lack of confidence, in particular between these two countries, the United States and China.

As we all know in Washington there has been longstanding concern here in this town, certainly going back to the days of the Kyoto negotiations, that China could not be counted on to do its part. And many have argued, on that basis, that the U.S. should hold off on enacting mandatory greenhouse gas controls here.

For its part, the United States has probably provided plenty of reason for a lack of confidence in our efforts. First, the U.S. having walked away from the Kyoto Protocol. Second, still not to date having enacted any mandatory controls on our greenhouse gas emissions. And within the bilateral context, there is a long history of the U.S. helping to launch, but then abandoning, joint initiatives. And I think this has periodically eroded whatever trust had begun to be built between the United States and China on these issues.

At this point, though, I think we can point to a number of very promising signs that, in fact, we are seeing confidence being built. And I would tart with the recent summit in Beijing.

Climate change in the context of this summit was a point of agreement rather than disagreement. It was one of the points of agreement highlighted by the leaders. Many of the concrete outcomes of the summit were energy and climate related. The joint statement from the two leaders contained some very important language on the issue. Both countries resolved to take strong mitigation actions, and the two sides said that they "resolved to stand behind these commitments" -- important words, I think, coming from the leaders of the world's two largest greenhouse gas emitters.

Together they launched a series of joint initiatives on clean energy, electric vehicles, efficiency, coal, other areas of clean energy. And I think we can look to those to be producing some concrete results over time that, in fact, will better enable both countries to tackle these issues.

But importantly, I think they also do provide opportunities to continue to build and strengthen confidence in areas such as technology-sharing, which are probably more practically approached in the context of specific initiatives rather than in a broad, complicated negotiation. And I would point, in particular, to a Memorandum of Understanding achieved between the U.S. EPA and NRDC with the goal of strengthening capacity for greenhouse gas emission inventories. That, of all the initiatives launched at the summit, I think that is the one that probably speaks most directly to the issues in the global negotiations.

So I think the bottom line on the summit is that while it may not have achieved any fundamental breakthroughs, from the perspective of confidence-building, it was certainly a success.

But the summit, of course, has already been overshadowed by what came next -- the two countries' putting numbers on the table, something the U.S. has not done since the Kyoto negotiations, and something China, frankly, has never done.

In the case of the U.S., President Obama has proposed a provisional target in the range of 17 percent below 2005 by 2020. In the case of China, what we have heard is a voluntary goal to reduce carbon intensity 40 to 45 percent in the same timeframe.

Now each is saying that the other's offer is not enough. Many others have expressed disappointment in both. But I think the fact that the two largest emitters now have numbers on the table is, in fact, a sign of greater confidence on both sides, and is a major step forward.

And I think it should give us all greater confidence, because a global agreement, frankly, is only possible with these two participating. And numbers on the table is a critical step in that direction.

But ultimately, I think the real test is what we can achieve multilaterally. Ultimately, what we need are binding commitments from all the major economies.

And I think the question for Copenhagen is how far it can move us toward that objective.

I would foresee the outcome in Copenhagen in two broad dimensions, the first being a set of political commitments. These are individual commitments from the major countries on the types of mitigation actions they intend to undertake. And these are also financial commitments from the developed countries to provide some prompt-start support, some up-front support to developing countries, both on climate mitigation and on climate adaptation. But, again, I want to be careful to characterize these as political commitments.

The second major dimension of what I hope to see in Copenhagen would be a start on the architecture of a future treaty. Because what we are seeing now is basically a two-step process. We are seeing a political agreement in Copenhagen that hopefully sets the stage for a legal agreement to be achieved next year. And if we’re going to get to that second step -- that legal agreement -- it’s important that parties in Copenhagen make some real progress on beginning to lay down the architecture -- how are commitments going to be defined in this treaty. What is the longer-term financial architecture to provide sustained, reliable support to developing countries? And, importantly, how are countries’ commitments going to be verified? And that, I think, maybe is the element most critical to instilling and maintaining confidence, among parties and in the agreement itself.

The question is, how confidence can a country be that others will do, and are doing, what it is they’ve promised?

Now, the Bali Action Plan which was adopted by governments in 2007 and framed the current negotiations contained an important phrase: "Measurable, reportable and verifiable." This was a new construct introduced into the climate negotiations. And parties agreed at that point that their mitigation actions are to be verifiable. That, I think, holds the potential to provide the kind of confidence we need.

But as we get closer to Copenhagen, we see that many parties are, to one degree or another, retreating from this concept of verification. China last week reiterated its view that verification should apply only to actions that are supported by the international community -- not to actions that a country like China takes upon its own. And of course, in the case of China, most of the actions that we would expect to see would be taken on its own, not supported by the international community.

The United States, for its part, doesn't use the word "verification" in its proposal on MRV -- "MRV" being the lingo we've developed for "Measurable, reportable and verifiable." So the U.S. has tabled an MRV proposal that manages to avoid using the word "verification." The proposal has a number of very important features. It would require annual greenhouse gas inventories from all the major emitting countries. It would require that they submit regular reports on their implementation of the actions that they've agreed to. It would require that both the inventories and these implementation reports be subject to expert review at the international level. All of these are important steps toward greater transparency.

But the U.S. proposal only goes so far as requiring a "peer review process." So at the end of this review process, in an open plenary of all parties, the party concerned makes a presentation on what it's doing, how it's implementing its actions, and other parties have the opportunity to comment or ask questions on that.

Again -- a step toward transparency. But one could easily see this evolving into a very polite ritual, in which countries tacitly agree not to be too harsh with one another. And I think, at best, what you get is an inconclusive debate, with a party claiming that it's in full compliance, and other parties disagreeing.

And this effective leaves the question of compliance entirely too domestic compliance regimes.

And my sense is that many in congress would be quite confidence of domestic compliance regimes here in the United States, but perhaps not as confidence of domestic compliance regimes in other countries -- including China. So what you wind up with is an asymmetry, or a perceived asymmetry, that I don't think goes far enough to provide the kind of confidence we need.

From our perspective, an agreement would need to establish some means to independently determine if a country is complying with its commitments. This could be done through some type of implementation committee appointed by the parties to look at the reports from the expert review panels, and any submissions from parties, and render a judgment: is a country complying with its commitments?

We would not suggest that this be a punitive approach, one involving penalties, necessarily. I think that's something that many countries, including China and quite possibly the United States, would not accept. Rather, we would suggest what is termed a "facilitative approach," a compliance mechanism that is geared toward helping to identify and overcome obstacles to implementation so that countries that are not in compliance can help be brought back into compliance.

There’s a well established school of thought in international law that naming and shaming may well be the most powerful incentive for compliance. That the potential, the potential threat of international censure and the reputational costs that that would entail is the most powerful force available to the international community to encourage parties to fulfill their commitments.

But, for effective shaming, you need effective naming -- which is why we think that you do need some mechanism in an agreement to actually reach that clear determination of compliance or non-compliance.

So, in sum, let me just say that I think we are seeing some very, very encouraging signs of progress. Even if the numbers put forward by the U.S. and China fall short of what many had hoped or expected, they are, in fact, major steps forward. And they open the way toward building an effective multilateral climate regime.

I think we should be watching, in Copenhagen, to see just how far we get toward building a solid architecture so that Copenhagen isn’t simply a pledging conference but that it, in fact, moves us closer to a full agreement that gives parties real confidence by providing clarity on commitments and on compliance.

Thank you.

(Applause)

MS. FINAMORE: Good morning. Thank you to the Brookings Institute for inviting me to speak today. We’re coming off an exciting few weeks of U.S.-China negotiations and discussions on climate change.

And I want to spend my time here today covering a little more detail of what’s happened in the last couple of weeks -- the significance of the partnerships and commitments that have been announced, and what we can look for from the U.S. and China in the Copenhagen negotiations and afterwards.

One of the key achievements of President Obama’s Asia trip was that it advanced the discussions on climate, and collaboration and clean energy, with China. And it laid the foundation for future concrete and meaningful cooperation that hopefully will build trust between the countries, and accelerate the development of clean energy deployment.

The key principle here is engagement and partnership. No country can address the challenge of climate change alone. And it's especially necessary for the major emitting countries -- particularly the U.S. and China, the world's two largest emitters -- to find ways to cooperate on the policy and technology developments that are required to shift to a low-carbon economy.

Reducing emissions from fossil fuels will require the development and deployment of clean energy technologies on a very large scale. And the U.S. and China both have strengths, complementary strengths, in innovation, design and manufacturing that will be vital to building this new energy economy.

You heard that in China, Presidents Obama and Hu announced a package of clean energy initiatives in the key areas that are vital to developing the technological solutions for reducing emissions. And they're mutually beneficial for both countries, and they can speed the transition to a clean energy economy.

So I'd just like to highlight in a little more detail some of these initiatives, and comment on their substance.

The first is the Energy Efficiency Action Plan, which we believe is key to achieving the levels of carbon intensity reduction and absolute carbon emissions that the two countries have recently pledged. And they have pledged to work together on some of the areas of greatest potential reductions through energy efficiency, including developing building efficiency codes, and building energy rating and labeling systems, benchmarking industrial energy efficiency, and harmonizing the test procedures and the performance metrics for energy efficient consumer products. And exchanging best practices and demonstrating these design and energy practices.

There will also be an annual U.S.-China Energy Efficiency Forum, and a Mayors' Sustainable Cities Program, where local officials can visit each other's cities to share experiences and best practices.

We believe -- and many, many analyses have shown -- that energy efficiency, which means getting more work done from the same amount of energy, is key, a vital part of mitigating emissions. And it's the cheapest, cleanest, fastest way to reduce any country's emissions, while saving money. From the U.S. side, over the past several decades, California has become a leader in energy efficiency, and its experience has shown that every dollar invested in energy efficiency leads to three dollars in energy savings.

But still, there's enormous untapped potential for energy efficiency in both countries. These energy efficiency measures alone, in China, are capable of reducing China's carbon emissions by 728 million tons by 2020 -- more than any of the other abatement sources combined. Yet investment in energy efficiency in China is only 5 percent of the investment that it's making in supply-side energy resources.

