

# FOIA MARKER

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**Collection/Record Group:** Clinton Presidential Records  
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**Series/Staff Member:** Roger Ballentine  
**Subseries:**

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**OA/ID Number:** 19509  
**FolderID:**

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**Folder Title:**  
Climate Change International China [2]

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|               |             |                 |               |                  |
|---------------|-------------|-----------------|---------------|------------------|
| <b>Stack:</b> | <b>Row:</b> | <b>Section:</b> | <b>Shelf:</b> | <b>Position:</b> |
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# Withdrawal/Redaction Sheet

## Clinton Library

| DOCUMENT NO.<br>AND TYPE | SUBJECT/TITLE | DATE | RESTRICTION |
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| 001. report | Energy and Carbon Emissions Outlook to 2020 (26 pages) | 06/01/1999 | P1/b(1) |
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### COLLECTION:

Clinton Presidential Records  
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### FOLDER TITLE:

Climate Change International China [2]

2017-1093-F

ds457

### RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

- P1 National Security Classified Information [(a)(1) of the PRA]
- P2 Relating to the appointment to Federal office [(a)(2) of the PRA]
- P3 Release would violate a Federal statute [(a)(3) of the PRA]
- P4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
- P5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]
- P6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

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RR. Document will be reviewed upon request.

Freedom of Information Act - [5 U.S.C. 552(b)]

- b(1) National security classified information [(b)(1) of the FOIA]
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- b(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
- b(9) Release would disclose geological or geophysical information concerning wells [(b)(9) of the FOIA]

Record Type: Record

To:

cc:

Subject: Text: Joint Statement on Cooperation on Environment & Development Between the United States and China

**JOINT STATEMENT ON COOPERATION  
ON ENVIRONMENT & DEVELOPMENT  
BETWEEN THE UNITED STATES AND CHINA**

1. The United States and China agree that meeting development needs in a sustainable manner is one of the most important challenges of the 21st century. They underscore the central role energy plays in economic development, as well as the human health and environmental risks associated with unsustainable use of energy and natural resources. They note that the development and deployment of cleaner and more efficient energy technologies will contribute significantly to improving local air quality and protecting the global environment. The United States and China recognize that countries can achieve sustained economic growth while protecting the environment and taking actions to combat climate change.

2. The United States and China note that their common desire to promote clean energy and protect the environment has guided past cooperation and joint initiatives. They accord high importance to the US-China Forum on Environment and Development and commit to further their cooperation in the fields of clean energy, environmental protection, science and technology and commercial cooperation. The two nations will also continue to cooperate on efforts to strengthen the Chinese environmental regulatory regime to encourage pollution control and abatement.

3. The United States and China recognize the potential of Chinese accession to the WTO to broaden and accelerate the transfer of environmentally-sound technologies, goods and services, thereby advancing clean energy and environmental protection goals.

4. The two countries are taking many initiatives on their own to mitigate the impact of energy production and use on the environment. China plans to expand significantly the use of natural gas in China's energy supply and increase the utilization of coalbed methane and clean coal technologies. China also plans to increase significantly the generation of power from renewable energy sources. China's recent structural reforms and removal of certain fossil fuel subsidies have already resulted in economic and environmental benefits; further economic reforms should result in additional environmental benefits.

5. The United States is committed to a clean energy future and to the goal of reducing greenhouse gas emissions. To this end, the United States pursues a program of research and development, public education, promotion of energy efficient products and practices, and targeted tax incentives. Specific actions during the past year include issuance by the President of an Executive Order mandating reduction in energy use in federal buildings; issuance by the President of a directive that sets a target to triple the use of bio-energy in the U.S.; issuance by the President of a directive to reduce petroleum use in the federal vehicle fleet; and establishment by the Department of Energy of new goals to increase the share of U.S. electricity generated by wind power.

6. The United States and China reaffirm their strong support for international efforts to combat global climate change under the UN Framework Convention on Climate Change and its Kyoto Protocol, in accordance with the principle of common but differentiated responsibilities. The two countries express the

willingness to entertain new and creative thinking and approaches to cooperation between developed and developing countries on climate change. The two countries intend to work together and with other countries toward early agreement on the elements of the Kyoto mechanisms, including the Clean Development Mechanism, which could offer opportunity for mutually beneficial cooperation between developed and developing countries. They recognize, in particular, that the Clean Development Mechanism could provide important opportunities for economic growth and environmental protection.

7. China and the United States reaffirm their commitment to sustainable management and protection of natural resources and endangered species. China is taking aggressive steps to combat deforestation, including banning of logging in southwest China and an ambitious tree-planting and reforestation program in the Yangtze basin, in the Beijing metropolitan area, and elsewhere. The two countries have a long history of cooperation in this area, and affirm their intention to work together to assure that any increased trade flows will not undercut natural resource management and species protection programs.

8. The United States and China believe that energy and environment constitutes one of the most important areas of cooperation between the two countries. The joint initiatives taken by the two sides will give practical shape to that vision. By making clean energy widely available through development and application of new technologies and strengthening efforts to protect our environment and this planet's biodiversity, China-US cooperation will contribute in significant measure towards further securing the welfare and quality of life of the peoples of the two countries. It will also be a vital contribution towards preserving the riches of our planet for future generations.



Paul Bledsoe  
01/31/2000 01:00:46 PM

Record Type: Record

To: See the distribution list at the bottom of this message

CC:

Subject: LA Times story on Tokyo Climate Change Negotiations

Note quotes from Mark Hambley about "narrowing differences" and "meaningful participation."

**Japan Reports Reduction in  
Greenhouse Gas Emissions**

By SONNI EFRON, Times Staff Writer

TOKYO--Two years after the Kyoto accord on global warming, most of the major industrial powers and developing countries are emitting more greenhouse gases than ever.

Still, U.S. and Japanese officials say there has been incremental progress on diplomatic and technological fronts toward convincing many countries that it is possible and essential to cut carbon dioxide emissions by 2010 to below levels a decade ago--the goal set in Kyoto.

Environmentalists remain skeptical about whether developing countries will make sacrifices for the environment while Americans, who generate a quarter of greenhouse gases--which contribute to global warming--refuse to slap tougher efficiency standards on their ever-larger sport-utility vehicles.

The U.S. should lead the way by slashing domestic emissions, but "there are still well-funded, powerful efforts to block any action," said Dan Becker, director of the global warming and energy program in Washington for the Sierra Club.

In Japan, however, carbon dioxide emissions dropped by 3.8% in 1998. Although about 60% of that is believed to be due to the country's economic slump, some was the result of efficiency improvements, according to Japan's Environment Agency.

Japan will keep its promise to reduce greenhouse gas emissions to 6% below 1990 levels in 10 years, said Hironori Hamanaka, director-general of the agency's global environment department. But it will meet that goal only if measures agreed to in Kyoto, including giving developed countries credit for emission improvements they make in developing countries, are implemented.

Meanwhile, Japan has made progress in negotiations with China, which remains staunchly opposed to setting targets for reducing its soaring emissions until it achieves a higher standard of living, Hamanaka said.

Japan is concerned not only about China's escalating production of greenhouse gases but also about its sulfur-laden emissions that increase damage here from acid rain. So Japan is seeking deals on joint public and private projects in China to improve energy efficiency, slash emissions and make sure new Japanese investment is "green."

Among the projects: a \$170-million proposal by Hitachi Corp. to retrofit four Chinese coal-burning power plants to boost efficiency and cut emissions by 21%.

But it's not all smooth sailing. Nichimen Corp. wants to build a factory to produce cleaner-burning bio-briquettes, made of coal dust and fiber, to replace low-quality coal that is burned untreated. That would reduce carbon dioxide and sulfur dioxide emissions. But after two years of negotiations, the Chinese have delayed the \$34-million project in favor of a water-pollution amelioration effort, according to Nichimen spokesman Takashi Ochi.

Nevertheless, Chinese officials are showing increasing interest in green projects, particularly those that come with development aid. They also are discussing such deals with the U.S., the European Union and others, Hamanaka and U.S. officials acknowledged.

Other countries--and some U.S. corporations--that were skeptical or scornful during the December 1997 Kyoto conference no longer dispute the scientific evidence that greenhouse gases are heating up the planet, insisted Ambassador Mark G. Hambley, the U.S. special negotiator on climate change.

Hambley was in Tokyo this month for a meeting of the "Umbrella Group"--the U.S., Japan, Canada, Australia, New Zealand, Ukraine and Norway--that helps nations comply with the Kyoto pact. He said the group is narrowing its differences with two others dealing with climate change: the European Union and a bloc of 77 developing countries that includes China.

The richer nations are more confident about meeting targets set in Kyoto, while poorer countries are realizing that "clean development" could help them, Hambley said.

The hope is to reach agreement on some of the thorniest issues at the sixth global warming conference in The Hague in November.

The Clinton administration will not submit a global warming treaty to the Senate for ratification until it is sure that the cost of implementing the treaty does not hinder U.S. economic growth and that the final treaty provides for "meaningful participation by key developing countries," Hambley said.

However, "meaningful participation" has yet to be defined.

Search the archives of the Los Angeles Times for similar stories about: Statistics, Air Pollution Control, Carbon Dioxide, Environment - Japan, Greenhouse Affect, Treaties.

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Travel  
Classifieds  
jobs, homes, cars,  
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Commentary  
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Message Sent To:

Joseph E. Aldy/CEA/EOP@EOP  
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Roger S. Ballentine/WHO/EOP@EOP  
John D. Gibson/WHCCTF/EOP@EOP  
Jefferson B. Seabright/WHCCTF/EOP@EOP

## **AGENDA**

Senior-level Interagency Meeting on U.S.-China Forum

Thursday, January 27, 2000, 10:30-11:30am

Old Executive Office Building, Vice President's Ceremonial Office

- I. Rule of law (CIA, EPA)
- II. Environmental benefits of China's accession to WTO (OSTP, CEQ, Commerce)
  - A. Lane/Li briefing to environmental NGOs.
  - B. Daley letter to Congress re. Forum results.
- III. Climate change (OSTP, State, WHCCTF)
  - A. Scientific evidence of climate change; proposed study group
  - B. Economics of greenhouse gas emissions abatement; follow up
  - C. High-level dialogue
- IV. Biosafety (State, CEQ)
- V. Next steps (OVP, OSTP)
  - A. Letter from Dr. Lane to Madame Zhu
  - B. Upcoming visits to Beijing
  - C. Upcoming visits to Washington
  - D. Letter from VP to Zhu Rongji
  - E. Meeting with Foundation representatives
  - F. Request to National Academies

## **Press guidance on U.S./China joint statement on Environment and Development**

*Background: Today (5/19) in Beijing, the U.S. Ambassador to China and China's Minister of Science and Technology signed a joint U.S.-China statement on environmental cooperation. The statement is a result of the U.S.-China Forum on Environment and Development, co-chaired by Vice President Al Gore and Chinese Premier Zhu Rongji. The Vice President and China's Premier established the Forum in 1997 to expand bilateral cooperation and dialogue on sustainable development and environmental protection. In April 1999, Gore and Zhu Rongji co-chaired the Forum's second session in Washington, DC. Its third session, a minister-level meeting, held in Honolulu in January 2000. Plans are underway for a fourth session in China next year. Negotiations on the joint statement were concluded following a letter from the Vice President to the Premier urging his support.*

*In the joint statement, China and the U.S. commit to further their ongoing cooperation to address global environmental challenges. The statement marks an important step in China's evolution toward greater cooperation with the U.S. in combating climate change, and commits both countries to cooperation on the further development of the Kyoto Protocol. Specifically, China has long opposed international dialogue regarding the role of developing countries in taking action to address climate change. The statement reflects a new openness to engagement. Furthermore, the statement expresses the view that sustained economic growth can be achieved while still taking action to address climate change. The two countries also commit to assure that increased trade does not harm natural resources and endangered species, while still recognizing the potential of Chinese accession to the WTO to advance clean energy and environmental protection goals.*

### **Why is the US-Chinese joint statement significant?**

This is the most positive statement on climate change that China has made. It highlights domestic actions taken by China, indicates support for further development of the Kyoto Protocol and its innovative provisions, such as the Clean Development Mechanism, as well as a willingness to consider new ideas and approaches to developing country actions to address climate change. Coming on the heels of a call for such a new dialogue from the U.S. and India during the President's March trip to South Asia, this new openness is quite significant.

### **[If asked] Is the joint statement timed to correspond to the PNTR vote?**

No. We have had a vigorous dialogue with China on environment, energy and climate change for many years through the Vice President's forum as well as through a high level dialogue on climate change and other channels. The joint statement is the result of ongoing efforts to deepen our cooperation to address these global challenges.

### **[If asked] Isn't this a last ditch attempt to generate support from environmentalists in advance of the PNTR vote?**

No. We have consistently said that engagement with China on global environment issues is a

critical part of our foreign policy. The statement reflects the importance we place on these issues. We believe that PNTR will enhance our dialogue with China on the environment.

**[If asked] Did you pressure the Chinese into agreeing to this statement?**

We have had a long and productive dialogue with the Chinese on the environment. The statement reflects our mutual interest in deepening our cooperation on these issues.

**[If asked] How does it compare to the joint statement with India? Isn't the China statement weaker?**

The India and China statements are similar in many ways. Both governments joined us in acknowledging that climate change is a real problem, that action to address climate change is consistent with sustained economic growth, that new international cooperation is needed, and that both countries are moving to address the imperative of clean energy development.

**[If pressed: Why does the India statement have quantifiable targets for clean energy and not the China statement?]**

The Chinese are in the middle of their economic planning process and, therefore, do not have the data necessary to make the kind of statements made by India. The Chinese are expected to complete the five-year plan for 2001-2005 sometime around the end of this year and submit it to the National People's Congress in March 2001.

**[If pressed: Is the India statement weaker on the call for new dialogue on the role of developing countries in addressing climate change?]**

The two statements are complementary. India joined us in highlighting the urgent need for a dialogue about how developed and developing countries can work together to fight climate change. We joined China in expressing a willingness to consider new and creative approaches and ideas to strengthening this cooperation between developed and developing countries. These statements support each other. We believe that a new dialogue is necessary and are willing to consider new approaches and ideas in that context.

JOINT STATEMENT ON COOPERATION  
IN ENERGY AND ENVIRONMENT  
BETWEEN THE UNITED STATES AND CHINA

1. The United States and China agree that meeting development needs in a sustainable manner is one of the most important challenges of the 21<sup>st</sup> century. They underscore the central role energy plays in economic development, as well as the human health and environmental risks associated with unsustainable use of energy and natural resources. They note that the development of cleaner and more efficient energy technologies will contribute significantly to improving local air quality and protecting the global environment. The United States and China recognize that countries can achieve robust economic growth while protecting the environment and taking action to combat climate change.
2. The United States and China recognize the potential of the recently signed bilateral WTO agreement to advance environmental protection goals by broadening and accelerating the market-based transfer of environmentally-sound technologies, goods and services.
3. The United States and China note that their common desire to promote clean energy and protect the environment has guided past cooperation and joint initiatives. They accord high importance to the US-China Forum on Environment and

Development and commit to further their cooperation in the fields of clean energy, environmental protection, science and technology and commercial cooperation.

4. The two countries are taking many initiatives on their own to mitigate the impact of energy production and use on the environment. In it continued commitment to energy efficiency as a means of boosting economic performance while reducing local and global environmental impacts, China has set a goal of reducing energy demand growth to half the rate of economic growth between 2000-2005. In addition, China plans to quadruple the use of natural gas in China's energy supply by 2020 and significantly expand the utilization of coalbed methane. China's recent structural reforms have already resulted in environmental benefits, including a reduction in coal use of over 250 million tons over the last five years; further reforms in the electric power sector should result in additional environmental gains. And China has taken aggressive steps to combat deforestation, including banning of logging in southwest China, an ambitious tree-planting program in the Yangtze basin and in the Beijing metropolitan area.