So the high energy consuming sectors account for over 70 percent of China's industrial energy use, but they only contribute 20 percent to the value added. So, therefore, these agreements, this Energy Efficiency Action Plan, we feel is going to be a vital step in moving forward, increasing investments in energy efficiency and, therefore, reductions in both countries.

Second, the two countries agreed to a renewable energy partnership. They're going to develop and implement policies to adopt advanced renewable energy deployment in both countries, through renewable energy road mapping, regional deployment solutions, advanced R&D, and public-private engagement.

The U.S. and China were the two countries in the world who invested the most in renewable energy last year. And they're the world's leaders in the design, the manufacture and the installation of various technologies in renewable energy. This cooperation is going to scale up that investment, that R&D, to the level necessary to take advantage of their competitive advantages in a way that benefits both countries.

There will also be an advanced grid working group to bring together U.S. and China policy-makers and regulators, leaders in civil society, to develop strategies for grid modernization. This is key to enable renewable energy to enter the grid in both countries.

There's a U.S.-China electric vehicle initiative. This is of particular interest to the leaders in both the Department of Energy and the Ministry of Science and Technology. This is going to accelerate electric vehicle development through joint product and testing standards, development of a road map to identify the R&D needs and barriers to widespread use of electric vehicles which still exist in both countries.

This is important because China and the U.S. are the world's largest consumers and manufacturers of vehicles, and electric vehicles are a key way for both countries to reduce their reliance on oil. China is projected to increase the number of cars by 10 times from its current level by 2025, while the U.S. transport sector is responsible for a third of all CO2 emissions. So this could not be more important.

And, finally, the U.S. and China agreed to cooperate on 21st Century Coal Initiative, which includes several measures designed to further the rapid commercialization of carbon capture and sequestration, and to develop cooperation on shale case initiative.

And, finally, as was mentioned earlier, we believe it's key that both the U.S. and China -- the EPA and the NRDC, China's most powerful government agency -- agree to cooperate on development of greenhouse gas inventories. This is the first time that EPA has partnered with the NRDC, which is responsible for all climate-change activities. And it's going to help develop cooperation on the key issue of monitoring, reporting and verification. So, while

China has not agreed to allow international verification of its emissions, this kind of cooperation gets us a step closer to that goal.

China has already developed an inventory of its greenhouse gas emissions back in 2004. It's developing its second one right now. And it's made it clear that it's going to include its carbon intensity target as part of its climate policy, part of its medium- to long-term social and economic development plans. And they're going to probably allocate this carbon intensity target down to the provincial and local level.

So, again, active engagement between the U.S. and China here on the details of its greenhouse gas inventory design is going to be key to enhancing the confidence between both countries.

So what are the expectations that we see for both China and the U.S. as they go to Copenhagen?

You've heard the announcements. Everyone's heard the targets that both countries have recently adopted. But I think it's important to note that China's new carbon intensity announcement is significant not only because of the actual number of the target, but because of the national monitoring framework that will accompany it at the domestic level.

China has already announced that it will establish a national, a greenhouse gas database management system. And we expect this to follow, in essence, the framework that it's already developed over the last five-year plan for monitoring, reporting and verifying its progress in meeting its energy intensity target. This includes things like, in September 2008, the establishment of a National Bureau of Energy -- a Department of Energy Statistics within the National Bureau of Statistics, which is creating a nationwide system for monitoring and verifying its energy statistics, and determining compliance with this very important target.

And that is not just at the national level, but the local governments have also improved their institutional arrangements for monitoring and verifying their energy intensity compliance, and there's staffing to do so.

And on the carbon intensity target, China has already required every province to develop its own climate change action plan, and to set up a climate change leading group, led by the governor of each province, or the mayor of provincial-level cities, such as Beijing and Shanghai.

This is going to be key in determining compliance with these targets. And enabling them to take place you need leadership at both the national level and the local government level.

China just yesterday announced -- issued a progress report on how well it has been meeting its commitments in its climate change action plan to date. And it’s 100 pages. It’s quite comprehensive. And it’s clear to me from reading this progress report, that China’s climate change efforts have been going on for some time, and have been quite comprehensive in everything from forestation to energy efficiency and renewables.

So neither country is going to be entirely satisfied with the commitments made by the other. But both should realize -- and I think our earlier speakers agreed -- that they represent a significant commitment, given the particular situation in each country.

China would like to see that U.S. and other developed countries commit to a reduction of 40 percent by 2020, from 1990 levels. The U.S. commitment of a 17 percent -- in the range of 17 percent from 2005 levels is equivalent to only a 4 percent reduction from 1990 levels. But it does represent -- or there are plans in the Waxman-Markey Bill to accelerate that as the years go by.

On the U.S. side they would like to see China set a slightly higher target for reducing its carbon intensity, so that China's absolute emissions can begin to slow, and peak as soon as possible, preferably by something around 2025. But we need to remember that China is both a developing country and a rapidly growing economy. And so, as it constructs the infrastructure and buildings to house its increasingly urban population that is, by its very nature going to create its carbon emissions, but China should be given credit for the significant actions that it has already take to, in the current five-year plan, to improve its energy intensity.

As you may recall, the commitment was to reduce its energy use per unit of GDP by 20 percent between 2005 and 2010. And it's already, at the end of 2008, gotten halfway to that goal, reduced its energy intensity by 10 percent, which corresponds to absolute emission, carbon emission, reduction of 670 million tons. And if it does achieve its target by 2010 -- and

I should say that this past year, it was over the average of 4 percent, so its efforts are accelerating -- we would expect to see a reduction in CO_2 emissions from this one measure, of something along the lines of 1 billion tons of CO_2 emissions.

So it’s important -- as our earlier speakers have said -- to recognize the actions that China has already taken that are quite significant.

With regard to the Copenhagen summit, as a whole, I believe it’s possible to come to a meaningful framework agreement -- sometimes called an “operational accord” -- that will include the commitments of each of the major emitting countries with respect to their mitigation actions, and how they will contribute to addressing their emissions. And there will also likely be all of the other key elements that we believe are necessary to make that framework meaningful, including agreements on the funding needed to assist the most vulnerable, least developed countries in adapting to climate change, and to strengthen forestation efforts around the world.

So the declaration by President Obama and other world leaders at the APEC meeting recently in Singapore, that they did not believe it would be possible to come to a fully binding legal agreement in Copenhagen in December, but that they would strive to achieve a meaningful operational agreement with all the major components of an agreement laid out, was a realistic assessment of the current situation.

It should not prevent us from coming to a meaningful, legally binding international agreement in the first half of 2010, or by the next climate meeting in December 2010 at the very latest. This additional time should allow the U.S. Senate to debate and consider climate legislation which, if and when passed, will demonstrate the United States' full commitment and leadership to implementing the policies necessary to cap and reduce our emissions, and form the basis for strengthened commitments by other countries as part of a final climate agreement, in which all countries are fairly contributing to the global effort to address climate change.

Thank you very much.

(Applause)

MR. EBINGER: We've had three very interesting presentations, and just to get us started, I'd like to throw out -- since I didn't hear any of the panelists mention, as part of the architecture that we hope emerges from Copenhagen, what you think can be accomplished, or what needs to be accomplished on the issue of intellectual property protection, since it’s fine to talk about all the government-government agreements we’ve made but, in reality, we all know that most of the technology that’s going to help ameliorate or mitigate climate change is really going to come from the private sector.

So if anyone would like to address that issue, on what we can expect -- either a Chinese position or an American position -- to be on that, we can start there, and then open it to the floor.

MR. DIRINGER: I’m happy to get us started.

My expectation is that a Copenhagen agreement may say little or nothing at all on the question of intellectual property rights. It certainly has been an issue in the negotiation with the G77 countries, the developing country bloc, calling for measures such as compulsory licensing to provide easier access to intellectual property, but with some very strenuous resistance to such ideas coming from the United States and Europe and other developed countries.

Given how far apart the parties are on that issue, my expectation is that it’s not something they can come to agreement on in Copenhagen. Nor do I think it's necessarily something that needs to be directly addressed at this stage in a climate agreement.

I think that if we look at the types of technology transfer that are needed, and the types of technology transfer that are taking place already, technology is, indeed, transferring through conventional commercial channels. It's the transfer of technology that has enabled both China and India to become world leaders in renewable energy technologies. And this was not done through any form of compulsory licensing but, rather, through commercial arrangements.

And we do have established multilateral fora for addressing issues of intellectual property when that's necessary. I think it's more appropriate to leave the issue in the WTO for now, unless there is a really demonstrated need to take it up within the climate context.

I think at this point, a new funding mechanism to help transfer technology really is the critical need -- I mean, something that will help transfer existing technologies, many things that are on the shelf now that aren't being deployed that could have some immediate impact. And we can do that without having to renegotiate the terms of intellectual property.

MR. EBINGER: Anybody else want to add anything?

MR. GARNAUT: Yes, I would agree with that. Intellectual property is a WTO issue, not a UNFCCC issue. And it's being handled elaborately within a WTO framework.

There is a need, as part of the set of agreements that we need to reach on climate change to have a commitment for high-income countries to invest public resources in research, development and commercialization of new technologies. Jendish Paguwati at Columbia has suggested to the Indian Prime Minister that that can be a way of handling the issue of historical responsibility that developing countries attach a lot of importance to.

And we need a lot of innovation very quickly to lower the cost of the transformation that has to be made. There are externalities in research, development and commercialization of new technologies, so there needs to be public resources in it. And I think high-income countries should be committing, each, to make sure that they're putting adequate resources into research, development and commercialization.

And there's a need at the research end, where research in the nature of things has to be a public good, and to the commercialization end, where you generate private property, the international commitment to expenditure on research, development and commercialization could include a component for paying for the utilization of privately-developed technology in developing countries.

MR. EBINGER: Okay, the floor is open.

Would you please, before asking your question, identify yourself and your organization, please?

Any questions from the floor?

Yes, sir.

There are mics coming, if you'll wait just a minute.

SPEAKER: I'm Erik McVadon, the Institute for Foreign Policy Analysis. I've been sitting here thinking big thoughts.

You've certainly made me feel encouraged. I was in China just before the Obama visit, and then I was disappointed to see that there were so many critical press reports. It seems to me that maybe some good things did happen.

I was thinking, and scribbled down a few things, that I'm seeing U.S.-China cooperation on North Korea, the climate, the global economic crisis, the Gulf of Aden situation. Yes, there are a lot of other unanswered questions with currency, and IPR, and Taiwan, and human rights -- and I could rattle on for a minute.

But it seems to me the way we're handling things -- one of the most important things you may have said this morning -- is how China and the U.S. are approaching some sort of partnership in this century.

I wonder if you think I'm being too grand in thinking the big thoughts?

MR. EBINGER: Anybody?

MS. FINAMORE: I would definitely agree with you. There were a lot of issues on the table for the summit, but it was clear to me -- and I was there for some high-level meetings during Obama's visit -- that the partnership agreements that I've described between the two countries on clean energy, energy efficiency and greenhouse gas inventories were the bright spots, and do indicate the potential for enormous mutual benefit both countries recognize and they're moving forward on that.

I was at a clean energy roundtable with two U.S. Secretaries -- Commerce and Energy -- and their counterparts in the Ministry of Science and Technology and the National Energy Administration. There were about 100 experts in the room, a lot from private industry, from both countries, who were vying with each other to show how fast they were moving ahead on things like electric vehicle development and renewable energy. The excitement in that room was palpable. It was real.

And I do believe that we're going to see, through implementation of these partnership agreements, enormous progress that may, then, move over -- will, hopefully -- to other areas of U.S.-China engagement.

MR. EBINGER: Questions?

Yes, sir.

MR. FEN: Thank you for your presentation. I am from the Chinese Embassy in Washington, D.C. My name is Xing Guo Fen. I'm the first Secretary. I would like to ask you a question.

We appreciate the visit of President Obama to China, and achieved good result. And as you pointed out, that we have formed a partnership and cooperation on energy and climate change. I think that is beneficial for the climate and also energy security.

I would want to ask whether you have any specific suggestions, ideas, to deepen the cooperation in this regard? As you know, now we have set up Energy Efficiency Center, and we have a Memorandum of Understanding, and also we have a 10-year framework, cooperation document.

So how to deepen the cooperation, and achieve concrete results from this cooperation? I think it's very important.

Thank you.

MS. FINAMORE: I can give three suggestions -- thank you for asking.

One would be funding of the U.S.-China Clean Energy Research Center. When Secretary Chu came to China in June, the announcement was that each country would put in $7.5 million to fund the Center. That is clearly insufficient. And during the summit it was announced a 10-times increase in the funding, to $150 million total -- but the money has to be found. And I think both countries are looking to the private sector for a lot of help on that.

But, really, the more funding that can be put into these agreements ,the more productive they will be.

Secondly, the EPA-NRDC agreement is still very much of a framework, without too much detail. I believe it's very promising but, again, there's a lot of exchange that's gone on between EPA and the Ministry of Environmental Protection over the years, in kind of improving capacity to monitor and verify conventional pollutants. So there's a lot of expertise there that's already been demonstrated, that could be applied further to CO2 and other greenhouse gas emissions.

So, again, just like the MOU that the two countries signed in July was much of a framework, and these agreements provide more detail, I think the next step for that one would be to provide some sort of annex or partnership that really puts the meat on the bone.

And third, in order to really deepen and accelerate the cooperation, we believe that it's very important to make each of these agreements a public-private partnership, to utilize the expertise that exists in the private sector, the business community -- but also at the state level in the U.S., which has led the way for many years on efficiency and renewables. To also take into account research institutes, utilities, and NGOs. The greater efforts that are made at this stage to utilize that expertise at all levels and not to make it just a government-to-government one, the more productive it will be.

MR. DIRINGER: I would agree with all of those points.

I would add just one more, which is continued engagement at the highest levels — particularly between Copenhagen and Mexico City at the end of 2010, if that's the deadline that's set for concluding a final climate agreement.

I think we'll see some very important progress in Copenhagen. But if the objective is, as I think it should be, a final legal agreement, there are some very difficult issues that will need to be worked through. And I think it will be important to maintain ongoing engagement at the leader level in order to deliver a successful conclusion to that second round of negotiation.

MR. GARNAUT: Yes -- and at a high diplomatic level.

I think that the discussions of what the U.S. and China are doing themselves on emissions needs to be brought more explicitly into the contributions that each make within a global framework for growth of concentrations of greenhouse gases that adds up to a solution, that adds up to the avoidance of dangerous climate change.

When you put things in that framework, you start to ask harder questions about how much needs to be done. So I'd like the bilateral discussion of these things to be put more explicitly into a global framework, with arithmetic integrity.

MR. EBINGER: Yes, sir.

MR. KEIDEL: I'm Bert Keidel with the Atlantic Council. I have a two-part question.

It's very encouraging to listen to the progress and process. And when I add up where it might go, just touching on Professor Garnaut's last comment, I don't yet see us getting past what are the potential tipping points and real serious changes in the global environmental situation.

And, as the father of a young child, I'm happy to have standards and verification, but consequences are an important part of the process. And so I don't, I'm not particularly encouraged about the long-term prospects.

So I just wanted -- the first part of the question is, am I overly pessimistic in saying, you know, hey, we're not getting there.

The second one is, okay, if we're not, what's Plan B? Because there have been a few mentions of adaptation and the enormous costs of adaptation, meaning what happens if one of those great three ice shelves eventually does slide into the ocean and many parts of the world go under water? How do we organize the response to that? You think of the United Nations immediately, but is that the right place for it?

So my two-part question is, one, are we really getting there? And the second is, if it doesn't look like it -- which is the picture I get -- what's Plan B?

MR. GARNAUT: Well, Plan B is so far inferior to Plan A that focusing on it is not very encouraging.

The main of the expectations from the mainstream science suggests that the absence of effective mitigation will have consequences that will probably be catastrophic, involving disruption of human civilization on a scale that goes beyond anything we've had before this. Uncertainty about the science, but the uncertainty points to chances of it being even worse than that main expectation, as well as chances that it will be better. So the uncertainty actually adds urgency to the case for Plan A.

We are already too late to avoid significant consequences of climate change. The main scientific opinion says that we're feeling some of that rather painfully in Australia. The concentrations in the atmosphere through the standard 30-year lag, through the role aerosols are going to continue to increase for some time.

So we need a big effort to deal with the need for adaption, even under Plan A. Even with brilliant success in global mitigation, we'll be dealing with a lot of consequences.

And mostly, I think they involve getting markets to work better in a very wide range of spheres. It's the failure of markets that's part of the problem of climate change. But in adaptation, I think that the markets can take us a long way -- for example, in food trade.

Food, there's going to have to be rapid changes of patterns of trade in food. And the current constipated global trading system for agriculture just can’t handle it. That’s just one example.

There needs to be a huge increase in public investment in agriculture, plant-breeding and other matters related to adaptation. That’s something that markets can’t handle. Bob Zoellick, during the food crisis, or the price crisis the first half of last year talking about doubling global public expenditure on agricultural research. Well, that was given some sort of lip service by the G8, but nothing much has happened.

But the big question is how good a job we can do on Plan A. Because if there is a melting of the Greenland Ice Sheet, if there is a substantial deglaciation of Himalayas and the Tibetan Plateau, then the consequences are truly horrific.

And I think we should recognize that we’re not yet on trajectories that lead to a satisfactory Plan A, but good outcomes are not out of the question. The changes in the last couple of years -- including in China and the United States -- are of historic importance. The changes in the trajectory that still need to be made are large. But the fact that we’ve made such changes in the last couple of years gives some hope that we will be able to make the additional changes.

We'll go back to the arithmetic of the three chapters of my climate change review that talked about the type of global deal that might add up to holding concentrations at 445 ppm after a period of overshooting. That was strongly influenced by the state of play in the international discussions, which suggested it would be difficult for developing countries to enter binding commitments before 2020. That had been agreed at Rio and Kyoto, and confirmed in Bali.

I concluded that there was no prospect of avoiding high risks of dangerous climate change, without going beyond 450 ppm and staying there. If we didn't shift on that -- and so suggested at 10 percent reduction below business-as-usual in the developing countries as part of a global deal. Well, what China is doing adds up to about 25 percent on the 40 percent improvement in emissions intensity, and 30 percent on the basis of the 45 percent reduction in emission intensity.

So China's announced that it will do more than my arithmetic assumed. The U.S. is doing less --

as Barbara mentioned -- 17 percent from 2005 is only a very small reduction from 1990. Other developed countries have committed to much more -- Japan, Europe, Australia and New Zealand, Korea.

But nevertheless, that announcement is a huge shift in trajectory for the United States and bedding that down, getting the legislation through the Senate, making that work, I think is the first step. And then, as confidence grows that you can do that without knocking the stuffing out of the United States economy, then greater ambitions can come into focus.

So I wouldn't give up on a good Plan A -- partly because there's no Plan B that's any good at all.

MS. FINAMORE: I'd like to just, you know, follow up on that with a different take on what Plan B might be.

In the U.S., the analogy would be the Clean Air Act Amendments of 1990 that established the acid rain cap-and-trade program. My organization, NRDC, worked for 10 years to get those amendments into place. And the reason why it took so long was primarily because industry complained that the cost of compliance would be far beyond what we had estimated and what the industry could bear.

And what we saw happen was, shortly after the amendments were passed, and the acid rain trading program went into effect, the industry and others noticed that the costs of compliance were far less.