5. The United States is committed to a clean energy future and to the goal of reducing greenhouse gas emissions. To this end, the United States pursues a program of research and

development, public education, promotion of energy efficient products and practices, and targeted tax incentives. Specific actions during the past year include issuance by the President of an Executive Order mandating reduction in energy use in federal buildings by 30% below 1990 levels by the year 2010; issuance by the President of a directive that sets a target to triple the use of bio-energy in the U.S. over the next decade – a result that would lead to a reduction of 100 million metric tons of carbon; and establishment by the Department of Energy of a goal of increasing to 5% the share of U.S. electricity generated by wind power by 2020.

6. The United States and China reaffirm their strong support for international efforts to combat global climate change under the UN Framework Convention on Climate Change and its Kyoto Protocol. They reaffirm the urgent need for international dialogue on ways in which developed and developing countries could participate in actions to Combat climate change, [in accordance with the principle of common but differentiated responsibilities, and in a manner consistent with sustained economic growth and social development. They recognize that, under the United Nations Framework Convention on Climate Change, the developed country Parties shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies

and know-how to the developing country Parties to enable them to implement the provisions of the Convention.] The two countries intend to work together and with other countries in appropriate multilateral fora toward early agreement on the elements of the Kyoto mechanisms, including the Clean Development Mechanism, which could offer opportunity for mutually beneficial partnership between developed and developing countries. They recognize, in particular, that the Clean Development Mechanism could provide important opportunities for economic growth and environmental protection.

7. The United States and China believe that energy and environment could be one of the most important areas of cooperation between the two countries. The joint initiatives taken by the two sides will give practical shape to that vision. By making clean energy widely available through development and application of new technologies and strengthening efforts to protect our environment and this planet's biodiversity, Sino-US cooperation will contribute in significant measure towards further securing the welfare and quality of life of the peoples of the two countries. It will also be a vital contribution towards preserving the riches of our planet for future generations of this world.

FOR THE GOVERNMENT OF THE  
UNITED STATES OF AMERICA:

FOR THE GOVERNMENT OF THE  
PEOPLES' REPUBLIC OF CHINA:

**IMMEDIATE DELIVERY****OFFICE OF THE VICE PRESIDENT****NATIONAL SECURITY AFFAIRS****Phone: (202) 456-9518****Fax: (202) 456-9500****FAX COVER SHEET**

|                                                                                                                                                                 |                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>From:</b>                                                                                                                                                    | <b>Ted Osius</b>                                                                                                                                                        |
| <b>To:</b>                                                                                                                                                      | <b>Roger Ballentine and/or Jeff Seabright; Paul Anastas and/or Rosina Bierbaum; Joe Aldy; Jonathan Fritz; Bill Dilday; David Jhirad; Alan Bowser and/or Jan Kalicki</b> |
| <b>Subject:</b>                                                                                                                                                 | <b>Climate change discussion in Science for Sustainable Development Working Group (and other items)</b>                                                                 |
| <b>Fax Number:</b>                                                                                                                                              | <b>X61736; x66028; x56870; 647-6820; 647-6876; 586-0861; 482-0170; 482-6330</b>                                                                                         |
| <b>Date/Time:</b>                                                                                                                                               | <b>01/07/00</b>                                                                                                                                                         |
| <b>No. of pages to follow + cover:</b>                                                                                                                          | <b>5</b>                                                                                                                                                                |
| <b>Please review the incoming correspondence from Beijing and my draft response. Comments would be most welcome by 5pm, so I can send this out. Thanks, Ted</b> |                                                                                                                                                                         |

**IMMEDIATE DELIVERY**

**MINISTRY OF SCIENCE AND TECHNOLOGY OF CHINA**

15-B Fuxing Road, Beijing, 100862, China, TEL 0086-10-6851-4054, FAX 0086-10-6851-2163

Attention : Mr. Ted Osius, US Secretary for the Forum  
Senior Advisor to the Vice President for  
International Affaires  
Fax number : 202-456-9500  
CC : Mr. Liu Zhaodong, Minister-Counselor, Chinese  
Embassy in US  
Fax number : 202-265-7523  
Date : 6 January 2000  
From : Lu Xuedu  
FAX number : 0086-10-6851-2163  
Number of pages : 2  
Subject : Issues Related to the Forum

---

Dear Mr. Ted Osius:

Thank you for your FAX of January 5.

With regard to your suggested agenda for Science Group, I would like to make following comments.

1. "Land Reclamation after halting cultivation" under the "Agricultural Policy Issues" could be moved to replace "Land Use". In fact, the Land Reclamation after halting cultivation is a kind of Land Use.
2. Under "climate variability and climate change", we would like to keep the item "ENSO and dynamic climate model" as we suggested to replace the "Vulnerability/Scientific cooperation", and we will make a presentation firstly. With regard to the Mechanisms, we would like firstly to hear US introduction and then we would make comments.

I was informed that USDOE is going to sign an agreement on energy information exchange with China Statistics Bureau after the closing

ceremony of the Forum. But we have not been formally informed of this arrangement from your latest FAX of today. As I understand, the roundtable will begin soon after the Forum closing ceremony. If we do sign the agreement, we would prefer to sign it at the Energy Policy Working Group Meeting and report to the Forum Plenary. Your early clarification in this regard is appreciated.

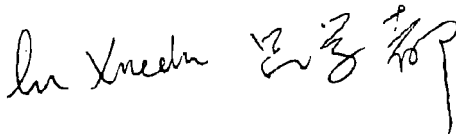
With regard to the roundtable, we were very surprised that the topic would be only CCEF Report, which was quite different from your suggestion passed to us through the Chinese Embassy. Previously we were informed that the roundtable would discuss the clean coal technology and nuclear power technology that the US private sectors are interested, and we also have made preparation accordingly. We are not prepared to discuss the CCEF Report and it is impossible for us to make preparation ready within the short time. I am afraid we would not have fruitful discussion at the roundtable. Your understanding and clarification are appreciated.

With regard to the Joint Statement, we are not prepared to have this statement and it seems very difficult for us to reach an agreement among ministries at this moment due to the limited time. At the second session of the Forum, even though both sides reached the agreement on the wording of the Joint Statement that was negotiated for much longer time, the Joint Statement was not signed yet. After roughly looking through the Statement, we find that there will be heavy tasks for us to negotiate the wording of the Statement, and that difficult situation to try to reach the agreement might happen. Therefore, we would suggest not make this statement.

Looking forward to seeing you in Hawaii.

Best wishes.

Sincerely,



Lu Xuedu

Deputy Division Director

Ministry of Science and Technology of China

January 7, 2000

Mr. Lu Xuedu  
Deputy Division Director  
Ministry of Science and Technology  
Beijing, PRC  
Fax: 86-10-6851-2163

Dear Mr. Lu:

Thank you for your fax of January 6, received today.

Since Land Use was a separate agenda item during the April 9 session of the Forum, we would prefer to leave it as a separate item. The State of Oregon and the State of Hawaii would like to make brief presentations on this item. In future, we hope to work with you on a cooperative program involving U.S. and Chinese experts to develop techniques to restore the enormous tracts of heavily degraded land in southern China. Certainly we would not expect a substantive response to this proposal until after your delegation has had the opportunity to report to Beijing.

2. Here is a possible way of organizing the climate change discussion:

9:35--10:50 Climate Variability and Climate Change

|                                                                                         |       |
|-----------------------------------------------------------------------------------------|-------|
| A. ENSO and dynamic climate model (China)                                               | 15min |
| B. Vulnerability/Scientific cooperation (U.S.)                                          | 15min |
| C. Mechanisms/ Economics of Greenhouse Gas Emissions Abatement (U.S.) (Chinese Comment) | 30min |
| D. Preparations for the High-Level Dialogue (MoFA) (U.S. comment)                       | 15min |

3. USDOE would prefer to sign the agreement on energy information exchange with the China Statistics bureau during the final minutes of the Forum's closing plenary session, so that Madame Zhu Lilan and Dr. Neal Lane could witness the signing.

4. The topic of the CCEF report would be used only to begin the Roundtable discussion. Any topics could be pursued after the introduction, including clean coal technology and nuclear power technology.

5. As in April, we do not see a need to schedule a signing of the Joint Statement. It could be issued after our two delegations have an opportunity to report back to our respective capitals.

2

Once again, I look forward to seeing you in Hawaii.

Sincerely,

Ted Osius  
U.S. Secretary for the Forum  
Senior Advisor to the Vice President  
for International Affairs

cc: Minister-Counselor Liu Zhaodong  
Embassy of the People's Republic of China  
fax: 202-265-7523

Forth mty - China

8/24/99 Mike Orfini

- if taking a segment, doesn't matter if CDM works
- crawl before walk
- momentum / thrill dynamics.

- CDM credits could be split b/w investor and host (host could save for trading) or all can go to ~~host~~ investor.
- why would CDM projects reduce low hanging fruit and thus make me less likely to take on a target b/c my BATV curve just got tougher.
- On other hand, if host keeps credits and banks them, then they have an incentive to take on target.

- talk to Orfini re: VP / Pres issue re: delivery of paper.

- how closely do we tie the Lox/Ballentine trip to a follow up to paper?

- talk to Steinberg

↳ should Pres hand over paper?

↳ should he say he wants feedback to Core Hr?

↳ should he just stress importance of issue?

get

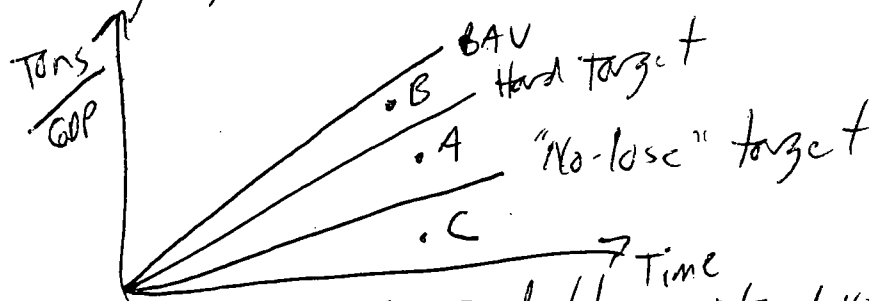
## Loy mtg 1 8/16

Big Kyoto Issues: 1) Dev. Countries; 2) Cost

- Focus on second here

- Option: "No Lose" Target.

- WCs take BAV, and commit to  $\frac{1}{2}\%$  below. But no penalty for failure to hit. If you beat target you get tradable permits. Non-binding target needs to be a tougher target than binding target; this is trade off.



C = Tradable permits w/ No Lose target  
~~only~~ or hard target

A = Tradable permits w/ Hard target only; no penalty for soft target

B = Nothing; penalty w/ hard target; no penalty w/ soft target

mtg next Tues 4PM Leon Furt

## Loy Mtg 2 8/16

China

- Aldy paper - send by VP?

Mtg 1 (continued) - price cap - would be part

of agreement internally. pay to govt  
the safety value, price if market  
price goes above that.

- But that is a false permit w/  
no env. benefit.

- but \$ govt offsets must  
be used for some dedicated  
green purpose.

---

Leon mty 11/16/99

- EPA - Bill \_\_\_\_\_ said China interested in natural  
gas initiative with us. — ~~★~~

- DOE - get this guy into a meeting

Forum/China 4/27/00

- Lane briefing to NGOs. - keep it to briefing on what has occurred.
- Daily letter to Hill re: Forum/China.
- Lane ltr to Zhu
- Development plans in Western Provinces
  - distributed power?
  - renewables?

# Withdrawal/Redaction Marker

## Clinton Library

| DOCUMENT NO.<br>AND TYPE | SUBJECT/TITLE                                          | DATE       | RESTRICTION |
|--------------------------|--------------------------------------------------------|------------|-------------|
| 001. report              | Energy and Carbon Emissions Outlook to 2020 (26 pages) | 06/01/1999 | P1/b(1)     |

### COLLECTION:

Clinton Presidential Records  
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ds457

### RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

- P1 National Security Classified Information [(a)(1) of the PRA]
- P2 Relating to the appointment to Federal office [(a)(2) of the PRA]
- P3 Release would violate a Federal statute [(a)(3) of the PRA]
- P4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
- P5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]
- P6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Personal record misfile defined in accordance with 44 U.S.C. 2201(3).

RR. Document will be reviewed upon request.

Freedom of Information Act - [5 U.S.C. 552(b)]

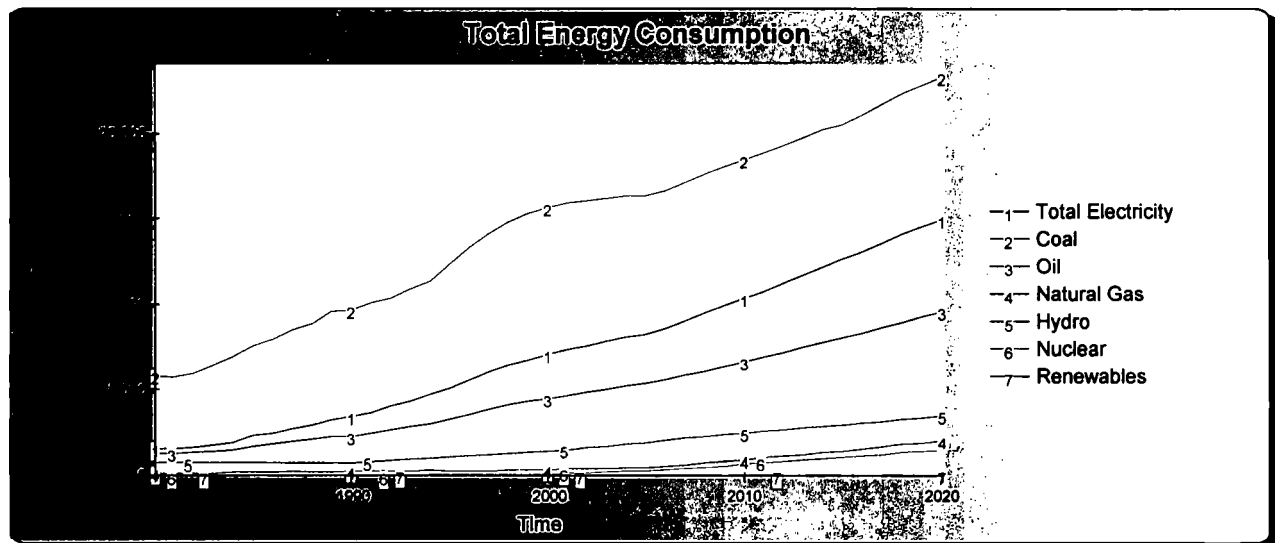
- b(1) National security classified information [(b)(1) of the FOIA]
- b(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
- b(3) Release would violate a Federal statute [(b)(3) of the FOIA]
- b(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]
- b(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]
- b(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
- b(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
- b(9) Release would disclose geological or geophysical information concerning wells [(b)(9) of the FOIA]

## Base Case Scenario

**Scenario Description:** The Base Case assumes average annual GDP growth of 5.5% per year, based on projections of the OECD. Natural gas, hydro, and nuclear all increase their market share by 2020. For example, installed electrical generation capacity grows from 1 GW to 36 GW (natural gas); 75 to 175 GW (hydro); and 2 GW to 40 GW (nuclear). However, due to its large internal coal resources, coal remains the dominant fuel source. Overall energy intensity continues to decline as China modernizes. Population growth levels at an annual growth rate of 0.8% per year.

### Results:

|                              | 2000  | 2010  | 2020  |
|------------------------------|-------|-------|-------|
| Total Energy (tbd)           | 22177 | 29342 | 40021 |
| % of Energy Supplied by Coal | 71%   | 63%   | 58%   |
| Oil Imports (mbbls/day)      | 1.34  | 2.8   | 4.95  |
| Total Carbon (mtC)           | 919   | 1146  | 1516  |
| Total Sulfur (mtS)           | 25    | 30    | 39    |



**Discussion:** Total carbon dioxide emissions increase by almost 1 billion tons carbon from 1990 to 2020. For comparison, current global emissions are approximately 6 billion tons carbon. This increase mirrors the increase in fossil fuel usage over this time period. Per capita emissions reach 1 ton carbon in 2020, well below the current average of 3.3 tons per capita in industrialized countries. Approximately 58% of the 2020 energy demand is met by coal. Oil, particularly in the transport sector, grows in relative importance. As a result, projected oil imports total approximately 5 million barrels per day in 2020.