So, again, we believe we may see that same -- we will see that same kind of transformation in the debate, once the climate change legislation is passed, that the cost of compliance will not only be much less than many in the industry -- some industries, not all, anymore -- are claiming, but also, in this case, the development of new jobs, clean energy industries, that are going to bring a benefit, as well as a reduction in cost of oil imports and so forth.

I think we shall see the same type of transformation in China, once this carbon intensity target is put into the plans and actions, and provincial governors and mayors are rated in their job performance on how well they achieve it, I think China is also going to see -- with help in building capacity -- that this is a benefit, and will move towards more ambitious efforts.

We just hear the other day, just the day after China announced its carbon intensity reduction target at a conference in Beijing that China is soon going to announce a new renewable energy target. In the last few years, they've had to constantly revise its renewable energy targets upward, as it achieved success.

So that would be my Plan B -- get the framework in place, get the incentives in place that's going to develop, scale-up rapidly of this new clean energy economy. And we're going to see tighter targets on both sides.

MR. EBINGER: I think we have one right here.

MR. FERNES: My name is Ben Fernes, and I'm a graduate student.

One of the questions that I have for you is, it seems as economies grow then tend to shift, often, from very industry-heavy GDPs to GDPs that consist of much more in the way of services and so on.

And now 40 percent seems like a huge number. I'm kind of curious, how much of that 40 percent is the result of the Chinese economy maturing and changing into things that are more service, or potential industries that are less pollution producing, and how much of it is actually the industries that they have become more efficient and producing less pollutants?

MS. FINAMORE: It’s hard to tease out what percentage of their carbon intensity target will be met through efficiency, increased efficiency, primarily in industry, but also in building, how much will be achieved by renewable energy targets, and how much through other methods.

But I do agree with you that another area -- in fact, maybe one of the biggest areas -- that’s going to result in decreased carbon intensity in Chine will be this transformation of its industrial structure away from the high-energy intensive, high polluting industries towards a tertiary economy, and less service economy.

This is in China’s long-term overall planning. It has, through these medium- and long-term plans, the ability to carry out its industrial structure planning. It’s already doing so in many respects -- things like tariffs, reducing or increasing them in order to slow the development of certain industries and promote the development of others. So this is, I think, going to be a key aspect. It’s already happening.

But the extent to which China can accelerate something that it already wants to do for other reasons is going to also help to reduce its CO_2 emissions.

MR. EBINGER: Yes, sir.

MR. LEVIN: Thank you for your presentations. Herbert Levin.

Is it realistic to expect the U.S. to, in fact, meet these improvement goals without a serious return, and swift return, to building nuclear power plants?

MR. DIRINGER: I think that one can certainly expect that nuclear will remain an important component of our energy mix, and that we may well see us moving forward for the first time in many decades with the construction of new power plants. I mean, I think, one of the keys to getting a bill through the Senate will be some additional nuclear provisions.

Now, over time, Congress has certainly afforded the nuclear industry all manner of support and subsidies to help get the industry kick-started once again. What more can be done, I'm not sure. It's not a particular area of expertise for me. But I know that it's an area that will be closely focused on within the Senate. I do expect that there will be some additional nuclear provisions in the Senate bill, and probably in the final bill. And I think that we can expect to see some growth of the nuclear sector in the decades ahead.

But there are many other options available to us, including many that we've discussed in the Chinese context just now, in terms of efficiency and renewables, and developing alternative sources.

MR. EBINGER: Yes, ma'am.

MS. PEARSON: I'm Margaret Pearson from the University of Maryland. And I'd like to go back to the multilateral treaty for a moment.

We've heard a lot today about the importance of the U.S. and China in spearheading the move toward Copenhagen. We've had some mention of the fact that Prime Minister Rudd is here today, presumably speaking about this. And a little bit of a mention of G77.

But I'm wondering if the panelists could give us a sort of a lay-of-the-land of what the coalitional behaviors are emerging as we move toward Copenhagen. Who is bringing whom along? And how -- whether there's any surprises waiting for us as to other actors, besides the U.S. and China, and what they may be likely to do -- helpful or perhaps not so helpful.

MR. GARNAUT: I think we notice too little how much is happening and being contributed by some large developing countries other than China. I think the developments in China are very important and very positive

But the Indonesian President and his cabinet, since hosting the Bali Summit has taken the issue very seriously. It's a difficult political issue in that young democracy, but the government's kept a strong focus on the issue. The recent budget included funding for new technologies in the energy sector, the development of geothermal power. Of course, in a number of the developing countries the big issue is deforestation, and that issue has at least become the center of national policy focus in Indonesia.

In Brazil, and South Africa, too, there have been important developments. South Africa introducing an energy sector carbon tax a couple of years ago.

One could say that the big developing countries have gone further than the U.S. has at a national level at this stage, and that wasn't anticipated in the Kyoto and Bali agreements.

So -- India is a very important player, and India carries a fair bit of not very helpful ideological baggage in international discussions, tending to emphasize more the responsibility of developed countries. But even there, in response to movements elsewhere in the world, there's been some change of focus recently. So I'm hopeful that India, too, will play a positive role.

Amongst the developed countries, people have been waiting for the U.S. -- well, not waiting for the U.S. Commitments have been made, but everyone's been recognizing that the U.S. is the big piece of the jigsaw sitting in the middle, without which things can't come together.

And if it looks as if the President's position is going to be supported by the Congress -- although that U.S. position is much weaker than any other developed country -- the U.S. at least legislating what will amount to an important change in trajectory will have a very positive outcome.

MR. EBINGER: Well, I think we're out of time. I want to thank all the panelists and the questioners from the floor.

I would just like to make one final remark, because it's a subject near and dear to my heart.

And that is, as we move towards Copenhagen and look at those of us that are profligate in our energy use, and urge us all to cut our emissions of fossil fuels, and as we look to helping the emerging-market countries with ameliorating their problems, we should also remember that there are 2 billion people in the world who have no access to commercial fuels as we know that, who use dung, and agricultural residues, and wood. And we shouldn't lose sight, in Copenhagen, that if those people have any hope for a brighter future, we have to find a way to bring them energy that will allow their societies to grow and develop in a way commensurate with the rest of the world.

Thank you all very much for coming.

MR. ROSEN: It's good to be here at the Brookings Institution for this terrific collaborative undertaking between the institution and ANU. And it's my honor to moderate the next panel.

Following on the very specifically focused session we just did, looking at the global climate agenda, China and the United States, we're now going to turn to the broader topic of China's macro economy, and in particular the panel is going to explore the extent to which it is changing, evolving, and in what directions.

The existing--oh, I should introduce myself first. Sorry. I’m Dan Rosen. I’m a Visting Fellow at the Peterson Institute, across the street, and I’m also the principal of Rhodium Group, which is a New York-based advisory practice.

So before introducing the rest of the panelists, let me just say that the existing macro economy of China is the baseline which--from which we build all of our perspective and point of view about the adequacy of China's commitments on carbon, on other issues as well--environment, trade policy, development economic considerations. All of this starts from our understanding of what makes the Chinese macro economy tick today, how we understand it, how we think it's evolving and changing--where it's going in the world today.

And how it operates is going to determine the traditional and the nontraditional outcomes and policy challenges that we have to confront in the future.

It’s always been a moving target. China’s not stood still certainly in the time of 15 or 16 years that I've been watching it change, and not really in the whole 10,000 days or 30 years since reform began, at the end of the 1970s. So we’re constantly reassessing what we think is going on, and where we think it's taking us.

The current moment may be a particularly volatile time in trying to gauge what's going on in the economy and what's going to happen next.

I think about a question that was raised by a gentleman here in the previous panel concerning how much of China’s carbon pledge would be achieved simply from the natural maturation of the economy, the natural structural adjustment that takes place as it moves through the industrial intense phase of its economic development to an era where the tertiary sector, the services sector, of the economy plays a bigger role in terms of share of total economic activity.

That time will absolutely come, and once China finally gets there, China, like the United States, will see 80 percent of its carbon use related to consumer activity rather than industrial activity, basically the inverse of where it is right now.

But to the extent to which Chinese policy choice and policy intervention can change the mix today or in the medium term of the coming years, just because heavy carbon-intensive material is not made in China does not mean it's not made for China. China will need all the buildings. It will need all the petrochemical processing capacity. It doesn't necessarily have to be in China that all that capacity takes place.

But carbon is going to be emitted somewhere, even if it's not in China, to meet the needs of a rapidly urbanizing population.

So it’s a very dynamic equation that doesn't just concern what’s made in China; it concerns what needs to be made for China in the years ahead.

Today, the questions we're going to focus in on in terms of the macro economy, as I've described it, is the direction of policy reform changing. We’ve worked comfortably with the assumption--well, most of us, I think, on this panel have--for decades now that though we don't like everything that issues forth from

Chinese economic policy, by and large, we’re moving in a market-oriented direction over time. That’s been a fairly comfortable assumption. People are now debating that to a greater extent than in previous--in my previous memory--whether we’re still moving in the direction we were comfortable we were moving in until recently.

If there is change taking place, is that for better or for worse? For better, in my parlance, would mean rebalancing toward a more efficient mix of economic activity inside China, and I think we're going to get into what that would mean in some detail. Or are we changing in a de-marketized direction, the state clawing back a more active role for itself vis-à-vis the market?

Nextly, was this precipitated, brought about by, the global financial crisis? Or was this on track to happen anyway, and it was just coincidental to the crisis that brought the U.S. down a peg, if you will, and made China look like suddenly its industrial policy was much more effective at generating growth than it would have otherwise?

Is it essentially a domestically driven policy change that's taking place? Or is it essentially international, with China having to react to the new absence of external consumer demand for its product that forces an internal change back into the domestic economy? Which is the tail and which is the dog here?

And finally how should we or can we react to these changes if we decide that there is some significant change taking place in China that might affect our interests?

To explore all these things, we have three terrific panelists here. First, Wing Thye Woo, right next to me--well known to everybody here. This is one of his homes. He’s a Non-Resident Senior Fellow here at Brookings, a professor of economics at U.C. Davis; originally from Malaysia; Yale and Harvard degrees in economics; an extensive, life-long track record of contribution and issues to do with China economic development that I don't even have time in the entire panel to go through with you here to get started.

Nextly, Professor Song Ligang, from ANU; Associate Professor at the Crawford School of

Economics and Government; and Director of the China Economy and Business Program at ANU.

Last but not least, somebody who's very well known and well loved by everybody here in the Washington China community, Xiao Geng, who directs and runs the Brookings Tsinghua Center in Beijing. Almost all of us I think at one point or another have enjoyed his hospitality in Beijing, providing us a place to get together to discuss the critical issues with everybody who’s important in Chinese government, Chinese academia, much of the private sector as well; place an extraordinary role and has an extraordinary track record of work for the World Bank, Hong Kong University, the Hong Kong Securities Future Commission, and other institutions.

So we’ve got the right group of people, and I hope we’ve picked the right topics to talk about as well.

Wing, may I ask you to start off for 10 or 12 minutes or so? Give us some on this, and we’ll move through and then come back to Q&A.

MR. WING: The list of questions that Dan just asked reflects a development in the press about concern--about negative developments in the direction of Chinese domestic economic policy, and of concern about changes--about changes of aggressive actions by China on the international economic front.

I want to raise three points for discussion during the Q&A. My first point is that it is too early to say that there has been a reversal in the direction of China's economic reform leading towards the resurgence of the state-owned sector at the expense of the private sector.

The second point I'd like to raise is that the Chinese high-level activity on signing free trade treaties with all of its neighbors and investing heavily in Africa does not represent an intention to edge the U.S. out of its traditional sphere of influence.

The third point I want to raise for discussion is that I see the current macro stimulus package in China as one that would lead to great difficulties in the near future and that unless the composition of the macro stimulus package is changed the next year onwards, I fear it could lead to a slowdown in the long-term growth of the Chinese economy.

On the first point. Has there been a change in the direction of domestic economic policy? The New York Times, the Wall Street Journal, and the Financial Times all point out that there has been a large expansion of the state sector. If you look at the growth of investments, it's been mainly led by the state sector.

I think in order to understand why it is happening, one should recognize there as the state sector as the most convenient tool for macro stimulus by the government that is available, largely because how could you get a firm to enlarge its production capacity when demand for its goods are falling? How can you get a bank to increase its lending when domestic demand is falling and the international situation is so weak?

Clearly, the state-owned companies are willing to undertake capacity expansion without a clear increase in demand for the output, and the state-owned banks, since it is not their money that they are playing with, are perfectly happy to make more loans to their friends and relatives and to everybody else since they would not be held responsible for the non-performing loans that might result.

So the expansion of the state sector, as I say, is more a default than by design. And the implication is that when the negative consequences of these actions are recognized, they would be quite readily reversed, largely because the state has not decided to expand the state sector at the expense of the private sector.

Of course, this is not to deny that the Communist Party of China is committed to maintaining a significant presence of the state-owned sector, especially in a role as the pioneer in--as instruments of industrial policy, of pushing into new areas of industrial activities.

That role is there and acknowledged, but I do not see--I think it's too early to think that the state wants to expand upon that role of the state, of the state-owned sector.

The second point that I want to talk about was to do with whether the proliferation of free trade treaties in East Asia is to the detriment of the United States. One thing is for sure: that China sees the U.S. both as a strategic competitor and as a strategic partner; a strategic competitor in the economic sphere, especially, and strategic partner in the provision of global public goods, for example, on issues like climate change.

So both aspects are present, but in most discussions on Chinese international economic policy the emphasis has been on the strategic competitor aspect.

It is to China’s detriment if the United States were to leave the Pacific economies alone, largely because China is concerned about the reaction of Japan if the U.S. were to leave, and, two, the possible rise in influence of the Soviet Union if the U.S. were to leave a vacuum.

So it is not China’s intention, as far as I can see, either for economic or for political interests to edge the U.S. out of Asia.

Why the proliferation of signing of free trade treaties? This is largely the result of Doha being stuck for the last five years. All of East Asia wishes to increases its degree of integration into the global economy to enhance their economic development. And since the world at large could not move forward because of the paralysis over the Doha Rounds, they have decided to move ahead among like-minded countries.

All of Southeast Asia wants to go further than the Doha Rounds. And so--and they also at the same time want greater access to the global Chinese market. So this proliferation of free trade treaties is quite natural. And at the last ASEAN plus Six Meeting in Singapore, when Obama has clearly shown that the U.S. has no intention of leaving that part of the world, either. And this is certainly not something which worries the Chinese.

So I see the developments in the free-trade areas as pretty much a development of continual globalization of economic activities.

Part about U.S.-Chinese investments in Africa. Chinese investments in Africa reflects very much the continuation of China's export-led industrialization. To support its export-led industrialization, the Chinese have been willing to lend money to U.S. consumers to continue buying Chinese goods. And since the U.S. consumer is unlikely to be spending the same way as before, thanks to our imprudent supervision of our financial system that has destroyed so much of our wealth, the U.S. economy is not going to bounce back very quickly. After all the Federal Reserve has projected that unemployment in the U.S. will remain over eight percent until after 2012.

So given the fact that the U.S. consumer would not be spending as much as before, so it's quite natural that China looks to Africa and is willing to lend Africa the money so that Africa could buy capital goods from China to industrialize and develop themselves.

So instead of lending only to the U.S., which shows a decreased capacity to bear that, they have now switched their lending to Africa. So this is not a new strategy. It’s a continuation of a financing strategy to support export-led industrialization in China.

And the third point which I wish to raise has to do with potential pitfalls in the current composition of the Chinese macro stimulus package.

The first pitfall is that the Chinese stimulus package has not taken sufficiently into consideration the growing protectionist sentiments in the world. I think the imposition of tariffs on Chinese tires and on Chinese steel pipes by the Obama Administration will be the beginning of the imposition of tariffs on Chinese goods in the European Union.

And how--and what the Chinese need to do is to be aware that this paralysis of the Doha Round, the reasons behind it, have escalated, and all it has to do with the fact that economic growth in the EU and the United States is going to be slower in the next two, three years.

And the--at the--so what the Chinese really need to do is to greatly increase its imports as the way to reduce its large current account surpluses.

The idea of China cutting its exports in order to reduce its surplus is certainly inferior to maintaining its exports but increasing its imports.

And this is something that can be well within China's ability to do so.

For example, the one--one usual, and I get from visiting Chinese delegations is that what else can we buy from United States; right? There are so many planes we can buy, and you wouldn't sell us nuclear technology. You wouldn't sell us advanced scientific equipment. I feel that part is really missing the point.

China could import a lot more in non-traditional areas. For example, importing education is something that China could greatly expand on. Sending students abroad and beefing up its own education system by hiring the newly graduated PhD's of 2010 and who would find difficulties finding jobs in the United States.

This would certainly be a great transfer of human capital to China that would certainly strengthen its basic capacity to grow and to innovate. So that would be part of it, and the other thing that China should do for its own good, I think, is to resume the process of exchange rate appreciation. Not that I believe that the exchange rate appreciation would reduce overall U.S. deficit; it would only reduce bilateral U.S.-China deficit.

I say this from the experience of the U.S. beating down on Japan to make Japan appreciate its exchange rate of 250 yen to 125 yen. If you look at that period, what you do see is a shrinkage of the bilateral U.S.-Japanese trade imbalance, but the U.S. overall trade imbalance still is markedly unchanged. Why? Japanese goods were more expensive, so we bought more from the rest of Asia to make up for what we did not buy from Japan.

And Japan sent its capital to Southeast Asia to industrialize Southeast Asia to service the U.S. market from there.

So the Yuan appreciation would certainly show that the Chinese are sharing their share of the pain, but it would not make us any happier.

And there is something which I should mention: protectionism is something that not only China should be concerned about, but also the United States. There are many things that we can do, one of which is to strengthen our social safety nets. We have the weakest social safety net among the G7 countries. And I think that, in an age of globalization, where switching of jobs is much more frequent than before, a strong social safety net is very important to maintain domestic consensus for continued globalization.

So the production of the world trade system rests not just on China, but also on the United States.

The second pitfall in the current Chinese macro stimulus package is that it is creating a trade-off between full utilization of existing capacity against the generation--against the maintenance of a high, sustainable long-term growth rate.

What are the instruments of macro stimulus? Investment by state-owned companies and large loans by state-owned banks. Both--a lot of this is used to generate activities that are not particularly labor-intensive. For example, a billion dollar bridge will employ less people than $1 billion worth of manufactured goods.

So what China needs to do to employ all these migrant workers who have been laid off is to set conditions to enable them to start their own businesses. And this is where the Chinese system is very poor in doing, in nurturing small and medium enterprises established by entrepreneurs. And this setting up of small and medium banks would be very difficult if the rural sector is not able to provide some form of collateral at the beginning in order to get the process of financial intermediation going.

And this is where land privatization is overdue. I think land privatization has to come to China to produce the collateral for migrant workers to take out additional loans; and with it, the acceleration of urbanization, which is a fundamental driver of China's economic growth would be accelerated--the privatization of land and hence the ending of the household registration system which ties the peasants to the land.

The third--

MR. ROSEN: One minute.

MR. WING: --okay. The third point I want to talk about is that there’s too much complacency about inflation in China because they look at the West and they see the same amount of increase in high-power money, but yet the absence of inflation in the United

States and EU. If you look at the increase in the high-powered money in China and the United States, they are of the same order of magnitude.

But given the difference in circumstances, this is not--this explosion of high-powered reserves is not inflationary in the U.S., but it is inflationary and China.

Why is it not inflationary in the U.S.? It is because what the U.S. banks have experienced is a massive loss of bank capital which makes them unable to meet the capital adequacy ratio. So in order to meet the capital adequacy ratio, they have dump their loan portfolio and move on to cash in which they don’t have full capital.