## GDP Growth Scenario

**Scenario Description:** The purpose of this scenario is to demonstrate the sensitivity of the model results to assumptions about GDP growth. The CEGM contains two preset GDP growth rate scenarios, a Base Case based on the Organization for Economic Cooperation and Development (OECD) projections, and a high growth case based on World Bank projections. The Base Case declines from 6% to 4.25% over the forecast period, averaging 5.5%. The High growth case declines from 9% to 5.75% over the forecast period. The CEGM also allows the user to define a custom scenario.

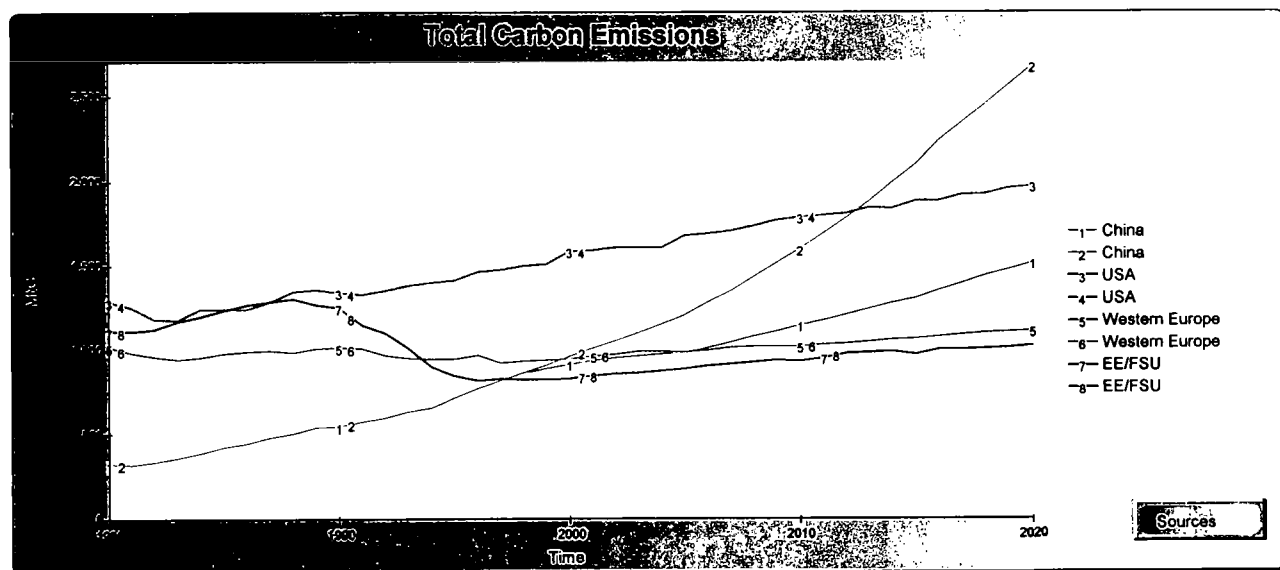
### Results:

| Growth Scenario       | 2000   | 2010   | 2020   |
|-----------------------|--------|--------|--------|
| Base Case             |        |        |        |
| Total Energy (tbd)    | 22,177 | 29,342 | 40,021 |
| % of Energy from Coal | 71%    | 63%    | 58%    |
| Total Carbon (mtC)    | 919    | 1,145  | 1,516  |
| Total Sulfur (mtS)    | 24.83  | 30.06  | 38.72  |
| High Growth Case      |        |        |        |
| Total Energy (tbd)    | 23,099 | 39,474 | 66,281 |
| % of Energy from Coal | 71%    | 66%    | 65%    |
| Total Carbon (mtC)    | 960    | 1,596  | 2,681  |
| Total Sulfur (mtS)    | 25.95  | 42.26  | 70.02  |

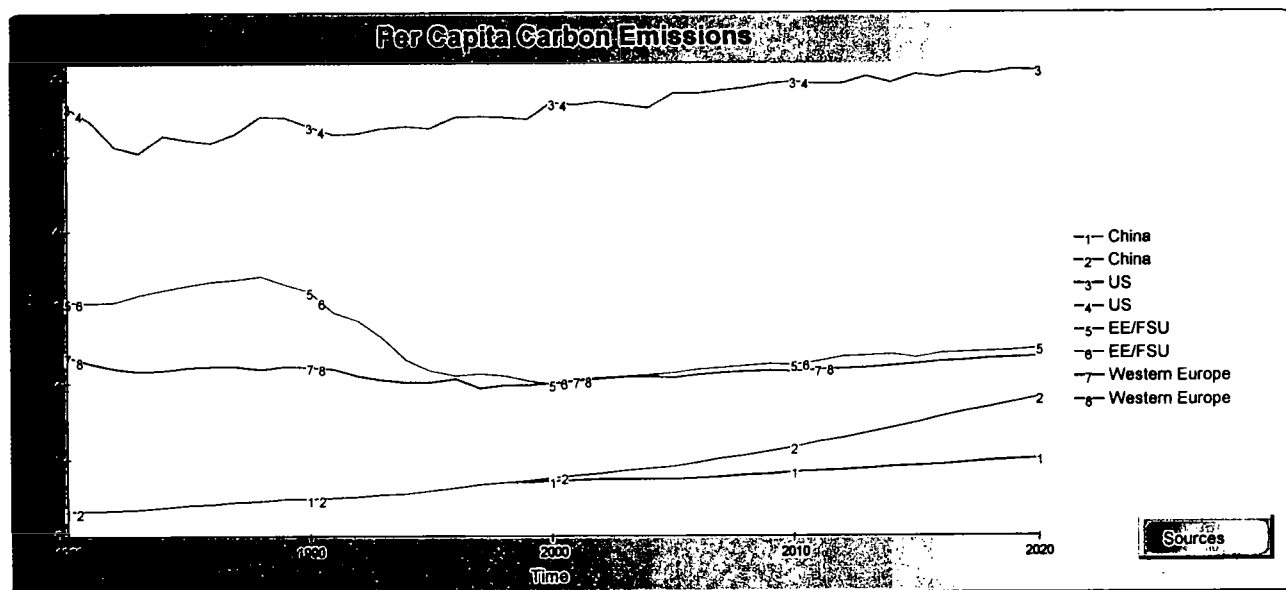
**Discussion:** The results are highly sensitive to the basic assumptions about GDP growth rates. Total energy demand is 165% higher for the World Bank Scenarios. Projected carbon emissions soar, increasing about 1.1 billion tons over the base case. Figure 1 compares international projections for CO<sub>2</sub> emissions and clearly shows the potential global environmental impact of high economic growth in China. The line labeled "1" represents projected CO<sub>2</sub> emissions using the OECD growth rates. The line labeled "2" represents projected CO<sub>2</sub> emissions using the high growth World Bank growth rates. Using the World Bank growth rates China would be the world's largest emitter of CO<sub>2</sub> by the year 2013. While this result may appear implausible, a closer look at projected per capita emissions, Figure 2, shows that even with high economic growth, per capita emissions in China remain below those in the U.S., Western Europe, or the countries of Eastern Europe and former Soviet Union.

## GDP Growth Scenario

(continued)



**Figure 1. Total Carbon Emissions**



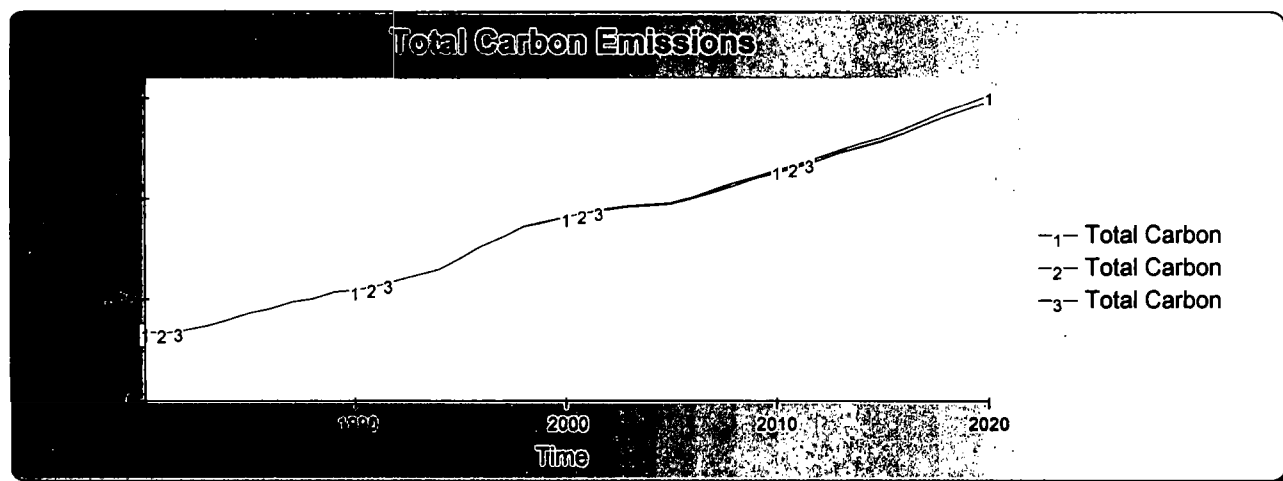
**Figure 2. Per Capita Carbon Emissions**

## Advanced Coal Technology Scenario

**Scenario Description:** This scenario examines the potential impact of using advanced coal technologies for electrical generation in terms of overall energy demand and resulting CO<sub>2</sub> emissions. Specifically, this scenario compares three alternative extremes for coal usage: 1) future plants use existing technology ("Average", .413 kgce/kWh); 2) all future coal plants utilize more efficient technology ("Better", .327 kgce/kWh); and 3) all future coal plants utilize the best available technology ("Best", .319 kgce/kWh).

### Results:

|                                     | Existing | 2020<br>All Better | All Best |
|-------------------------------------|----------|--------------------|----------|
| Total Energy (tbd)                  | 40,021   | 39,435             | 39,380   |
| % Energy from Coal                  | 58.3     | 57.6               | 57.5     |
| Total Carbon (mtC)                  | 1516     | 1488               | 1486     |
| Total Sulfur (mtS)                  | 38.72    | 37.9               | 37.8     |
| Additional Cost (billion \$)        | --       | - 1.9              | 4.3      |
| Cost per ton avoided carbon (\$/tC) | --       | -77                | 157      |



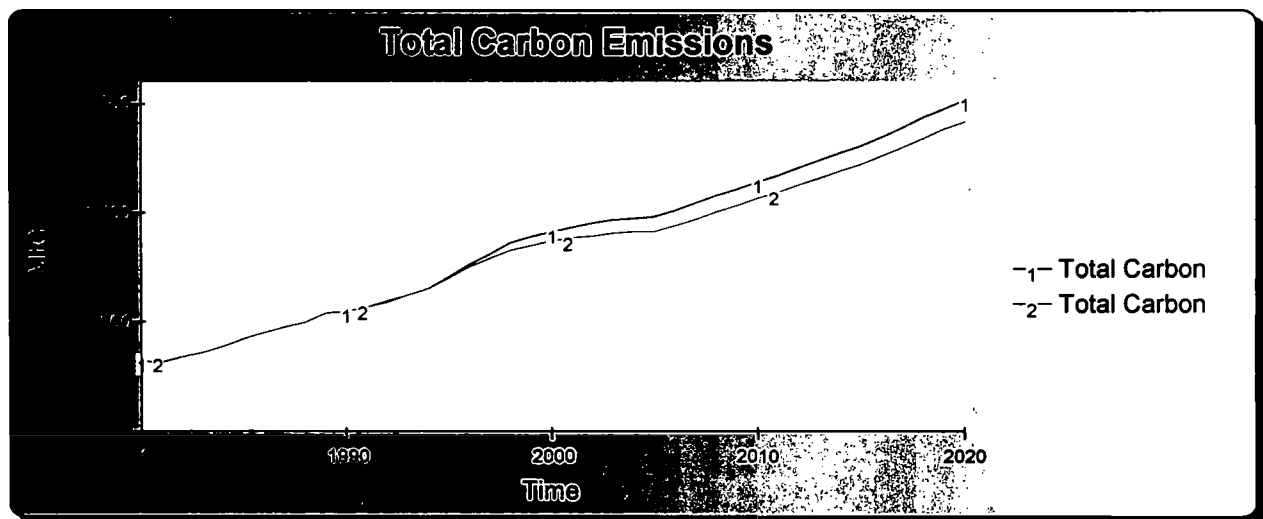
**Discussion:** If all future plants use the better technology, projected CO<sub>2</sub> emissions decrease by 1.7% over the base case scenario. Because these plants are significantly more efficient than existing technology, the net capital costs are negative, meaning it saves money as fewer plants are necessary to meet projected demand. The estimated cost per ton of carbon avoided is -\$76, indicating that this represents a good opportunity for reducing carbon emissions. Based on projected capital costs of 720 \$ per installed kW for "Better" technology and 860 \$ per installed kW for "Best" technology, it does not make economic sense to make the jump to using only the most efficient technology.

## Aggressive Nuclear Scenario

**Scenario Description:** The purpose of this scenario is to explore the effectiveness of limiting future emissions of carbon dioxide in China through a rapid investment in nuclear energy. China currently has only 1 GW (equivalent of one 1000 MW plant, a typical size) of installed nuclear capacity, but has plans to increase the number of plants. Official plans suggest a goal of 50 GW of nuclear installed capacity by 2020. The Aggressive Nuclear Scenario assumes the Chinese launch an even more aggressive nuclear expansion, reaching 100 GW by 2020.

### Results:

|                                     | 2020  |         |
|-------------------------------------|-------|---------|
|                                     | Base  | Nuclear |
| Total Energy (tbd)                  | 40021 | 40021   |
| % Energy from Coal                  | 58%   | 53%     |
| Total Carbon (mtC)                  | 1516  | 1413    |
| Total Sulfur (mtS)                  | 39    | 36      |
| Additional Costs (billion)          | --    | 55      |
| Cost per ton avoided carbon (\$/tC) | --    | 550     |



**Discussion:** Increasing the 2020 installed nuclear capacity to 100 GW results in a 6% (100 million tons carbon) reduction in CO<sub>2</sub>. The estimated additional capital cost of increasing nuclear capacity is approximately \$55 billion, assuming nuclear costs of \$1,350 per KW, or approximately \$550 per ton carbon avoided. This makes nuclear a very high cost option for reducing carbon emissions.

Lash

THE WHITE HOUSE

China Council on CCICD  
Cooperation Development.

- Canadian Govt started it.  
NGO's + gov't's.
- Business School initiative.
- Jack Gibbons might be helpful
- Ju-ming Ping - 1st China Env.  
minister - good
- Chang Wai - works for Lash.  
met with her. Nancy Keity  
working on carbon intensity  
initiative. Did SO2 trading  
program in Bush Admin.

Jonathan@WHI.org

NKete@ "

Changhau@ "

**IMMEDIATE DELIVERY**

**OFFICE OF THE VICE PRESIDENT  
NATIONAL SECURITY AFFAIRS**

**Phone: (202) 456-9518  
Fax: (202) 456-9500**



**FAX COVER SHEET**

|                                                                                                                    |                                                   |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| <b>From:</b>                                                                                                       | <b>Ted Osius</b>                                  |
| <b>To:</b>                                                                                                         | <b>Jan Kalicki, Roger Ballentine, Bill Dilday</b> |
| <b>Subject:</b>                                                                                                    | <b>Memo to the Vice President</b>                 |
| <b>Fax Number:</b>                                                                                                 | <b>482-6330; x61736; 647-6876</b>                 |
| <b>Date/Time:</b>                                                                                                  | <b>01/06/00</b>                                   |
| <b>No. of pages to follow + cover:</b>                                                                             | <b>3</b>                                          |
| <b>For your comments, suggestions. Will go to the VP tonight, so please provide input by 3pm. Many thanks, Ted</b> |                                                   |

**IMMEDIATE DELIVERY**

*[Handwritten scribble]*

**DRAFT**

January 6, 2000

**MEMORANDUM FOR THE VICE PRESIDENT**

FROM: LEON FUERTH

SUBJECT: Third session of the U.S.-China Forum on Environment and Development

Next week in Honolulu, Science and Technology Director Dr. Neal Lane and Minister of Science and Technology Dr. Zhu Lilan will chair the Forum's third session. We are seeking progress in the following areas:

**Climate change.** In his most recent letter to you, Premier Zhu Rongji opened the door – albeit narrowly – to cooperation on climate change. He wrote: "The Chinese side takes an active approach on the 'Clean Development Mechanism' and looks forward to conducting project cooperation with the U.S. side in good faith after the establishment of this mechanism. The Chinese side agrees to hold a Vice-Foreign-Ministerial dialogue on climate change with the U.S. side at an appropriate time next year."

Subsequently, the Chinese agreed to address climate change in the context of the Forum. We have structured the discussion to begin with an exchange on the scientific evidence of climate change and vulnerabilities of both our countries. Then we will explore the possible mechanisms – including the Clean Development Mechanism, project financing, and other initiatives that could promote private sector investment in clean energy projects in China – that would result in greenhouse gas emissions abatement. We will conclude with a discussion of process: how we might move from joint study and projects to a less antagonistic approach in multilateral negotiations. If the exchange goes well (admittedly, that is far from assured), this would set the stage for a more fruitful high-level dialogue later this year.

Separately, Chinese scientists have expressed interest in ~~the Clean Development Mechanism~~ in a joint report by the U.S. and Chinese National Academies, *Cooperation in the Energy Futures of China and the United States*. The Chinese took this endeavor seriously, providing more than half the study's resources (financial and intellectual), and Chinese scientists undertook a rigorous review of their efforts – an unusual step. The study's credibility provides us with an opening for a more profound discussion with the Chinese of their energy policy and plans for the next few decades. Since its recommendations are consistent with the goals we have set for the Forum, we will use

*clean energy development*

the study as a call to action in both our government-to-government meetings and in a roundtable discussion with U.S. private industry.

**Clean Energy and the Private Sector.** Much of the work in Honolulu aims at promoting clean energy use in China: greater energy efficiency, increased use of renewable energy, and further development of China's natural gas sector. For concrete steps to be taken, the private sector's involvement is critical. We have prepared an open letter from you to the Forum delegates (attached) in which you express confidence that "the increased market deployment of U.S. technologies in China would contribute significantly to China's ambitious programs to improve energy efficiency, increase development and use of clean energy sources, and reduce pollution." China appears increasingly receptive to this message.

The Forum provides an opportunity to showcase U.S. clean energy, water resource management and pollution reduction technologies. Forty companies will be represented at the Forum; 10 will participate in working group discussions. Besides the usual involvement of oil and gas companies, we have brought in companies active in clean coal technologies and civilian nuclear power. Company Presidents and CEOs from Chevron, the Nuclear Energy Institute, Asian American Coal, Inc., Evan Energy, Dasibi, Earth Tech, the Natural Gas Vehicle Coalition and Hawaiian companies involved in renewable energy and energy efficiency will participate in a roundtable discussion with U.S. and Chinese government officials and academics. Industry leaders will be encouraged to make policy suggestions and recommend actions to the two governments to promote increased commercial cooperation to meet environmental objectives.

**Scientific Cooperation.** The U.S.-China Joint Commission Meeting on Science and Technology will occur immediately following the Forum. There, and in the Forum's Science for Sustainable Development Working Group, experts will discuss fresh water management and enhancing productive, environmentally sustainable agriculture, and natural disaster management, especially in the area of floods and earthquakes. They will also discuss China's participation in the Global Disaster Information Network (GDIN).

I will provide you with a summary of the Forum's accomplishments later this month.

**IMMEDIATE DELIVERY****OFFICE OF THE VICE PRESIDENT  
NATIONAL SECURITY AFFAIRS****Phone: (202) 456-9518****Fax: (202) 456-9500****FAX COVER SHEET**

|                                                                                                                                                                                                         |                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>From:</b>                                                                                                                                                                                            | Ted Osius                                                                                                                      |
| <b>To:</b>                                                                                                                                                                                              | Roger Ballentine and/or Jeff Seabright; Paul Anastas and/or Rosina Bierbaum; Joe Aldy; Jonathan Fritz; Bill Dilday; Ian Bowles |
| <b>Subject:</b>                                                                                                                                                                                         | Climate change discussion in Science for Sustainable Development Working Group                                                 |
| <b>Fax Number:</b>                                                                                                                                                                                      | X61736; x66028; x56870; 647-6820; 647-6876; x62710                                                                             |
| <b>Date/Time:</b>                                                                                                                                                                                       | 01/05/00                                                                                                                       |
| <b>No. of pages to follow + cover:</b>                                                                                                                                                                  | 3                                                                                                                              |
| Attached is my draft response to Beijing. Roger, I'm repeating the incoming message for you since you didn't see it earlier. Comments would be most welcome by 5pm, so I can send this out. Thanks, Ted |                                                                                                                                |

**IMMEDIATE DELIVERY**

January 5, 2000

Mr. Lu Xuedu  
Deputy Division Director  
Ministry of Science and Technology  
Beijing, PRC  
Fax: 86-10-6851-2163

Dear Mr. Lu:

Thank you for your letter, received today. Following is a suggested agenda for the Science for Sustainable Development Working Group, including the climate change item.

**Wednesday, January 12**

- |              |                                                                                |       |
|--------------|--------------------------------------------------------------------------------|-------|
| 8:00-8:10    | Introduction and Welcome                                                       |       |
|              | Neal Lane                                                                      | 5min  |
|              | Mme Zhu Lilan                                                                  | 5min  |
| 8:10-9:20    | Agricultural Policy Issues                                                     |       |
|              | A. Credit Availability (U.S.)                                                  | 10min |
|              | B. Agricultural Extension Service (U.S.) (MOA)                                 | 20min |
|              | C. Water Technology and dry land farming (MOA) (U.S.)                          | 25min |
|              | D. Land Reclamation after halting cultivation (ML&R)                           | 15min |
| 9:20-9:35    | Break                                                                          |       |
| 9:35 – 10:35 | Climate Variability and Climate Change                                         |       |
|              | A. Vulnerability/Impacts of Response Measures (U.S.)                           | 15min |
|              | B. Mechanisms, including CDM, AIJ (SDPC) (U.S. Comment)                        | 15min |
|              | C. Economics of Greenhouse Gas Emissions Abatement (U.S.)<br>(Chinese comment) | 15min |
|              | D. Preparations for the High-Level Dialogue (MoFA)                             | 15min |
| 10:35-11:00  | Coastal Management (SOA) (U.S.)                                                | 25min |
| 11:00-11:40  | Sustainable Development Capacity Building                                      | 40min |
|              | A. Indicator System for Sustainable<br>Development (ACCA21) (U.S. Comment)     | 20min |
|              | B. Community Sustainable Development (MOST)(U.S.)                              | 20min |
| 11:40-13:10  | LUNCH BREAK                                                                    |       |

## 13:10 - 14:05 Water Resources and Disaster

- A. Water resources including flood prevention and related disaster reduction (MWR)(U.S.) 15min
- B. Global Disaster Information Network (GDIN) (U.S.) 10min
- C. Earthquake Disaster (CSB)(U.S.) 20min

14:05 – 14:20 Break

14:20 – 14:40 Land Use 20min

14:40 – 15:30 Conclude working group session (prepare for the presentation in the plenary session. 50min

I look forward to seeing you in Hawaii.

Sincerely,

Ted Osius  
U.S. Secretary for the Forum  
Senior Advisor to the Vice President  
for International Affairs

cc: Minister-Counselor Liu Zhaodong  
Embassy of the People's Republic of China  
fax: 202-265-7523

**MINISTRY OF SCIENCE AND TECHNOLOGY OF CHINA**

15-B Fuxing Road, Beijing, 100862, China, TEL 0086-10-6851-4054, FAX 0086-10-6851-2163

Attention : Ted Osius, US Secretary for the Forum  
Senior Advisor to the Vice President for  
International Affaires  
Fax number: 202-456-9500  
Copy to: David Bleyle, Counselor, US Embassy in Beijing  
Fax number: 86-10-6532-6423  
Copy to: Liu Zhaodong, Minister Counselor, Chinese  
Embassy in US  
Fax number: 202-265-7523  
Date : 5 January 2000  
From : Lu Xuedu  
FAX number : 0086-10-6851-2163  
Number of pages : 2  
Subject : Agenda on Climate Change under the Forum

---

Dear Mr. Ted Osius:

I have received two faxes on the "climate change side meeting" from your Embassy in Beijing consecutively. We have noticed that in response to our request passed through the Chinese Embassy in Washington, DC, and also because of the busy schedule in Honolulu, the US side agrees that there will not be a separate side meeting, but instead individual discussions on the margins of the Forum. We fully endorse that and appreciate your flexibility.

Both sides have agreed that the climate change issue will be in the agenda of Science for Sustainable Development Working Group (SSDWG), we believe that we could take good advantage of the SSDWG to discuss climate change issue. However, We don't have a clear picture on the agenda on the climate change till now. We notice that in one of the fax

from your Embassy, the following items are proposed for the informal meeting:

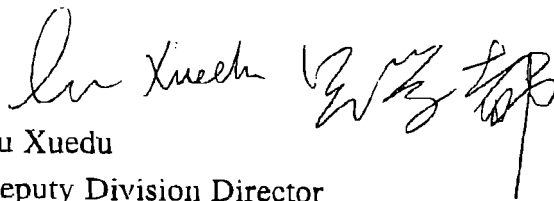
- I. Mechanisms
- II. Technology Transfer and Capacity Building
- III. Vulnerability/Impacts of Response Measures
- IV. ~~Sinks~~
- V. Compliance
- VI. Preparations for the High-Level Dialogue

A minor change could make the above list suitable for the discussion under the SSDWG. I would like to suggest to remove the items "sink" and "Vulnerability/Impacts of Response Measures" from the agenda simply because we don't have appropriate officials among the delegates to discuss these two issues even though we are very interested in. I would also like to suggest adding one item "AIJ" so as to promote the AIJ cooperation. Your early response/confirmation on the climate change agenda would make the discussion more fruitful.

I am looking forward to seeing you and working with you.

Best wishes.

Sincerely,



Lu Xuedu

Deputy Division Director

Department of Rural and Social Development

Ministry of Science and Technology of China

15-B Fuxing Road, 100862, Beijing, P. R. China

January 5, 2000

Mr. Lu Xuedu  
Deputy Division Director  
Ministry of Science and Technology  
Beijing, PRC  
Fax: 86-10-6851-2163

Dear Mr. Lu:

Thank you for your letter, received today. Following is a suggested agenda for the Science for Sustainable Development Working Group, including the climate change item.

**Wednesday, January 12**

- |              |                                                                                |       |
|--------------|--------------------------------------------------------------------------------|-------|
| 8:00-8:10    | Introduction and Welcome                                                       |       |
|              | Neal Lane                                                                      | 5min  |
|              | Mme Zhu Lilan                                                                  | 5min  |
| 8:10-9:20    | Agricultural Policy Issues                                                     |       |
|              | A. Credit Availability (U.S.)                                                  | 10min |
|              | B. Agricultural Extension Service (U.S.) (MOA)                                 | 20min |
|              | C. Water Technology and dry land farming (MOA) (U.S.)                          | 25min |
|              | D. Land Reclamation after halting cultivation (ML&R)                           | 15min |
| 9:20-9:35    | Break                                                                          |       |
| 9:35 - 10:35 | Climate Variability and Climate Change                                         |       |
|              | A. Vulnerability/ <del>Impacts of Response Measures</del> (U.S.)               | 20min |
|              | B. Mechanisms, including CDM, AIJ (SDPC) (U.S. Comment)                        | 20min |
|              | C. Economics of Greenhouse Gas Emissions Abatement (U.S.)<br>(Chinese comment) | 20min |
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| 10:35-11:00  | Coastal Management (SOA) (U.S.)                                                | 25min |
| 11:00-11:40  | Sustainable Development Capacity Building                                      | 40min |
|              | A. Indicator System for Sustainable<br>Development (ACCA21) (U.S. Comment)     | 20min |
|              | B. Community Sustainable Development (MOST)(U.S.)                              | 20min |
| 11:40-13:10  | LUNCH BREAK                                                                    |       |

TED -  
STATE'S (NZel's)  
Comments.  
Rj

**IMMEDIATE DELIVERY****OFFICE OF THE VICE PRESIDENT  
NATIONAL SECURITY AFFAIRS****Phone: (202) 456-9518****Fax: (202) 456-9500****FAX COVER SHEET**

|                                            |                                                                                                                                                                        |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>From:</b>                               | <b>Ted Osius</b>                                                                                                                                                       |
| <b>To:</b>                                 | <b>Jeff Seabright; Gerald Hane and Paul Anastas;<br/>Jonathan Fritz; Bill Dilday; Helen Burroughs;<br/>David Jhirad; Marianne Bailey; Dick Affleck;<br/>Susan Ware</b> |
| <b>Subject:</b>                            | <b>Briefing books and final expert-level planning<br/>meeting</b>                                                                                                      |
| <b>Fax Number:</b>                         | <b>x52311; x66028; 647-6820; 647-6876; 482-0170;<br/>586-0861; 565-2412; 690-0892; 482-4307</b>                                                                        |
| <b>Date/Time:</b>                          | <b>01/05/00</b>                                                                                                                                                        |
| <b>No. of pages to<br/>follow + cover:</b> | <b>18</b>                                                                                                                                                              |

As you know, we are counting on final submission of all briefing materials by COB today. (If it is easier, you may e-mail papers in Microsoft Word Format to: [michael.w.roberts@ovp.eop.gov](mailto:michael.w.roberts@ovp.eop.gov).) OVP will then provide briefing books for the highest-level official from each of the following agencies:

- Agriculture
- Commerce
- Energy

**IMMEDIATE DELIVERY**

- EPA
- NOAA
- OSTP
- State
- WHCCTF

Since briefing books will be unclassified, agencies may, on a restricted basis, photocopy the materials for senior members of the U.S. delegation. A draft table of contents is attached.

OVP will conduct a final expert-level planning meeting on Friday, January 7, at 4pm in OEOb Room 324. Assuming that all materials have been submitted as scheduled, briefing books will be available at that time. At the meeting, we will also review the almost-final Forum schedule and Working Group agendas (attached). Please phone in clearance info to Mike Roberts, tel. 456-9508.  
Thanks, Ted

**U.S.-China Forum on Environment and Development**  
Third Session, January 11-12, 2000  
Honolulu, HI

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- Environmental Commercial Priorities
- Urban Air Quality Cooperation
- Regional Initiatives
- Reforestation and Sustainable Forest Projects
- Environmental Law and Regulation
- Infectious Disease and Environmental Degradation
- Biosafety
- Green Chemistry

|                                                                         |           |
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| <b>Agenda for U.S.-China Joint Commission on Science and Technology</b> | <b>11</b> |

**U.S.-China Forum on Environment and Development  
Third Session – January 11-14, 2000, Hawaii  
LOGISTICS INFORMATION**

**DRAFT 7**

Note: Monday, January 10: Check-In Table open 6:00-8:00 pm.

**TUESDAY, JANUARY 11**

Note: Check-In Table open 9:00-3:30 pm.