And what the Federal Reserve operations has been is essentially to allow the conversion of those loans to cash at the bank. And so these high-powered reserves cannot lead to additional loans by the banks, because it is to repair the balance sheet. Whereas in the case of China, the balance sheets were really cleaned up 2004, and so this additional stimulus would naturally create additional aggregate demand, which is why you see these bursts of revival in the stock market and a revival of the asset bubble in housing.

So I think that it is very important for China to avoid these three potential pitfalls I've talked about, and they would require a change in the composition of its macro stimulus package.

MR. ROSEN: Excellent, Wing. Thank you. So I’m--I think I'm hearing their first vote for not an intentional change in a de-marketized direction, but a sort of unintentional movement of convenience that will have unintended consequences that will tend to make this redirection somewhat short-lived and not a long-term trend, but will come back and tease out all the details here. Dr. Song?

DR. SONG: Yeah. Thank you, Daniel. Thank you for the opportunity. Are China’s growth strategy and international policy changing? And the answer is yes. In my presentation, I would like to emphasize there are some opportunities for China to doing so, and but at the same time there is also constraints China is facing.

In the past 30 years, the growth on average is nearly 10 per annum, and Chinese right now the third largest economy in the world. Perhaps by this year, China will replace the United States and become the largest manufacturing powerhouse in the world, perhaps also the largest trading nation in the world.

So why now does the model can't continue? It seems to be going so well in the past. The reason why--is the problem--is because the growth model is basically driven by three factors from the demand side: investment, net exports, and consumption. The consumption plays a very much less important role in enhancing growth. So growth of China is driven by investment as for the export dependency.

Why China has so obsessed about exports? We have to understand the background of that. In the past 30 years, China is almost converting or transforming more than 200 million people from a rural area into urban areas; the majority of them actually are being absorbed in the most dynamic and competitive export sectors.

So the export sector plays an important role in the internal transformation of China. So that is why the government is very adamant in terms of adjusting its exchange rate policy is because it affects the millions of people of employment in those dynamic sectors.

Well, and so each sector--because of reform, they are shedding kind of workers; so, therefore, you know, the export sector plays a very important role in that regard.

The second issue related to that one is this overcapacity. And the state-owned sector has a kind of a very strong motive, of course, also powered by the local government and in housing growth. So the--a lot of issues is about the savings and investment imbalances, but the state sector has a very good imposition in terms of regenerating the resources for investment.

And again, the export dependence ratio also is related to the overcapacity, and place hand in hand. Give you one example about the steel industry. Perhaps by next year, the steel capacity in producing steel products will reach will reach about 700 million tons, and the domestic demand for steel products is roughly about 500 million. So you can see a huge gap there.

But again, in China, you can see it everywhere. You can see the steel mills is still being built. So these two issues also highlighting because of the importance of exporting the manufactured products. In recent years, we can see that until about three years ago China is a net importer of steel products but since 2007, China now becomes a net exporter of steel products. That is one of the reasons.

So the global imbalances, the key of that is to shifting the expenditure from a deficit country to a surplus country. But, however, in the case of China, you still have some difficulties.

I will list four or five factors. Number one about per capita income. Right now, it's about 300,000 for China, but in terms of the frontier, if you can look at the most developed countries, like the United States, compared with that one, China by 2008 is just about 13 percent in terms of reaching the frontier.

In terms of urbanization, China right now is about 45 percent, but again, it's below the world average, so there's continued room for China to grow.

Number three is about investment. On average, the investment ratio to GDP is about 38 percent. This is very high in terms of the international comparison. However, if you--in terms of the investment per capita, China is very much lower, and it’s much lower than the average of the OECD countries.

In 1978, it’s about two percent. In 2007, it’s only 10 percent. So it’s not too much capital being invested. It's actually insufficient, and so China needs to invest more in terms of capital.

So that’s kind of a paradoxical thing. In terms of energy intensity--and, again, it's a similar situation. So this is the background in which China is required to adjust this domestic economy in terms of reducing the share of investment, and increasing the share of consumption in total GDP.

So here we are in the book, we make a distinction about export orientation and export dependency. In the case of the--we just draw a simple chart, and taking a country as a share of total output in the world total against the share of exports in total in world total exports.

So even if the path goes along the 45-degree line, that means it’s more or less, it’s a balance. Here, in this case, it’s where--just looking at a few countries, and making this kind of a comparison.

In the United States’ case, it’s actually also a model. Towards the end of the 19th century, the United States is very much an open economy in terms of trade and investment. However, towards the first decade of the 20th century the U.S. takes a very decisive kind of a shift in terms of strategy by lowering that dependence ratio, increasing the domestic market, and that strategy actually becomes very important. You can see it very clearly that line is above the 45-degree line, and then it’s coming down after that.

That’s one example. The other example is Japan. Japan in the 1960s and the ‘70s it’s very much a kind of a--more--relatively balanced, but, however, towards the 1980s, and to the 1980s, Japan is moving very rapidly towards export dependence. That means they go beyond the 45-degree line.

Korea is the same thing. So it makes it very vulnerable to the external economy. China is still below the 45-degree line, but, however, it's rapidly approaching. The export dependence ratio for China is about 35 percent. So in the way China does need to adjust, following the pattern or the strategy of the United States about 100 years ago, but not certainly--not examples of Korea and Japan in recent decades.

So in the case of adjustment, it's not just the issue of exchange rate policy. I think a lot of people outside China think that’s the key issue, but importantly it's the financial sector reform, the capital market, and importantly it's the relationship between the government and SOE, because all the monies are collected by SOE as a profit, it’s retained at SOEs rather than handing over to the owner of the asset, which is the government.

So, therefore, the enterprises have plenty of money to reinvest, and, again, it’s the local government reform and et cetera.

So that is the issue, and on the low-carbon growth, there was a lot of discussion in the previous panel. I just want to emphasize one issue, which is the regional dimension. We cannot treat China as a single country, because there are vast regional growth differences or income differences. The richest province and the poorest province, the income gap in terms of per capita income is about nine times.

So, therefore, according to the (inaudible) curve, inverted u-curve, when you talk about the low-carbon and all the emission reductions, it’s very poor provinces against the rich provinces. Their priority will be very different. So that’s highlighting some kinds of the difficulties for China to comply with that one.

So on the FDI, there’s--we already mentioned briefly. I think there’s several important hypotheses associated with China’s going out. And the number one is about market seeking, and number two is about efficiency thinking, and the third one is about resources thinking, or the acquisition of a strategic asset.

In the case of China, more or less is focus on the final one, which is the--about the resource seeking strategy. And also, we mentioned about a very important (inaudible). Because of China is in the process of readjusting its growth strategy, so, therefore, exporting has become so important; so, therefore, they try to link the FDI from China with the export activities.

And internally, we can see the drivers for the growing of FDI--I think importantly the so-called capital market imperfections. Because of the imperfections, and so the investors coming from China--the funds can be made available at a lower market rate because of the market capital imperfections; so, therefore, gives a tremendous advantage for the investors from China.

The second advantage is about the state-ownership. This, of course, is a well known story about flexibility and et cetera. Of course, the third one is about institutional factors, which is the government in China also in a way that is promoting the investment.

So on the part of the international side, I think two issues are important. One is about ethical issues. The other is about accountability issues. So both government and the firm levels play a quite important role in influencing the behavior of investors from China.

Finally, I think we already touched upon the thorny issue about the rising protectionism in China. So to conclude in that is the--what is the path toward that goal adjustment?

I think the International Monetary Fund has two scenarios. One is the current context vis-à-vis the United States we'll have it about four or five year's time. The other one is a more kind of a--more or less is still worsening the situation.

But their projection seems to show that the global growth rate is still--more or less remains the same, roughly about three and a half percent as global growth, which is not bad. But however, there's uncertainties about what happened to China and what happened to the global adjustment. So it's uncertainty associated with the growth path in the next four or five years.

So in the way whether we can actually achieve the quick results in terms of resolving that global imbalances, it seems to be a bit of a unknown.

So in the way that is the--let me just emphasize it's not just a single issue about the RMB exchange rate. There's a lot of other issues internally, especially in terms of domestic reform, especially taking into account about the regional dimensions of growth in China, and also the important issue about the trajectory of our economic structural changes to both a high value-added and towards the service sector of the economy; and also the importance of I think the previous panel emphasized the international cooperation in the way to allow the technology to be introduced into China to have a kind of a leap frogging, rather than follow the traditional pattern of growth.

But, however, given the wider regional disparities, at least we can foresee that is just so complicated because the rich provinces and the poor provinces.

So we can see probably for the foreseeable future the structure--of the industrial structure of China probably will produce the goods as a wider range of spectrum. So you can see there’s a high level--high-tech industry, but at the same time because of the poorer provinces, they can take over at the lower end.

So that’s the complication in confronting the global adjustment, perhaps also confronting the emission reduction targets. Success or failure of China's adjustment will not only have an impact on China, but also in the global economy at large.

MR. ROSEN: Thank you. Okay. So I mean I hear a view of the Chinese economy is having diminishing marginal efficiency of business as usual. The model we know is generating more and more disappointing results, but I don’t get the sense that beyond diagnosing the problem, there’s a dramatic policy inflection has started yet. We’re still talking about what it will take to get the kind of changes we need to see underway. Xiao Geng.

MR. XIAO: Thank you. Actually, I think that during the last few years, the Chinese policymakers have come to realize that the Chinese growth model has serious problems. And they really want to fix it, but the trouble is that it’s not that easy to fix, to change the model. And well, I’ve spent almost 3 years in Beijing, every time I met with senior officials, you know, the question is always like someone from the embassy raised the question this morning asked me do you have any good way to fix this, to fix that? You know, that kind of attitude is just amazing, if they really want to fix the problems.

But the problems are very, very serious. I think there are three problems. Number one, the wages of Chinese workers are so low, especially compared to the United States' wages. It's--the average migrant worker earns only $120 to $150 a month. How to increase their income?

And the second challenge is that the price for energy, for land, for natural resources are so low, partly because the local governments they are competing for foreign direct investment, competing for development, so they are giving land freely, you know, to new factories, to--you know, due to--you know, exports, to produce exports.