**4:00 pm  
6:00 pm**

**OPENING PLENARY SESSION**

South Pacific Ballroom 3-4

Attendees: ~150

Interpretation: Simultaneous

A/V Equipment: none

Setup: 40 at hollow square table, remaining seats theatre style

Refreshments: water at tables, lemonade/ice tea at entrance

**OPEN PRESS FOR OPENING REMARKS ONLY**

**Format:**

- Ambassador Li Zhaoxing makes welcoming remarks (10 minutes)
- Dr. Lane and Mme. Zhu Lilan make brief opening remarks (tbd minutes)
- Working group chairs are introduced by Dr. Lane.
- Science: Chinese chair presents, American chair responds
- Energy: American chair presents, Chinese chair responds
- Commercial: American chair presents, Chinese chair responds
- Environment: Chinese chair presents, American chair responds
- Dr. Lane and Mme. Zhu Lilan make brief closing remarks (tbd minutes)

**6:00 pm  
7:00 pm**

**BREAK**

*Note: Buses to East West Center depart Tara Tower beginning at 6:30 pm.*

**7:00 pm  
8:30 pm**

**GOVERNOR'S RECEPTION**

**East West Center**

Contact: Vicki Chiu-Irion

Attendees: ~150

Interpretation: Consecutive

A/V Equipment: Podium/microphone + 1 standing microphone

Setup: TBD  
**CLOSED PRESS**

Format:

*Note: Buses to Hilton depart East West Center beginning at TBD.*

**WEDNESDAY, JANUARY 12**

**8:00 am**  
**12:00 pm**

**WORKING GROUP SESSIONS**

**Science for Sustainable Development**

South Pacific 3

Attendees: ~49

Interpretation: Simultaneous

A/V Equipment: slide & overhead projector

Setup:

Contact: Paul Anastas

**CLOSED PRESS**

**Energy Policy**

South Pacific 4

Attendees: ~23

Interpretation: Simultaneous

A/V Equipment: overhead projector

Setup:

Contact: Denise Dwyer 586-6384

**CLOSED PRESS**

**Commercial Cooperation**

South Pacific 2

Attendees: ~29

Interpretation: Consecutive

A/V Equipment: None

Setup:

Contact: Kathryn Hollander 482-0385

**CLOSED PRESS**

**Environmental Policy**

Sea Pearl 2-3

Attendees: ~23

Interpretation: Consecutive

A/V Equipment: none

Setup:

Contact: Bill Dilday 736-7374

**CLOSED PRESS**

**12:00 pm**  
**1:30 pm**

**LUNCH (Hosted by Asian American Coal Inc.)**

Tropics Showroom

Attendees: ~150

Interpretation: Consecutive

A/V Equipment: Podium/microphone + 1 standing microphone

Setup: Rounds of 10 – Assigned Seating at 2-3 tables

Seating: Kathryn Hollander

**CLOSED PRESS**

Format:

- Salad Preset.
- Entrée served.
- Following entrée, Neal Lane makes brief remarks (1 min)
- Mme. Zhu Lilan makes brief remarks (1 min)
- W. Douglas Blackburn, President, Asian American Coal Inc. makes brief remarks (10 mins)

**1:30 pm**  
**3:30 pm**

**WORKING GROUP SESSIONS**

**Science for Sustainable Development**

South Pacific 3

Attendees: ~49

Interpretation: Simultaneous

A/V Equipment: slide & overhead projector

Setup:

Contact: Paul Anastas

**CLOSED PRESS**

**Energy Policy**

South Pacific 4

Attendees: ~23

Interpretation: Simultaneous

A/V Equipment: overhead projector

Setup:

Contact: Denise Dwyer 586-6384

**CLOSED PRESS**

**Commercial Cooperation**

South Pacific 2

Attendees: ~29

Interpretation: Consecutive

A/V Equipment: None

Setup:

Contact: Kathryn Hollander 482-0385

**CLOSED PRESS**

**Environmental Policy**

Sea Pearl 2-3

Attendees: ~23

Interpretation: Consecutive

A/V Equipment: none

Setup:

Contact: Bill Dilday 736-7374

**CLOSED PRESS**

*Note: South Pacific 3-4 must be cleared at 3:30 pm to prepare for closing plenary*

**4:00 pm****CLOSING PLENARY SESSION****5:00 pm**

South Pacific Ballroom 3-4

Attendees: ~150

Interpretation: Simultaneous

A/V Equipment: none

Setup: 40 at hollow square table, remaining seats theatre style

**(T) OPEN PRESS FOR SIGNING**Format:

- Mme. Zhu Lilan and Dr. Lane make brief opening remarks (tbd minutes)
- 4 Working Group Chairs TBD make presentations.
- Science: American chair presents, Chinese chair responds
- Energy: Chinese chair presents, American chair responds
- Commercial: Chinese chair presents, American chair responds
- Environment: American chair presents, Chinese chair responds
- Dr. Lane and Mme. Zhu Lilan make brief closing remarks (tbd minutes)

*Note: Room must be cleared by 5:15 pm for setup.*

**5:30 pm****ROUNDTABLE DISCUSSION WITH PRIVATE SECTOR****6:30 pm**

South Pacific Ballroom 3-4

Attendees: ~150

Interpretation: Simultaneous

A/V Equipment: none

Setup: 30 at hollow square table, remaining seats theatre style

Contact: Kathryn Hollander

**CLOSED PRESS**Format: TBD**(T) Moderators:** Jan Kalicki & Song Mi

7:00 pm

8:30 pm

**DINNER (Hosted by Nuclear Energy Institute)**

Tropics Showroom

Attendees: ~150

Interpretation: Consecutive

A/V Equipment: Podium/microphone + 1 standing microphone

Setup: Rounds of 10 – Assigned Seating at 2-3 tables

Seating: Kathryn Hollander

**CLOSED PRESS**Format:

- Following entrée, Neal Lane makes brief remarks (1 min)
- Mme. Zhu Lilan makes brief remarks (1 min)
- Marvin Fertel, Senior Vice President, Nuclear Energy Institute makes brief remarks (15 mins)

**DRAFT AGENDA FOR:**  
**SCIENCE FOR SUSTAINABLE DEVELOPMENT WORKING GROUP**

|               |                                                                                              |       |
|---------------|----------------------------------------------------------------------------------------------|-------|
| 8:00-8:10     | Introduction and Welcome                                                                     |       |
|               | Neal Lane                                                                                    | 5min  |
|               | Mme Zhu Lilan                                                                                | 5min  |
| 8:10-9:20     | Agricultural Policy Issues                                                                   |       |
|               | A. Credit Availability (U.S.)                                                                | 10min |
|               | B. Agricultural Extension Service (U.S.) (MOA)                                               | 20min |
|               | C. Water Technology and dry land farming (MOA) (U.S.)                                        | 25min |
|               | D. Land Reclamation after halting cultivation (ML&R)                                         | 15min |
| 9:20-9:35     | Break                                                                                        |       |
| 9:35 – 10:35  | Climate Variability and Climate Change                                                       | 60min |
|               | A. ENSO and dynamic climate model (NCC)(U.S.)                                                |       |
|               | B. Climate Change (U.S.)                                                                     |       |
| 10:35-11:00   | Coastal Management (SOA) (U.S.)                                                              | 25min |
| 11:00-11:40   | Sustainable Development Capacity Building                                                    | 40min |
|               | A. Indicator System for Sustainable Development (ACCA21) (U.S. Comment)                      | 20min |
|               | B. Community Sustainable Development (MOST)(U.S.)                                            | 20min |
| 11:40-13:10   | LUNCH BREAK                                                                                  |       |
| 13:10 – 14:05 | Water Resources and Disaster                                                                 |       |
|               | A. Water resources including flood prevention and related disaster reduction (MWR)(U.S.)     | 15min |
|               | B. Global Disaster Information Network (GDIN) (U.S.)                                         | 10min |
|               | C. Earthquake Disaster (CSB)(U.S.)                                                           | 20min |
| 14:05 – 14:20 | Break                                                                                        |       |
| 14:20 – 14:40 | Land Use                                                                                     | 20min |
| 14:40 – 15:30 | Concluding the working group session (preparing for the presentation in the plenary session. | 50min |

**DRAFT AGENDA AND GOALS FOR THE  
ENERGY POLICY WORKING GROUP OF THE  
CHINA-US FORUM ON ENVIRONMENT AND DEVELOPMENT  
(Revised on January 4, 2000)**

**OPENING STATEMENT: (8:30 AM – 8:40 AM):**

- Identify key issues, goals, deliverables to advance objectives of the Forum and its “Energy and Environment Cooperation Initiative”.
  1. a 5-minute speech made by the group leader from the U.S. side.
  2. a 5-minute speech made by the group leader from China side.

**UPDATE ON DEVELOPMENT/ISSUES IN NATIONAL ENERGY STRATEGIES,  
PLANS AND PROJECTS: (8:40 AM – 9:30 AM):**

- Promote policies/energy sources that support sustainable energy development in the PRC.
- Seek better understanding of the prospective roles of SDPC, SETC, provinces in energy infrastructure development project identification and approval.
  1. The Chinese group will make a 15-minute introduction on the above mentioned two topics.
  2. The US group may raise questions and have discussions with the Chinese group for 10 minutes.
- Status of reforms in the U.S. power system, and experience that can be adopted by China.
  1. The US side make a 15-minute introduction on the above mentioned two topics.
  2. The China side may raise questions and have discussions with the U.S. side for 10 minutes.

**STUDY ON “COOPERATION IN THE ENERGY FUTURES OF CHINA AND THE  
UNITED STATES”: ( 9:30 AM – 10:00 AM):**

- Enhance understanding of study results and of opportunities/benefits of enhanced cooperation in the energy sector.
  1. The NRC officials will make a 15 minute presentation on the study results
  2. 15 minutes of discussion and comment by the U.S. and Chinese sides of the study results

**U.S. EXPORT-IMPORT BANK "CLEAN ENERGY PROGRAM": (10:00 AM -- 10:40 AM):**

- Review the progress on cooperation, seek modes to accelerate the speed, including improvements on loans conditions.
- Identify means to enhance outreach on the Clean Energy Program in the PRC.
  1. a 10-minute speech from China side.
  2. a 10-minute speech from the US side.
  3. Crosscutting discussion for 20 minutes.

**ENERGY EFFICIENCY POLICY AND COOPERATION: (10:40 AM -- 11:20 AM):**

1. a 15-minute speech from the US side on energy efficiency policy and cooperation.
2. a 15-minute speech from China side on "review on the work done by 1999 Sino-US Steering Committee and follow-up program of action.
3. a 10-minute discussion on the issues of common interest.

**DEVELOPMENT IN THE PRC'S RENEWABLE ENERGY PLANS AND ASSOCIATED OPPORTUNITIES FOR THE U.S. PRIVATE SECTOR: (11:20 AM -- 12:00 PM):**

1. a 15-minute introduction from China side.
2. a 15-minute introduction from the U.S. side.
3. a 10-minute discussion on the issues of common interest.

**LUNCH: (12:00 PM -- 1:30 PM)**

**DEVELOPMENT IN THE OIL AND GAS SECTOR, INCLUDING FOLLOW-UP TO THE U.S.-CHINA OIL AND GAS INDUSTRY FORUM: (1:30 PM -- 2:30 PM):**

- Seek update on the drafting of China's Natural Gas Policy -- discuss the value of US/China Oil and Gas Industry Forum activities in framing and shaping that policy.
- Discuss scope and issues for natural gas experts' group visit.
  1. a 10-minute speech from China side on the above mentioned two topics.
  2. a 10-minute speech from the US side.
  3. a 10-minute cross-cutting discussion.
- Request insights into China's terminal solicitation as well as LNG supply options for Guangdong LNG Plant.
- Review Status of EPA/SDPC cooperative study of natural gas utilization in China..
  1. a 10-minute speech from China side on the above two topics.
  2. a 10-minute speech from the U.S. side.
  3. a 10-minute cross-cutting discussion.

**CLEAN COAL TECHNOLOGY AND COALBED METHANE ISSUES: (14:30 PM -- 15:45 PM):**

- Update on China State Administration of Coal Industry – US EPA joint coal mine methane market development project.
- China's proposals on cooperation of clean coal technology between the two countries.
  1. a 15-minute speech from the China side on the above mentioned two topics.
  2. a 5-minute speech from the US side.
  3. a 5-minute cross-cutting discussion.
- Discuss the necessity of the signing of the "US-China Fossil energy Technology Cooperation Protocol", and agree on modes and time for further discussion on the text.
  1. a 5-minute speech from the US side.
  2. a 5-minute speech from the China side.
  3. a 5-minute cross discussion.

**ENERGY INFORMATION EXCHANGE PROTOCOL: (15:10 PM -- 15:25 PM):**

- Discuss types of energy information exchange under the protocol between DOE Energy Information Administration and the PRC's National Statistical Bureau on energy information exchange (The actual protocol to be signed at the closing plenary session.)
  1. a 5-minute speech from China side.
  2. a 5-minute speech from the U.S. side.
  - 3.

**CLOSING STATEMENTS: SUMMARY OF KEY OUTCOMES AND NEXT STEPS: (15:25 PM -- 15:45 PM):**

1. a 10-minute summary from the U.S. side.
2. a 10-minute summary from China side.

*Draft copy. Not for circulation.*

**Third United States - China Forum on Environment & Development  
COMMERCIAL COOPERATION WORKING GROUP**

**January 12, 2000**

**Hilton Hawaiian Village, South Pacific 2**

**8 am - 12 pm and 1:30 -3:30 pm**

**I 8:00 - 8:20 am**

Welcoming Remarks

Alan Bowser  
Deputy Assistant Secretary for  
Basic Industries  
U.S. Department of Commerce (DOC)

Mr. Dai Yunlou  
Deputy Director General  
Ministry of Foreign Trade & Economic  
Cooperation (MOFTEC)

**II 8:20 - 9:10 am**

Civilian Nuclear Power

Mr. Ron Simard  
Senior Director  
Nuclear Energy Institute  
(Standardized Plant Design and March Exhibit)

Chinese Remarks  
Zheng Qingyu  
Deputy Director  
Science & Technology Committee  
China National Nuclear Corporation (CNNC)  
(Future Nuclear Plans, Response)

Mr. Richard Stratford  
Director Office of Nuclear Energy Affairs  
U.S. Department of State  
(810 Assurance Issue)

Chinese Remarks  
Zheng Qingyu  
Deputy Director  
Science & Technology Committee  
China National Nuclear Corporation (CNNC)

**III 9:10 - 9:50 am**

U.S.-China Oil and Gas Industry Forum

Boidy Sibley  
General Manager, International Relations  
Chevron  
(Outcome from 2<sup>nd</sup> meeting, Natural Gas  
Technical Expert Visit)

*Draft copy. Not for circulation.*

Chinese remarks

Carolita Kallur  
Associate Director  
for Offshore Minerals Management  
U.S. Department of the Interior  
(MMS Offshore Lease Sale Exercise)

Chinese remarks

**IV 9:50 - 10:20 am**  
Alternative Fuel Vehicles

Alan Bowser  
Deputy Assistant Secretary for Basic Industries

Chinese remarks

Gilbert Sperling  
General Counsel  
Natural Gas Vehicle Coalition

Chinese remarks

**V 10:20 - 10:40 am**  
U.S. - China Residential Housing Initiative

Alan Bowser  
Deputy Assistant Secretary for Basic Industries  
(Plans to foster more advanced technology  
through HUD/NAHBRC and Trade Mission)

Chinese remarks

**VI 10:40 - 11:10 am**  
Commercial Clean Coal Technology

W. Douglas Blackburn  
President  
Asian American Coal

Chinese remarks

**VII 11:10 - 11:50 am**  
Environmental Commercial Priorities

Diane Creel  
President  
Earth Tech  
(Water Resource Management Workshop)

Chinese remarks

Al Gosselin

*Draft copy. Not for circulation.*

President  
Dasibi  
(Urban Air Pollution Control and Monitoring  
Network Equipment)

Chinese Remarks

LUNCH (Hosted by Asian American Coal, Inc.)

12:00 - 1:30 pm

VIII 1:30 - 2:15 pm  
State of Hawaii Energy Programs

Maurice Kaya  
Energy Resources & Technology Administrator  
Department of Business, Economic Development  
& Tourism  
State of Hawaii

Chinese Remarks

IX 2:15 - 2:30 pm  
*TENTATIVE*  
Hydro Power

Debby Stone  
Director of Trade Promotion  
US Hydropower

Chinese Remarks

X 2:30 - 2:45 pm  
Government Trade Promotion Programs

Alan Bowser  
Deputy Assistant Secretary for Basic Industries

Chinese Remarks

XI 2:45 - 3:30 pm  
Discussion and Next Steps

XII 3:30 pm  
Adjourn

U.S.-China Forum on Environment and Development  
January 11-12, 2000  
Hawaii

**ENVIRONMENTAL POLICY WORKING GROUP**  
**Wednesday, January 12**

8:00 am-12:00 pm    Working Group Session

- I.    Progress Reports Since Last Forum Meeting (U.S. and China)    State & EPA
- II.   Bilateral Cooperation Topics
  - Review of Statements of Intent Concluded During the 2nd Forum    EPA
    1.   Use of Market Mechanisms to Achieve SO2 Emissions Reduction in China (China)
    2.   Air Quality Management Assessment Project (China)
    3.   Public Health Co-Benefits (U.S.)
    4.   Industrial Pollution Prevention and Energy Efficiency (U.S.)
    5.   Effect of Particulate Matter on Children's Lung Function (U.S.)
    6.   Relation of Air Pollution to Asthma and Other Respiratory Health Problems (U.S.)
    7.   Energy-Efficient Buildings (China)
  - Air Monitoring Network    EPA
    1.   Phase I (China)
    2.   Phase II (U.S.)
  - Regional Initiatives (U.S.)    EPA
    1.   Trans-Pacific Air Pollutant Transport
    2.   Mercury from Mining
    3.   Dioxin Regional Workshop
  - Marine Issues (China)    NOAA
    1.   Marine Environmental Pollution Prevention and Control
    2.   Marine Biodiversity and Ecological Environmental Conservation
  - Forest Issues
    1.   Reforestation and Sustainable Forest Projects Cooperation (China)    USFS
    2.   International Forest Issues (U.S.)    State

- Environmental Law and Regulation (U.S.) *Justice/EP4/State*
- Infectious Disease & Environmental Degradation Linkage (U.S.) *State*

12:00-1:30 pm      Lunch

1:30-3:30 pm      Working Group Session

III. Multilateral Cooperation Issues

- Biosafety (U.S.) *State*
- Persistent Organic Pollutants (U.S.) *State*

IV. Closing Remarks (U.S. and China) *State & EPA*

3:30-4:00 pm      Preparation of Working Group Report

Revised 12/29/99



David Hales <dhailes@usaid.gov>

12/30/99 12:50:53 PM

Please respond to dhailes@usaid.gov

Record Type: Record

To: Roger S. Ballentine/WHO/EOP

cc: Bob Lester <blester@usaid.gov>

Subject: Re: Technology Transfer Paper for China

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Roger

A complicated picture. Various provisions of the Foreign Assistance Act do (or could) apply.

1. FAA620f: bars direct assistance to "any communist country". Provide for SecState waiver, and was waived, 12/11/85.
2. Approps 2000, s523, bars indirect assistance (multilateral development banks/international organizations) , is waived annually by POTUS.
3. FAA116: bars assistance to human rights violators. This is the provision usually considered to be impediment to USAID engagement. This is complicated, as well. If the President were to waive this provision, that could be considered a determination that China IS a violator. Real important folks like this issue finessed.
4. Other provisions prohibit assistance to countries that are terrorist states or to countries that provide assistance to terrorist states. Because the 116 prohibition is sufficient, we, USAID, do not know whether State has made these determinations. Decisions involve classified material.
5. Other provisions of law such as the Arms Export Control Act also apply, but USAID is unaware of determinations made under such provisions.

It gets more complicated. USAID has "notwithstanding" language that would allow engagement on rule of law, climate and energy. We have not exercised that option, and the possibility of our doing so has led to outspoken bipartisan opposition in Congress.

There are lots of folks that know a lot more about this than I, and if they were to brief you, I'm not even sure that I could attend.

I hope this gets you started. Any more, let's talk.

David

----- Original Text -----

From: <Roger\_S\_Ballentine@who.eop.gov>, on 12/30/1999 11:26 AM:

can you give me some info re: the prohibition on USAID's activity in China?

**U.S.-China Forum on Environment and Development  
Third Session – January 11-14, 2000, Hawaii  
LOGISTICS INFORMATION**

**DRAFT 4**

**TUESDAY, JANUARY 11**

**9:00 am  
12:00 pm**

**~~CLIMATE CHANGE MEETING~~**

~~South Pacific Boardroom  
Attendees: 10 at table ~6 addition in room  
Interpretation: Consecutive  
Equipment Needed:  
Special Setup:~~

**4:00 pm  
6:00 pm**

**OPENING PLENARY SESSION**

South Pacific Ballroom 3-4  
Attendees: ~150  
Interpretation: Simultaneous  
A/V Equipment:  
Setup: 40 at hollow square table, remaining seats theatre style

Format:

- Ambassador Li Zhaoxing makes welcoming remarks (10 minutes)
- Dr. Lane and Mme. Zhu Lilan make brief opening remarks (tbd minutes)
- Working group chairs are introduced by Dr. Lane.
- Science: Chinese chair presents, American chair responds
- Energy: American chair presents, Chinese chair responds
- Commercial: American chair presents, Chinese chair responds
- Environment: Chinese chair presents, American chair responds
- Dr. Lane and Mme. Zhu Lilan make brief closing remarks (tbd minutes)

**6:00 pm  
7:00 pm**

**BREAK**

*(T) Note: Buses to East/West Center Depart Tara Tower beginning at 6:30 pm*

**7:00 pm  
8:30 pm**

**GOVERNOR'S RECEPTION**

(T) East/West Center  
Contact: ??  
Attendees: ~150  
Interpretation: Consecutive

Format:

(T) Note: Buses to Hilton depart East/West beginning at TBD

**WEDNESDAY, JANUARY 12**

8:00 am  
12:00 pm

**WORKING GROUP SESSIONS****Science for Sustainable Development**

South Pacific 3  
Attendees: ~40  
Interpretation: Simultaneous  
A/V Equipment:  
Setup:

**Energy Policy**

South Pacific 4  
Attendees: ~25-30  
Interpretation: Simultaneous  
A/V Equipment:  
Setup:

**Commercial Cooperation**

South Pacific 2  
Attendees: ~40  
Interpretation: ~~NONE~~ Consecutive  
A/V Equipment:  
Setup:

**Environmental Policy**

Sea Pearl 2-3  
Attendees: ~25  
Interpretation: ~~NONE~~ Consecutive  
A/V Equipment:  
Setup:

12:00 pm  
1:30 pm

**LUNCH (Hosted by Asian American Coal Inc.)**

Tropics Showroom  
Attendees: ~150  
Interpretation: Consecutive  
A/V Equipment: Podium/microphone + 1 standing microphone  
Setup: Rounds of 10 – Assigned Seating at 2-3 tables

Format:

- Salad Preset.
- Entrée served.
- Following entrée, Neal Lane makes brief remarks (1 min)
- Mme. Zhu Lilan makes brief remarks (1 min)
- Host Representative makes brief remarks (5 mins)

1:30 pm

3:30 pm

**WORKING GROUP SESSIONS****Science for Sustainable Development**

South Pacific 3

Attendees: ~40

Interpretation: Simultaneous

A/V Equipment:

Setup:

**Energy Policy**

South Pacific 4

Attendees: ~25-30

Interpretation: Simultaneous

A/V Equipment:

Setup:

**Commercial Cooperation**

South Pacific 2

Attendees: ~40

Interpretation: ~~NONE~~ Consecutive

A/V Equipment:

Setup:

**Environmental Policy**

Sea Pearl 2-3

Attendees: ~25

Interpretation: ~~NONE~~ Consecutive

A/V Equipment:

Setup:

*Note: South Pacific 3-4 must be cleared at 3:30 pm to prepare for closing plenary*

4:00 pm

5:00 pm

**CLOSING PLENARY SESSION**

South Pacific Ballroom 3-4

Attendees: ~150

Interpretation: Simultaneous

A/V Equipment:

Setup: 40 at hollow square table, remaining seats theatre style

Format:

- Mme. Zhu Lilan and Dr. Lane make brief opening remarks (tbd minutes)
- 4 Working Group Chairs TBD make presentations.
- Science: American chair presents, Chinese chair responds
- Energy: Chinese chair presents, American chair responds
- Commercial: Chinese chair presents, American chair responds
- Environment: American chair presents, Chinese chair responds
- Dr. Lane and Mme. Zhu Lilan make brief closing remarks (tbd minutes)

**5:30 pm****6:30 pm****ROUNDTABLE DISCUSSION WITH PRIVATE SECTOR**

South Pacific Ballroom 3-4

Attendees: ~150

Interpretation: Simultaneous

A/V Equipment:

Special Setup:

Format: TBD

(T) Moderators: Ted Osius &amp; Li Yanhua

**7:00 pm****8:30 pm****DINNER (Hosted by Nuclear Energy Institute)**

Tropics Showroom

Attendees: ~150

Interpretation: Consecutive

A/V Equipment: Podium/microphone + 1 standing microphone

Setup: Rounds of 10 – Assigned Seating at 2-3 tables

Format:

- Following entrée, Neal Lane makes brief remarks (1 min)
- Mme. Zhu Lilan makes brief remarks (1 min)
- Host Representative makes brief remarks (5 mins)

## **AGENDA**

High-level Interagency Planning Meeting for Third U.S.-China Forum

(January 11-12, 2000, Honolulu, HI)

Tuesday, January 4, 2000, 10:30-11:30am

Old Executive Office Building, Vice President's Ceremonial Office

1. Climate change
2. The Forum and China's Accession to the WTO
3. Private Sector Participation in the Forum
4. Future of the Forum

A handwritten signature or mark, possibly a stylized 'X' or a signature, located at the bottom right of the page.



**Michael.Colby@do.treas.gov**  
12/30/99 01:59:33 PM

Record Type: Record

To: dhailes@usaid.gov, Duncan.Marsh@hq.doe.gov  
cc: See the distribution list at the bottom of this message  
Subject: RE: Technology Transfer Paper for China -Reply

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Date: 12/30/1999 01:54 pm (Thursday)  
From: Michael Colby  
To: ex.mail."Duncan.Marsh@hq.doe.gov", ex.mail."dhailes@usaid.gov"  
CC: ex.mail."bodanskydm@state.gov", ex.mail."Elmer.Holt@hq.doe.gov",  
ex.mail."Joseph\_E.\_Aldy@cea.eop.gov",  
ex.mail."jseabright@aol.com", ex.mail."kbarrett@usaid.gov",  
ex.mail."MAILER-DAEMON@cambridge1-smrly2.gtei.net",  
ex.mail."Mark.Mazur@hq.doe.gov", ex.mail."miotkes@yahoo.com",  
ex.mail."rbierbau@ostp.eop.gov",  
ex.mail."Richard.BRADLEY@hq.doe.gov",  
ex.mail."Roger\_S.\_Ballentine@who.eop.gov",  
ex.mail."sbaldwin@ostp.eop.gov",  
ex.mail."schwengels.paul@epa.gov", ex.mail."talleyt@state.gov",  
ex.mail."wickwirest@state.gov", EICHENBERGERJ, SILLSG,  
DOPO7.MORRISA, WALSHH  
Subject: RE: Technology Transfer Paper for China -Reply

**\*\* High Priority \*\***

Unfortunately, due to holiday leave, I just received the paper yesterday, with Jeff Miotke's edits. Others in Treasury that will need to see it are out until next week, but I wanted to provide some initial feedback.

It seems evident that this is intended to serve as a USG position paper, not a "personal opinion" piece as disclaimed, but I'm still not totally clear on the context and purpose of the paper. I get the sense that it was a mix of educational material (for the Chinese at this point) and some modest prescriptions (which will have global ramifications). We may ultimately agree with the prescriptions, but Jeff is suggesting deleting them for the time being, so as not to muck up leverage for COP6 negotiations.

I also think the educational sections on concessional finance and ECAs are important, but presently suffer from a lack of clear distinctions among multilateral and bilateral sources of development assistance, concessional finance, tied aid, and export credit - and their respective roles.

In any case I think the paper needs a significant amount of rewriting - as evidenced by Jeff's comments, and a further markup that I will fax to

DuncanM, RonM, & PaulS later this afternoon.

As a result, Treasury can NOT clear at this time,  
and will need to see the new paper before it can provide clearance.

Best regards,

Michael E. Colby  
Sr. Environmental Policy Advisor  
Treasury Dept., Office of Multilateral Development Banks

>>> ex.mail."Duncan.Marsh@hq.doe.gov" 12/30/99 10:30am >>>  
David, et al:

NREL had solicited comments on this paper from EPA's Paul Schwengels and me last week. I then distributed this to the interagency tech transfer group - though I discovered Tuesday that I had inadvertently left Ko off the list. Because of the informal nature of the NREL request, and the (original) assertion that the paper only represented the views of the author's, perhaps I treated this somewhat more informally than I ought to have.

I am compiling comments received, which NREL needs by Monday at latest, and invite all recipients to provide comments. Any comments I receive by 4:00 today I will compile and circulate to this group before transmittal to NREL on Monday.

Thanks,  
Duncan

-----Original Message-----

From: David Hales [mailto:dhales@usaid.gov]  
Sent: Wednesday, December 29, 1999 5:58 PM  
To: MAILER-DAEMON@cambridge1-smrly2.gtei.net@INTERNET;  
rbierbau@ostp.eop.gov@INTERNET;  
sbaldwin@ostp.eop.gov@INTERNET;  
Joseph\_E.\_Aldy@cea.eop.gov@INTERNET;  
jseabright@aol.com@INTERNET;  
Roger\_S.\_Ballentine@who.eop.gov@INTERNET  
Cc: Marsh, Duncan  
Subject: Technology Transfer Paper for China

=====

"Department of Energy E-Mail Security Server" made the following  
annotations on 12/29/99 17:57:37

=====

The DOE Headquarters E-mail Security server has detected that this  
message from the internet contains one or more attached files.  
Although this message attachment(s) has been automatically scanned  
for all presently known viruses, it is possible for an attachment



David Hales <dhailes@usaid.gov>

12/27/99 03:11:46 PM

Please respond to dhailes@usaid.gov

Record Type: Record

To: Michael Kitay <mkitay@usaid.gov>

cc: See the distribution list at the bottom of this message

Subject: fwd: re: DCA legislation

---

Mike, I don't read it that way, and I don't think VPOTUS or Roger Ballentine do, BUT,,,.

Terry, Barbara et al, Mike may be absolutely correct in that some folks here are making this assumption. I'd suggest that we clarify this quickly.

----- Original Text -----

From: Michael Kitay@GC@Aidw, on 12/17/1999 2:34 PM:

To: David Hales@G.ENV.DAA@AIDW

Cc: jpower

David: Frankly, I believe people have been operating under the tacit assumption that the failure of OMB and the Congress to give us resources to make even a slight dent in the President's commitment has effectively relieved us of responsibility here. This is not the answer you were looking for. ...but I believe this is where we are.

-----  
From: David Hales@G.ENV.DAA@AIDW, on 12/17/1999 12:32 PM:

Bob, Mike, et al

Keep in mind that "up to \$250,000,000 of the President's Climate Initiative is to be funded from the DCA. If we are to mention "purposes" we probably ought to start there. We certainly cannot mention any purposes if we do not mention climate change mitigation.