So and also the price of electricity, water--all those are very low because traditionally under central planning the government has set prices usually very low. So that is a very difficult challenge--how to raise the price of energy, of resources, land so they will not be wasted; for example, to build overcapacity steel mills.

And the third challenge that is actually similar to what we see here in the United States, the money is so cheap. There's plenty of money available in China, especially now. Just in the last few months, there is so many foreign investors coming to China, trying to invest in China. In a way, some of them short-term, some of them actually long-term, because looking around the world there is no other places to invest. You know, the other countries they have negative growth rates, but China has more than eight percent.

And if you actually visit China, you will see those growths are actually real. So that's really the challenge which China is faced with. And on the first challenge, the income is so low, and because income is so low, so consumption as a share of GDP is very low.

A lot of income goes to the state-owned enterprises. The state-owned enterprises not pay dividends, cannot pay high salaries. The government actually controls the limits of the salaries.

And the state-owned enterprises, some of them are listed in the stock exchange. When the price goes up, those capital gains do not transform into purchasing power, because nobody is sensitive to those increases in wealth. It’s just sitting in the government's book.

So how to fix this problem? I think fundamentally we need China to grow, to invest more, to increase income. But we need China to invest in efficient projects, not overcapacity project which will increase Chinese consumption in the future, if not at the present.

Savings is for consumption in the future. There’s nothing wrong with savings, but the problem is the Chinese people want to consume in the future, but what--you know, we should view the future.

So I actually--there is a misunderstanding among the, you know, policymaking communities is that Chinese investment is too high. It’s not too high. I mean if you look at the situation in China, when China builds these high-rise buildings, you have to put all the concrete and steel, you know, on the land in three months, and then the building will last for 100 years, even 200 years. Right?

And this is something very different from the kind of investment in a mature economy. So I think the last question I want to mention peripherally is that about the exchange rate, because some of the panelists had mentioned it.

The Chinese policymakers realize that China needs to change its export-oriented growth model, but it faces serious difficulties. For example, if China starts to appreciate its currency like it did during 2005 and 2007--2008--when you have a sure bet that the currency is going to increase in value, you extract massive speculative investment from overseas Chinese. And that becomes the trouble, you know; it creates a bubble in the property market, in the stock market.

And when the government tries to, if they want to raise interest rates to deal with the bubble, you also attract massive inflows of capital. And how to deal with this problem?

And the policymakers right now are so much concerned about what we call the carry trade, you know, from dollars. In the past, we have carry trade on yen, because the U.S. interest rate is zero. If you borrow a U.S. dollar, and then go to China to invest or just simply to deposit in the banks, you get a very high return. And how to deal with this problem? You know the Chinese financial sector is actually still not mature and not developed.

So all these are serious challenges, and the government realizes that for whatever reasons for the short run, and even for the medium run, you know, the objective is to increase consumption and also increase investment to make sure the (inaudible) will grow, the economy will grow, and even at the risk of some bubbles in the property market and the stock market.

The government actually is spending a lot of effort in targeting speculation, in, you know, enforcing the regulations. For example, the bank capital adequacy requirement during the last few years was enforced very rigorously and actually is beyond 80 percent.

And also in the stock market, tremendous effort are put into the--how to deal with the inside trading, how to make the market more transparent. So I would say that especially after the global financial crisis, the Chinese government realized that it needs to deal with some of the substantive challenges.

But unfortunately, the time and efforts of the policymakers are actually distracted by a lot of macro issues--exchange rate, all this is trade protectionism, which I think is unfortunate, because if the Chinese government can focus more on reforms, for example, privatizing the state-owned enterprises, the rising--the effective market price, land reform, and many other financial reforms.

Financial reform, the government actually decided after the global financial crisis, the Chinese authorities decided to build Shanghai into an international financial center by 2020. Basically, it set a timeline for the liberalization of the capital account, and I think that shows the determination of the government to really reform its financial sector, because if you want to build an international financial center, basically you decide to open the market to the international community.

So in that sense, you know, we can see--I saw a very dramatic change in the policy directions, you know, away from the past seven 70 years. I'll stop here.

MR. ROSEN: Excellent. Terrific. All right. That gets us into our discussion here. Let me start by observing that all three panelists put the behavior of China's financial system right at the heart of the matter in terms of what needs to change or to some extent maybe what's already changing without so much intentionality that the banking system should be giving all of the lending and wherewithal in the country to the heavy industrial sector. That’s what the financial system has tended to do for a writing of complex reasons.

And the heavy industrial sectors that get all this money, the big five of them, together nationwide employ merely 14 million people in a labor pool of 780 million. There are more service sector jobs in Guangdong alone than adding up all the steel, aluminum, cement, plate glass and petrochem in China, nationwide. So you don't create any jobs by doing this.

We’re--huge amounts of missing economic activity that should be given comparative advantage taking place in China, but which are not taking place.

If I’m hearing all the panelists right, and I'm pretty sure I am, it's not enough to say the financial system should provide more access to capital to small- and medium-sized labor intensive companies. Offering them equal access is not going to do it. Separate but equal will be inherently inequal.

We need affirmative action for the private sector in China. Is that what it’s going to take to break through the political economy that puts all the resources at the disposal of the SOEs instead of these other higher potential industries? Dr. Song, you want to start with that?

MR. SONG: I think a typical example right now is about the relationship between the state-owned and the non-state sector, and we see in the past, especially since the second half of 1990, there’s a massive privatization going on. So right now, in terms of GDP, the non-state sector is accounting for more than 60 percent. In terms of the industrial value-added, it’s more than 80 percent of the total economy.

However, if you look at the structure of the lending, so the non-state sector is receiving less than 20 percent, something like that, from the official or the formal financial sector. This mismatch highlights the importance existing in the current financial or banking sector reforms.

And in the middle of this crisis, we know that the government has the largest in US package put in place. And, of course, because of the slowing down of growth of exports, and, so, therefore, always the majority of the money is actually put into the infrastructure, and et cetera.

So people are really concerned about whether there is a crowding out of the private investment, and, in fact, Xiao Geng mentioned, about the bubbles and et cetera, because of the lack of investment in the real economy because of the slowing down of exports and et cetera.

So put money, including both state- and the non-state sector into the real estate sector. So this is the problem.

So, therefore, changing that depends on many issues and probably will take time, but we know in theory and in the past 30 years the reform experience tells us is actually moving towards the non-state sector, moving towards more market-driven economic activities will be more efficient, and in the long run.

So China is kind of at a juncture there. And the crisis makes us more complicated, because the government has driven investment behavior. But, however, government should quickly change that strategy towards how to generate or create the opportunity to help the private sector to invest more to keep that balance.

The fundamental seems again back to the banking in the financial system reform and also the reform of the relationship between the government and the state-owned enterprises.

MR. ROSEN: It’s probably not going to just be offering additional money to the private sector. It’s going to mean taking money away from somebody to make it more accessible to somebody else, somebody who’s paying five percent for money now compared to private sector paying 15 to 25 percent. They’re going to meet in the middle, and there's going to be less for the SOEs.

So it’s going to be painful. It’s not going to be a painless process of adjusting who gets the resources for growth. Wing, in your remarks, you noted that the past 12 to 18 months have actually seen a shift of resources to the state sector, not making resources more accessible to these new growth areas, but kind of going the other way, and this leads to some of the pitfalls you see.

Is that just a temporary phenomenon that will naturally correct itself back in the right direction? Or does there need to be a really painful Big Bang of a shift in incentive in the financial structure here to start moving hundreds of billions of dollars to other industries?

MR. WING: I think there would have to be correction for the simple fact that this channeling of funds from the state banks to the state enterprises is resulting in a large amount of overcapacity. But are they going to do something about it?

My prediction is that there’s no need to do anything about it for as much as two years, and it is unlikely that the government could do much about it largely for two reasons. One is the feeling of political vulnerability that this government has about its political legitimacy.

So it sees the full utilization of existing capacity is very important to its political survival.

The second reason is that we have now entered into the lame duck period of the Hu Jintao Administration. His high point, if he had to do anything, would have been in the last two years. But now he’s at the end of his regime, and he’s faced with a collapsing world economy, so he's more concerned about capacity utilization right now than about putting the country on the road to a higher sustainable growth rate.

Look at some of the measures he (inaudible). One of them would be providing a level playing field for the private sector. And that would inevitably mean a shrinkage of the state-owned sector. And the problem with the state enterprises is not just that they are inefficient, but they are also indispensable instruments of political patronage for the government.

Basically, it’s an allocation of spoils among the political elites. Different families have different industrial sectors. And so what--when you talk about reform in this case, the industrial sector, you were talking about whose ox should be first the gored. And it’s not (inaudible), and but I’m (inaudible). And you look at the question of land reform. Land reform actually threatens the very fundamental basis of control of the countryside.

How can the party maintain such great control over the countryside? It’s through the redistribution of land. If you don’t listen to me now, well, when it comes to redistributing land, you will get the one that is up the hill rather than next to the river. And let us watch water flow uphill.

So land privatization threatens some very key institutions of control. And when we talk about unleashing the private sector for growth, I think that is something that they know, but, however, it’s not people equally expedient thing to do unless there is quite a serious systemic crisis.

So in a way, stumbling of the system is what that could lead to the movement towards better economic policies. And I see that this stumble would not come about internally at least for the next 18 months, but what could provide the stimulus is the protectionist reactions in the West. And that, however, could lead to a backlash that could be adverse to market reforms.

MR. ROSEN: It doesn’t sound to me like this is an orderly process of rebalancing in the right direction in your point of view, then? Xiao Geng, do you share that view? You’re a little bit more optimistic that--

MR. XIAO: Actually, I--

MR. ROSEN: --policymakers have a clear diagnosis and prognosis for how to move us ahead?