This leads me to support Mike's position that we not mention purposes.

Keep in mind as well that if we don't use credit, we will have to come up with "real money", and that CEQ/NSC/OMB will take a look at how the President's budget funds existing commitments.

It also leads me to ask whether there are any of us that do not regard the climate commitment as the one that has to be met 1st (obviously, Barbara, assuming good projects). If there is any question of this, we need to raise this to OMB and CEQ/NSC immediately. If there are any of us who have questions about the White House commitment to \$1Billion, we have to settle it before the 2001 submission is final. This is not one where we want to leave

Brady/ Hattie hanging out...

-----  
From: Michael Kitay@GC@Aidw, on 12/16/1999 5:05 PM:

Bob Lester is asking if the attached draft FY 2001 DCA consolidation legislation works for us. Pls review it. I bring two issues to your attention:

1. The text of the legislation says the authority of DCA includes the microenterprise and shelter sectors. While this is true, there is no particular legal reason to mention these sectors. The question raised is whether the specific sectoral references are useful. Probably the reference to microenterprise, a favored sector, will be welcomed. We are not confident that the same will be the case for the shelter sector. The risk of mentioning the sectors is that congress might be moved to earmark all of DCA for micro and small business or prohibit the use of DCA for the shelter sector. Of course, they can do this with or without the reference in the draft legislation. My slight preference is to omit any sectoral reference. The absence of such a reference, in addition, will tend to reinforce the notion that DCA is merely a general financing authority to be used for any economic assistance purpose, and is not a "program."
2. We have assumed that upon consolidation under the DCA umbrella, we can continue to accomplish all of the policy goals of the MSED statute and most if not all the HG/UE policy goals. (Note, e.g., if we encounter a situation where we cannot achieve a certain HG goal with 50% risk sharing DCA loan guarantees, we can consider using a direct loan under DCA authority.) We have also assumed that there may be cases that arise in a specific HG/UE situation where we may want to seek a deviation from the DCA ADS rules and guidelines (but not the statute). Everyone is still comfortable with these assumptions, right?

-----  
From: Bob Lester@GC@Aidw, on 12/16/1999 4:11 PM:  
To: mkitay

Mike,

Draft appropriations language is attached. Appreciate your review and comments.

Thanks.

bob

Message Copied To:

---

Barbara Turner <bturner@usaid.gov>  
Harriet Babbitt <hbabbitt@usaid.gov>  
James Painter <jpainter@usaid.gov>  
Joseph Crapa <jcrapa@usaid.gov>  
Ko Barrett <kbarrett@usaid.gov>  
Mark Engman <mengman@usaid.gov>  
"Terrence J. Brown" <tjbrown@usaid.gov>



David Hales <dhailes@usaid.gov>  
12/29/99 05:52:40 PM

Please respond to dhailes@usaid.gov

Record Type: Record

To: See the distribution list at the bottom of this message  
cc: Duncan.Marsh@hq.doe.gov  
Subject: Technology Transfer Paper for China

---

What seemed clear is not so clear.

Duncan, Jeff, we need to be a little more systematic. Do we have a clearance process in motion?

----- Original Text -----

From: Ko Barrett@G.ENV.EET@AIDW, on 12/29/1999 4:02 PM:  
To: David Hales@G.ENV.DAA@AIDW

Oops...views not solely those of the authors...better read this.

Ko

-----  
From: "Marsh, Duncan" <Duncan.Marsh@hq.doe.gov>, on 12/28/1999 12:18 PM:  
To: Ko Barrett@g.env.eet@aidw  
Cc: Duane Lakich@g.env.eet@aidw

As promised in my previous email just now, here's the original explanatory message. DM

-----Original Message-----

From: Marsh, Duncan  
Sent: Thursday, December 23, 1999 4:07 PM  
To: 'Jeff Miotke'; 'Trigg Talley'; 'Dan Bodansky'; Holt, Elmer; Bradley, Richard  
Cc: 'Jeff Miotke at home'; 'Trigg Talley at home'  
Subject: FW: Technology Transfer Paper for China

Gentlemen: Attached is a draft of a paper on tech transfer that NREL is preparing for China at China's request as part of the EPA/NREL-SDPC Clean Energy agreement. (I just heard about this this week.) Though this email says the views are solely those of the authors, Paul Schwengels tells me the agreement's work plan calls for both sides to review and then adopt the paper. EPA/NREL will visit Beijing January 6-9, and will be discussing this paper.

I haven't read it yet, but will over the weekend. Please let me know your

thoughts, and I can communicate them back to Benioff and team.

Duncan

-----Original Message-----

From: Benioff, Ron [mailto:ron\_benioff@nrel.gov]  
Sent: Wednesday, December 22, 1999 2:24 PM  
To: Marsh, Duncan; 'schwengels.paul(a)epa.gov'  
Cc: Lew, Debra; Campbell, Kathleen  
Subject: Technology Transfer Paper for China

Paul and Duncan,

We have attached for your review a draft of the technology transfer paper that we are preparing for China. Our goals in preparing this paper are to:

- \* Help the Chinese adopt more constructive views on key issues that the Chinese have raised concerning technology transfer
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The Chinese requested that we draft this paper several months ago and did not at that time connect it to their participation in the Cebu workshop, however we think that this paper can provide a foundation for any papers or presentations they present at Cebu.

We are very interested in your reactions. This has been a difficult paper to prepare and we would appreciate your input to help us ensure that this is consistent with how the USG would like to engage China on these technology transfer issues. Note that we have made it clear in the document that the views expressed in the paper are solely those of the authors and not those of the U.S. Government, EPA, or NREL.

If possible, we would be interested in receiving your comments next week so we can send a revised version of the paper to Li Liyan before we arrive in China on the 6th. This would give her a chance to share this paper with others at SDPC and to consider whether she would like our assistance in using this paper as a basis for helping them prepare for the Cebu workshop.

Thank you.

Ron

<<final tt22.doc>>

Ron Benioff  
Environmental Programs Team Leader  
National Renewable Energy Laboratory  
Phone: 303-384-7504  
Fax: 303-384-7411  
Email: ron\_benioff@nrel.gov



- final tt22.doc

**Message Sent To:**

---

MAILER-DAEMON@cambridge1-smrly2.gtei.net  
Rosina M. Bierbaum/OSTP/EOP  
Samuel F. Baldwin/OSTP/EOP  
Joseph E. Aldy/CEA/EOP  
jseabright@aol.com  
Roger S. Ballentine/WHO/EOP



**"Marsh, Duncan"** <Duncan.Marsh@hq.doe.gov>  
12/30/99 10:30:01 AM

Record Type: Record

To: "dhales@usaid.gov@INTERNET" <dhales@usaid.gov>  
cc: See the distribution list at the bottom of this message  
Subject: RE: Technology Transfer Paper for China

---

David, et al:

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Joseph\_E.\_Aldy@cea.eop.gov@INTERNET; jseabright@aol.com@INTERNET;  
Roger\_S.\_Ballentine@who.eop.gov@INTERNET  
Cc: Marsh, Duncan  
Subject: Technology Transfer Paper for China

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contact your support personnel immediately.

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Thank you.

Ron

<<final tt22.doc>>

Ron Benioff

Environmental Programs Team Leader

National Renewable Energy Laboratory

Phone: 303-384-7504

Fax: 303-384-7411

Email: ron\_benioff@nrel.gov

Message Copied To: \_\_\_\_\_

"Holt, Elmer" <Elmer.Holt@hq.doe.gov>  
"Bradley, Richard" <Richard.BRADLEY@hq.doe.gov>  
"Mazur, Mark" <Mark.Mazur@hq.doe.gov>  
MAILER-DAEMON@cambridge1-smrly2.gtei.net  
Rosina M. Bierbaum/OSTP/EOP  
Samuel F. Baldwin/OSTP/EOP  
Joseph E. Aldy/CEA/EOP  
"jseabright@aol.com@INTERNET" <jseabright@aol.com>  
Roger S. Ballentine/WHO/EOP  
"miotkes@yahoo.com" <miotkes@yahoo.com>  
"bodanskydm@state.gov" <bodanskydm@state.gov>  
'Paul Schwengels' <schwengels.paul@epa.gov>  
"kbarrett@usaid.gov" <kbarrett@usaid.gov>  
'Mike Colby' <Michael.Colby@do.treas.gov>  
"wickwirest@state.gov" <wickwirest@state.gov>  
"talleyt@state.gov" <talleyt@state.gov>



**Jefferson B. Seabright**

01/03/2000 03:15:16 PM



Record Type: Record

To: Theodore G. Osius/OVP@OVP  
cc: Roger S. Ballentine/WHO/EOP@EOP  
Subject: China Technology Transfer

Ted:

This is to provide additional background on the technology transfer issue we discussed. There is a lot going on in this arena and we should figure out how to harness it for maximum benefit.

This is a ripe area for discussion with the Chinese -- it relates to their development agenda, and it is based on the UNFCCC (Article 4.5). But, as you know, it is also an uphill struggle to get on the same page. The NREL climate change tech transfer project which I started three years ago (and is funded by EPA in China) is an attempt to get at the climate technology agenda through market approaches and I think it is bearing fruit, albeit slowly. Attached below is a short summary of the NREL project activities in China.

The paper you were sent was requested by the Chinese from NREL for discussion purposes. State has cleared. They are concerned that tech transfer will be a big G77 issue in the end game at COP 6 and do not want to give anything up prematurely.

The team that is heading to Beijing today (Benioff, Lew, Scwengles) will meet with STPC's Gao Guang Sheng (Dir. General, Office of National Coordination Committee for Climate Change); Madame Sun Cui hua, Division Director, Office of National Coordination Committee for Climate Change; and the project leader in STPC, Li li yang, also in the climate office and their chief technology transfer negotiator at the UNFCCC meetings.

Note that Mr. Ma Aimin, Deputy Division Director from STPC Office of National Coordination Committee for Climate Change, is attending the Honolulu meetings.

I have asked NREL to email immediately the results of their discussions so we will have input for Honolulu.

### **Technology Cooperation Agreement Pilot Project (TCAPP)**

#### **Project History**

- \* Initiated in early 1998 as a collaborative project with the Ministry of Science and Technology
- \* Through interagency consultations and analysis, China selected five priority technologies in 1998
- \* wind power
- \* energy efficient motors

- \* cleaner coal technologies
- \* energy efficient boilers
- \* coal-bed methane recovery
- \* SDPC assumed leadership of TCAPP in late 1998 with their new responsibility as the leads organization for China's National Coordination Committee for Climate Change
- \* April, 1999 - Carol Browner and Minister Zeng Peiyan of SDPC sign statement of intent to formalize and expand TCAPP work over the next 3 years
- \* October, 1999 - Detailed workplan established between EPA and SDPC and contract established between NREL and Tsinghua University (lead Chinese technical institution) for implementation of TCAPP work

#### Project Status

- \* SDPC (including Li Liyan, lead tech transfer negotiator) actively engaged in shaping project implementation and are learning from the project about practical barriers to technology transfer and strategies to overcome these barriers.
- \* Chinese have established wind and motors teams to develop market development strategies and design and implement actions to overcome barriers to technology transfer
- \* Teams have prepared draft strategies, that propose alternative actions for each technology ranging from investment solicitations to business training and capacity building
- \* U.S has established technical expert teams for wind and motors and is consulting with many businesses about appropriate actions to overcome market barriers in China.
- \* Lead points of contact in China and U.S. established for boilers and coal technologies
- \* Interagency meeting planned in China for January 7th to:
- \* Select at least 3 actions for wind and motors (each) to be developed and implemented in 2000
- \* Select two additional technologies to be addressed under TCAPP and agree on next steps for these technologies, plus wind, motors, boilers, and coal technologies
- \* Discuss technology transfer strategy paper prepared by NREL

Ted OSIVS

12/30

Tues 10:30 Mtg - Leon.  
Jonathan Fritz

↳ USAID et al

TDA

↳ not legislative



## **White House Climate Change Task Force**

---

734 Jackson Place, N.W. • Washington, DC 20503

**December 14, 1999**

**MEMORANDUM TO LEON FUERTH**

**THRU: TED OSIUS**

**FROM: JEFF SEABRIGHT**

**SUBJECT: GLOBAL CLEAN ENERGY INITIATIVE FY2001**

As you are well aware from your leadership on the U.S.-China Environment and Development Forum, the U.S. government does not have adequate resources to engage effectively with critical developing countries, such as China, on energy and environment.

Roger Ballentine has proposed an initiative to boost funding in FY2001 for international clean energy research, development and deployment. Jack Lew, John Podesta, Sylvia Mathews, and Gene Sperling have all been briefed on this effort. It would be helpful to our effort if you weighed in with the above.

This "Clean Energy for the 21<sup>st</sup> Century" initiative is based on the recommendations contained in the recent report of the President's Committee of Advisers on Science and Technology.

The "over target" funding increase of \$183 million would support increased work by DOE and USAID, as well as more modest increases for the trade promotion agencies (EXIM, OPIC, TDA and Commerce). This is both a jobs/export initiative, as well as a climate/environment proposal.

This initiative is intended to bolster our partnerships with developing countries and the private sector to meet the growing energy demands of economic development in a sustainable manner. The proposed budget does not identify specific country level budgets, but a significant portion of these funds would certainly be targeted on the big emitters/big markets – and that puts China at the top of the list.

---

The attached memos from Roger Ballentine and George Frampton describe the initiative in greater detail.

#### **Attachments**

cc: Roger Ballentine



## United States Department of State

Bureau of Oceans and International  
Environmental and Scientific Affairs

Washington, D.C. 20520

DATE:

12/16/99

TOTAL PAGE(S)

FROM: WILLIAM E. DILDAY

SPECIAL ADVISOR FOR EAST  
ASIAN AND PACIFIC AFFAIRSOFFICE OF POLICY COORDIN-  
ATION AND INITIATIVES

TEL NO: (202) 736-7374

FAX NO: (202) 647-6876

E-MAIL: dildaywe@state.gov

TO:

TED OGIS

PAT KOSMEL

JEFF SEABRIGHT - 295.

2311

IAN POWERS

SUSAN WARC. HARRIS

TEL NO:

GARY MAN

FAX NO:

DENNIS Dwyer

PAUL ANAKAS

PAUL Schwangers

US-China Forum

Attached cable for your clearance.

PJ

12/16/99

TO: Embassy Beijing

**DRAFT**

Drafted:OES/PCI:WEDilday 736-7374  
Cleared:OES/EGC:LFlejzor/BDeRosa-Joynt  
EAP/CM:JFritz  
G:NPurvis  
OVP:Tosius  
EPA/OIA:PKoshel  
WHCCTF:JSeabright  
NSC:IBowles  
OES/E:BBYeager  
OES/ENV:CMWeierbach  
NOAA:SWare-Harris  
DOE:DDwyer  
OSTP:PAntastas  
USDA:GMan

Subject: U.S.-China Forum - Addressing Climate Change and  
Other Environmental Issues

1. This is an action request.

Summary

-----

2. Post is requested to discuss with MOST, SEPA, and SDPC officials with responsibility for the January session in Honolulu of the U.S.-China Forum and for climate change issues our desire to accept the PRC proposal to move climate change as an agenda item from the Environment Working Group of the Forum to the Science Working Group of the Forum, and also to convene on the margins of the Forum a separate meeting on the Buenos Aires Plan of Action. Post is also requested to present a counter-proposal to Chinese authorities to their counter-proposal for the balance of the agenda for the Environment Working Group.

Addressing Climate Change at the Forum

-----

3. In three communications received from the PRC in the last week, MOST, SEPA, and the Chinese Embassy in Washington have stated and/or reported China's desire not repeat not to discuss global climate change in the Environment Working Group (EWG) of the Forum, as we proposed in our initial draft agendas for the EWG. Rather, the PRC has proposed

shifting the discussion on climate change to the Science for Sustainable Development Working Group of the Forum. We were also informed that Mr. MA Aimin, Deputy Director of the Climate Change Coordinating Office of the State Development Planning Commission (SDPC), will join the Chinese delegation in the Science Working Group for the ensuing discussion on climate change.