MR. XIAO: --well, I think we have to put this into perspective. During the last 30 years, the Chinese economy has been privatized from like 100 percent owned state--state-owned to like now it’s only about 30 percent of GDP generated from the state sector.

So that trend is continuing, you know, with all the foreign investor companies in China, competing fiercely.

But the problem is, you know, there are about 150 really big state-owned enterprises, which are making profit because they are in the monopolized sector and the so-called strategic sector.

And those companies, just like some we discussed, they increase capacity, you know, and sometimes, you know, nobody can control them. So I think it’s right that we should push China towards reform of those sectors, those companies.

And if you look at it from my talk with the officials, they actually want reform. If you talk to the State Assets Supervision Management Commission, you want to privatize all these companies. But the process takes time. China owns major banks, but, still, it’s 70, 80 percent owned by the state.

So I think that there is a long way to go for China to reform. But I would also say that the market forces in China are much, much stronger than what we discussed here about the state control today. If you look at the market in China, it’s fiercely competitive except in a few sectors, and as China continues to open with pressures from the international community, I’m pretty confident in a few years time, you know, five, 10 years time, looking back, we will see dramatic changes in even these strategic sectors.

MR. ROSEN: So there are market forces at work that were not present in previous resurgent moments of the state that should help get us back to balance. Let me turn to the--to you now. And we have about 15 minutes. Please keep your questions as short as possible. Let us know who you are. And who'd like to go first? Sir. Right here in the middle.

MR. MCGUINESS: Pardon. Eric McGuiness, Two-Front Policy Analysis. This may be a naïve question with respect to the countries'--U.S. and Chinese stimulus--packages, but I wonder if there has been or if there should be coordination or maybe not synchronization but some sort of a consultation about implementing them. What I mean by that is that, for example, the stimulus packages could involve U.S. investment in green technology in China or U.S. and Chinese investment in North Korea that might have a spinoff for Dong Bay , for Northeast China's Rust Belt or something of that sort.

Is that too naïve to hope for?

MR. ROSEN: One comment on that, whether there’s some low-hanging fruit to coordinate stimulus better on our two sides. Who wants to take a crack at it?

MR. XIAO: Well, there was an attempt at coordination to prevent the rise of protectionism. This was true in the October 2008 Summits here in D.C. And by the time they met again, in March 2009, what has happened? Seventeen out of the 20 countries had implemented protectionist policies on the part of the World Bank.

MR. ROSEN: But is that a--what about stimulus, though? In terms of government spending this huge--

MR. XIAO: Stimulus I think when it was done it should have been certainly done simultaneously, because sequential simulation would not be sustainable individually, largely because it caused current account deficits. That makes it unsustainable.

But right now, we are not in the face of too much simultaneous stimulus because the country conditions are quite different. For example, the Australians are in the midst of pulling back, and the

Europeans have seen their economy improving, so Europeans are not on board for stimulus. And the Obama Administration, given what that is projected for the healthcare reform, for it to talk about further stimulus, I think is a very difficult task to do politically. The chance for simultaneous fiscal stimulus has come and gone.

MR. ROSEN: Probably now the most important thing is coordinating our exit from stimulus to make sure that we don't game each other to try to maximize our own interests there.

There's a question toward the back, the gentleman, yeah, with the blue shirt. Go ahead. No, you with the glasses and moustache. Yep. Yep.

MR. META: I'm Nemiah Meta with American University. Just on the possibility for reform and what the Party is able to achieve in China. The Party is increasingly concerned or for sometime has been about corruption, especially at the local level and in the provinces. So I'm just wondering whether that gives them--that concern with corruption--gives them some--an easy segue into addressing some of these reform issues, especially on land and such.

MR. ROSEN: Dr. Song or Xiao Geng?

MR. SONG: Well, I think the Chinese--the Communist Party has always been trying very hard to fight corruption, and there are actually some progresses. If you look at the high-profile, high-level people get fired and sentenced.

But the issue is more institutional in a sense that if you have state-owned enterprises, you know, you are going to get someone trying to, you know, put some monies in their own pocket.

So I think it's a long-term effort.

MR. LI: I’m Li Cheng here with the China Center.

Thank you for the excellent panel and discussion, and my question is about land reform. Wing, you know, talked about a few times, but I also welcome others to comment.

As we know, two years ago, particularly in 2007 and the first part of 2008, the Chinese leadership talk a lot about land reform. It was the theme of the major meeting, something that Hu Jintao, Wen Jiabao wanted to, you know, put their legacy on that issue area.

Now the question is whether, as we know, that the land reform is largely on hold. My question is whether it’s related with the global financial crisis that made Chinese leaders very nervous to pursue all related with the internal fightings and no matter what, do you think that the Chinese leadership will return to that policy in the near future, because most people believe that unless China adopts real land reform, China can never have the domestic-demand economy, but it also the challenge is overwhelming.

So what’s your assessment about--are we going to see that China will accelerate the land reform in the next year or two?

MR. WING: I think that it would be politically very astute for this leadership to raise land reform as a stimulus measure because, for one, it would allow the development, but it cannot be done in isolation. Two other things need to be done besides land reform in order to promote as a stimulus measure.

One is to allow the establishment of private, small-medium banks, and second the provision of public housing in urban areas. The big housing bubble that we see in China, a lot of it is for low-cost housing, but there's a lot of vacancies in the low-cost housing, largely because the low-cost housing is still too expensive for people who newly come from the countryside.

What China should be doing is what the way that Singapore and Hong Kong started at the very beginning, which is you rent out the public housing for 10 years, and after that, sell it to the rest of the people who occupy them.

So in order to get people to move readily out from the countryside, land privatization and the end of the household registration system, and this will unleash accelerated urbanization, which is a big pent up domestic demand--things like decoration of homes is extremely labor-intensive, much more labor-intensive than building a bridge or building a road.

MR. ROSEN: Dr. Song, do you want to add on that?

MR. SONG: Yes, the land management system in China is very much focused on the issue of under pricing of land. So--that’s because the land is very much undervalued, so it’s causing a serious problems. Number one, this is about the real estate bubbles, et cetera. So because of the local government together with the developers can acquire the land very cheaply, so, therefore, you--it’s not market prices when you purchase. So, therefore, you can sell it at a very high profit.

Of course, there’s some kind of a justification for the government of doing that because they need that money as a source of--for their revenues.

The second issue about this because the land value is undervalued, so farmers actually don't care much about the fertility of the land for a long time. So the damage to the land in the past 20 years is actually much worse I heard compared with the thousands of years of land cultivation because the market is not there.

The third one is about undervalue of land is actually related to the income distribution issue. Farmers’ income is part of the reason is the--kind of the low consumption in China, so because they don't have the kind of access to very high value, the ethic; so, therefore, highlighting the importance of reform in the land system in China.

MR. ROSEN: An example. This is an example of the reality that it’s not for want of attractive policy options that China hasn't shifted the model more dramatically. There are lots of very high return reforms that could be undertaken that would be effective. It has to do with winners and losers, political economy issues that we haven't seen more fulsome reform I think to date. Another question right here, then. Yes.

MS. KUNG: Thank you very much for your discussion, and I’m very honored to be here. And my name is Kung Dong . I’m from--I’m a graduate student from Sophia University, Tokyo, Japan. And my question concerns about the Chinese stimulus package. As we all know, with the decreasing of exports in China, whether or not China can pass this economic crisis mainly depends on the domestic--expansion of domestic consumption.

And just a few days ago, at an 2009 economic conference, the government specifically pointed out a new idea for next year; that is to focus on expanding the consumption ability of lower-level households and individuals. And I would like to have your opinion here, and do you think it's practical or are you positive about this strategy or not? Thank you very much.

MR. ROSEN: This is probably the last question, so if everybody wants to take a minute to kind of politics at her on that note.

MR. SONG: Yes, I think it could be done, but it would not be the easiest thing politically for the simple reason it caters directly to the state construction lobby. If you build schools, you build hospitals. But it’s very hard to generate rents to them, if you send many more qualified teachers and many trained doctors that are there. In other words, hardware investment generates rents for members of the elite.

Whereas software investments, which some people term consumption--I do not see better education and better healthcare as consumption--I see it as investments. And those do not generate the same kickback to the entrenched interests.

MR. WING: Building low-cost housing as part of the strategy is controversial. And many people--many scholars point out that it’s actually distortionary, even though on the social and the welfare kind of grounds, and it is kind of justified.

So the reason why that is because that’s relating to the housing market and the building cost benefits, et cetera. So it’s not that simple as just building houses and people can afford it. But you also have to consider about the market forces behind that.

MR. XIAO: Just very simple. The objective is to increase employment, because employment really is the key could also allow wage growth, and wage growth means there will be inflation. So the government is actually tolerating some certain amount of inflation. Already the government adjusted very dramatically the minimum wage upwards. So the--all the money supplies actually partly were fit into the inflation, and which in a way will raise wages.

So I think employment is the number one priority for the government, and that is actually working quite well, and the unemployment of migrant workers already restored to the pre-crisis levels.

MR. ROSEN: Let me tell you what I distill and take away from what we've heard here this morning.

I get a sense that there’s quite a lot of understanding about the fundamental nature of the problems that need adjusting in China, what rebalancing needs to include in order to be effective for long-term Chinese growth. I get the sense that these concerns that a darker set of forces of the state thinking it can somehow be the engine of the growth--of growth for the future is not such a concern among our panelists as it might be in some political circles in Washington and elsewhere, but that the response to the challenge as we understand it has so far been very piecemeal, very much a mix of halting steps to do the right thing for these new growth areas of the economy, combined with--overshadowed really by urgent, old-fashioned steps to provide for growth in the very near term.

So, Wing, as you said, to start it out, it really is too soon to make a definitive statement about where this is headed, but certainly China hasn't fixed or gotten its house in order yet. I think we can say that with clarity.

Thank you very much. Please join me in thanking the panelists.

* * * * *

CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

/s/Carleton J. Anderson, III

Notary Public in and for the Commonwealth of Virginia

Commission No. 351998

Expires: November 30, 2012