4. We are generally pleased by 1) the PRC's acceptance of climate change as an agenda item for the Forum and 2) the inclusion of an SDPC representative to participate in this discussion. It is consistent with Premier Zhu Rongji's recent letter to Vice President Gore in which the former agreed that the U.S. and China further discuss environmental protection and sustainable development issues, including climate change, at the Forum session in January.

5. Nevertheless, given the high-level of USG representation planned for the Forum (including, among others, U/S Loy, CEQ's George Frampton, and The White House's Roger Ballentine), post is requested to seek higher level PRC representation for the discussion on climate change. Specifically, post should solicit SDPC Vice Minister Liu Jiang's participation, who met with U/S Loy at COP-5 this past October in Bonn. Additionally, while we can accept the Chinese desire to move the climate change agenda from the EWG to the Science Working Group, post is requested to solicit PRC acceptance for convening on the margins of the Forum a separate meeting on climate change. We propose that this meeting occur Tuesday morning from 9:00 am to 12:00 noon, prior to the Opening Plenary session of the Forum that afternoon. This discussion would help prepare the two sides for a formal session of the U.S.-China High-Level Dialogue on Climate Change to be held later in 2000 closer to COP-6 in The Hague. The pre-Forum meeting would focus primarily on the completion of the Buenos Aires Plan of Action (BAPA), which China supports.

Addressing Other Issues in the Environment Working Group of the Forum

-----

6. In the December 13th SEPA communication referenced above (from Ms. Qian Wang, Bilateral Cooperation Division, International Cooperation Department (Tel: 6615-1934; Fax: 6615-1762) to OES/PCI Bill Dilday), the PRC also presented a counter-proposal to our proposed agenda for the Environmental Policy Working Group session of the Forum. Post is requested to present the following agenda as a counter-proposal. Explanatory notes also follow.

Begin draft agenda:

U.S.-China Forum on Environment and Development  
January 11-12, 2000  
Hawaii

**ENVIRONMENTAL POLICY WORKING GROUP**

**Wednesday, January 12**

9:00 am-12:00 pm    Working Group Session

- I.     Progress Reports Since Last Forum Meeting (U.S. and China)
- II.    Bilateral Cooperation Topics
  - Review of Statements of Intent Concluded During the 2nd Forum
    1.   Use of Market Mechanisms to Achieve SO<sub>2</sub> Emissions Reduction in China (China)
    2.   Air Quality Management Assessment Project (China)
    3.   Public Health Co-Benefits (U.S.)
    4.   Industrial Pollution Prevention and Energy Efficiency (U.S.)
    5.   Effect of Particulate Matter on Children's Lung Function (U.S.)
    6.   Relation of Air Pollution to Asthma and Other Respiratory Health Problems (U.S.)
    7.   Energy-Efficient Buildings (China)
  - Air Monitoring Network
    1.   Phase I (China)
    2.   Phase II (U.S.)
  - Regional Initiatives (U.S.)
    1.   Trans-Pacific Air Pollutant Transport
    2.   Mercury from Mining
    3.   Dioxin Regional Workshop
  - Marine Issues (China)
    1.   Marine Environmental Pollution Prevention and Control

## 2. Marine Biodiversity and Ecological Environmental Conservation

12:00-1:30 pm      Lunch

1:30-3:45 pm      Working Group Session

### II.      Bilateral Cooperation Topics, Continued

- Reforestation and Sustainable Forest Projects Cooperation (China)
- Environmental Law and Regulation (U.S.)
- Infectious Disease & Environmental Degradation Linkage (U.S.)

### III.     Multilateral Cooperation Issues

- Biosafety (U.S.)
- Ozone Depletion (China)
- Persistent Organic Pollutants (U.S.)

### IV.     Closing Remarks (U.S. and China)

End draft agenda.

Begin explanatory notes:

[1. With regard to the review of the Statements of Intent concluded at the Second Session of the Forum last April, we note that the PRC has proposed a review of the seven SOIs between SEPA and USEPA. Does the Chinese side wish to also review the SOIs concluded at the Second Forum between USEPA and the State Administration of Coal Industry of China (on Coal Bed Methane Market Development Project); between USEPA and the SDPC (on Natural Gas Utilization in China); and between USEPA and the SDPC (on Cleaner Air and Cleaner Energy Technology Cooperation)?]

2. China has proposed deleting the bilateral cooperation agenda item on Regional Initiatives. The U.S. believes that several upcoming events and activities in the region regarding air pollutant transport, mercury, and dioxin warrant a discussion. The U.S. would be pleased to lead on these issues.

3. The U.S. is pleased to accept the Chinese proposal to discuss Marine Issues, specifically Marine Environmental Pollution Prevention and Control and Marine Biodiversity and Ecological Environmental Conservation.
4. The U.S. proposes postponing discussion on Environmental Education issues until a future session of the Forum.
5. The U.S. would like to make a presentation on the Linkages Between Environmental Degradation and Infectious Diseases, a growing issue of concern.
- [6. The U.S. is pleased to accept the Chinese proposal to discuss Ozone Depletion Issues.]

End explanatory notes.

**IMMEDIATE DELIVERY**

**OFFICE OF THE VICE PRESIDENT**

**NATIONAL SECURITY AFFAIRS**

Phone: (202) 456-9518

Fax: (202) 456-9500



**FAX COVER SHEET**

*TO: Roger*

*OK*

|                                                                                                                                                          |                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| From:                                                                                                                                                    | Ted Oslus                                       |
| To:                                                                                                                                                      | Roger Ballentine, Jeff Seabright                |
| Subject:                                                                                                                                                 | U.S.-China Forum on Environment and Development |
| Fax Number:                                                                                                                                              | x 5-2311                                        |
| Date/Time:                                                                                                                                               | 11/30/99                                        |
| No. of pages to follow + cover:                                                                                                                          | 3                                               |
| Please review attached draft letter from the Vice President to Zhu Rongji. We are aiming to complete the letter by COB Thursday, December 2. Thanks, Ted |                                                 |

**IMMEDIATE DELIVERY**

11/30/99 12:30 202 458 8500

OVP/NSA

11/30/99 10:18 202 647 6820

EAP/CM

OVP/NSA

002/004

Dear Mr. Premier:

China's bold decision November 15 to undertake wide-ranging commitments to enter the World Trade Organization opens the prospect of a 21<sup>st</sup> century of unprecedented prosperity for the people of China, the United States and the rest of the world. I would like to propose that we embark on an equally bold and ambitious program to redefine, together, how we can balance the goals of economic growth and a clean environment.

The U.S.-China Forum on Environment and Development that you and I co-chair provides an invaluable venue for advancing cooperation that leads to clean economic growth. Two areas in particular -- clean energy and scientific cooperation -- merit our best efforts at the upcoming third session of the Forum in Hawaii.

Strengthening our bilateral clean energy cooperation can further address the threats caused by air pollution and climate change, improve public health, and spur investment in more efficient production technologies. Our science and technology cooperation is advancing joint understanding on a broad array of issues, including fresh water management. Water resource management affects everything from more efficient and cost effective usage in agriculture and industry to basic hygiene and drinking water. We have held a number of useful exchanges on both energy and water issues since the April session of the Forum, and I am pleased that our delegates will continue these discussions in Hawaii.

I am strongly committed to making progress on implementing the Clean Energy Program that was signed in April, and thus open the door for greater trade in environmental technologies. U.S. companies -- which possess world-class technologies to control and, in some cases, virtually eliminate air and water pollution -- are prepared to share information and provide equipment and services. I am confident that their increased commercial participation would contribute significantly to China's already considerable achievements to reduce pollution.

I also hope that at the next meeting of the Forum our governments can discuss common approaches to the Clean Development Mechanism and other initiatives that could promote private sector investment in clean energy projects

11/30/99 12:30

202 456 9500

OVP/NSA

003

11/30/99 10:17

202 647 8820

EAP/CM

OVP/NSA

003/004

in China. I also look forward to discussions among our experts on the paper we sent you concerning market-based mechanisms to control the rate of greenhouse gas emissions.

Clean air and water are, of course, not possible without a strong, scientifically-based system of environmental laws and regulations. At the Forum, I hope we can share experiences in formulating and enforcing effective environmental laws.

Few challenges in the 21<sup>st</sup> century loom larger than ensuring clean economic growth. We will need steadfast commitment, strong leadership, and active cooperation between governments, academics, business people, and concerned citizens in pursuit of this goal.

I am confident that we can meet this critical challenge and look forward to reviewing the results of a successful third session when our delegations conclude the meeting in Hawaii.

Sincerely,  
Al Gore

10,000

10%

10 yrs.

1,000 / ~~yr~~

**Osius, Theodore G. (VP)**

---

**From:** Orfini, Michael H. (VP)  
**Sent:** Friday, November 19, 1999 11:26 AM  
**To:** Osius, Theodore G. (VP)  
**Subject:** BEIJING GETS SERIOUS ABOUT AIR QUALITY [UNCLASSIFIED]

**CLASS:** UNCLASSIFIED  
**DTG:** 080829Z NOV 99  
**MSGTO:** RUEHC/SECSTATE WASHDC 8483  
**ORIG:** AMEMBASSY BEIJING  
**PREC:** ROUTINE  
**SSN:** 0424  
**TOR:** 991110194624 M4144980

may have already seen

-----Original Message-----

From: WHSR

Sent: Wednesday, November 10, 1999 9:03 PM

To: Bowles, Ian A. (ENV); Huso, Ravic R. (ASIA); Keith, James R. (ASIA);  
Lieberthal, Kenneth G. (ASIA); Orfini, Michael H. (VP); Osius, Theodore  
G. (VP); Pritchard, Charles (Jack) L. (ASIA); Roberts, Michael W. (VP);  
Saunders, Richard M. (VP)

Subject: BEIJING GETS SERIOUS ABOUT AIR QUALITY

UNCLAS SECTION 01 OF 04 BEIJING 010424

WHITE HOUSE FOR OVP-OSSIUS

USEPA FOR OIA-MBAILEY

USDOC FOR ITA-SSIMON

E.O. 12958: N/A

TAGS: SENV, BTIO, ENRG, CH

SUBJECT: BEIJING GETS SERIOUS ABOUT AIR QUALITY

REF: (A) BEIJING 9193 (B) 98 BEIJING 9916

- (C) 98 BEIJING 3814

1. (U) SUMMARY: AS THE WINTER COAL-BURNING SEASON APPROACHES, BEIJING ENVIRONMENTAL AUTHORITIES ARE ENACTING TOUGHER MEASURES TO ALLEVIATE THE CITY'S CHRONIC AIR POLLUTION. NEWLY ANNOUNCED MEASURES FOCUS ON STRENGTHENING MONITORING AND ENFORCEMENT AND ACCELERATING THE CONVERSION TO CLEANER FUELS -- PRIMARILY LOWER-SULFUR COAL AND NATURAL GAS. THE NEW MEASURES REFLECT A TOP-DOWN, COMMAND-AND-CONTROL APPROACH. PENALTIES ARE DRASTIC. TARGETS MAY BE OVERLY AMBITIOUS. AUTHORITIES MAY BE FORCED TO REVISE THEM DOWNWARD AS DEADLINES APPROACH, CAUSING THE PROGRAM TO LOSE CREDIBILITY. BUT OFFICIAL STATISTICS SHOW THAT AIR QUALITY IS BEGINNING TO IMPROVE. END SUMMARY

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CLEAN-AIR CAMPAIGN ENTERS THIRD STAGE  
-----

2. (U) BEIJING VICE MAYOR WANG GUANGTAO HELD A PRESS CONFERENCE OCTOBER 14 TO ANNOUNCE THE BEGINNING OF STAGE THREE OF THE CITY'S YEAR-OLD CLEAN-AIR CAMPAIGN. THE THIRD STAGE WILL RUN FROM OCTOBER 1 THROUGH NEXT MARCH 31. HE SAID THE MUNICIPAL GOVERNMENT HAD ISSUED 22 NEW POLLUTION CONTROL MEASURES, ON TOP OF THE 46 MEASURES ADOPTED DURING THE FIRST TWO SIX-MONTH STAGES. THE NEW MEASURES WERE PUBLISHED IN THE LOCAL PRESS OCTOBER 16.

PREMIER ZHU RONGJI CONDUCTED A PERSONAL INSPECTION OF CITY ENVIRONMENTAL EFFORTS SEPTEMBER 28 TO UNDERScore HIGH-LEVEL SUPPORT FOR THE CAMPAIGN.

3. (U) BEIJING'S AIR, AMONG THE MOST POLLUTED IN THE WORLD, IS PARTICULARLY ACRID IN WINTER, WHEN PEOPLE USE CRUDE COAL FURNACES TO HEAT THEIR HOMES. SULFUR DIOXIDE (SO2) POLLUTION IS NEARLY SIX TIMES HIGHER IN HEATING SEASON (NOVEMBER-MARCH). MEASURED NITROGEN OXIDES (NOX) AND CARBON MONOXIDE (CO) ALSO INCREASE SIGNIFICANTLY, TOTAL SUSPENDED PARTICULATES (TSP) LESS SO (SEE TABLE BELOW). OFFICIALS ARE PREDICTING CLEANER AIR THIS WINTER AS MORE HOMES AND BUSINESSES CONVERT TO CLEANER COAL ANDCSIX TIMES AS MUCH POLLUTION AS A JAPANESE OR AMERICAN CAR, ACCORDING TO CHINESE EXPERTS.

- AVERAGE DAILY POLLUTANT CONCENTRATIONS  
- IN CENTRAL BEIJING FOR 1998

- TSP SO2 NOX CO  
- --- --- --- --

|                    |     |     |     |       |
|--------------------|-----|-----|-----|-------|
| HEATING SEASON     | 431 | 252 | 201 | 4,400 |
| NON-HEATING SEASON | 348 | 42  | 122 | 2,600 |
| NATIONAL STANDARD  | 300 | 150 | 100 | 4,000 |

SOURCE: BEIJING 1998 ENVIRONMENTAL SITUATION REPORT  
UNITS ARE MICROGRAMS PER CUBIC METER; BENCHMARK IS CHINA LEVEL II STANDARD.

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ACHIEVEMENTS OF STAGES ONE AND TWO  
-----

5. (U) WANG AND OTHER SENIOR OFFICIALS RECENTLY HAVE CLAIMED THE MEASURES ADOPTED SINCE LAST OCTOBER HAVE BROUGHT SO2 CONCENTRATIONS IN BEIJING TO THEIR LOWEST LEVEL IN A DECADE. THIS MAY HAVE BEEN LARGELY DUE TO EXTRAORDINARY, TEMPORARY MEASURES ADOPTED IN SEPTEMBER TO ASSURE CLEAR SKIES FOR THE OCTOBER 1 NATIONAL DAY PARADE. HOWEVER, OFFICIAL STATISTICS SHOW SO2 FELL IN NINE CONSECUTIVE MONTHS THROUGH SEPTEMBER 1999 BY AN AVERAGE OF 25 PERCENT COMPARED WITH THE SAME MONTH OF 1998. CO WAS DOWN AN AVERAGE 11 PERCENT. NOX REMAINED UNCLAS SECTION 02 OF 04 BEIJING 010424

WHITE HOUSE FOR OVP-OSSIUS

USEPA FOR OIA-MBAILEY

USDOC FOR ITA-SSIMON

E.O. 12958: N/A

TAGS: SENV, BTIO, ENRG, CH

SUBJECT: BEIJING GETS SERIOUS ABOUT AIR QUALITY

FLAT, DESPITE RISING MOTOR-VEHICLE TRAFFIC, AND TSP WAS UP SLIGHTLY. THROUGH SEPTEMBER, THERE WERE 61 DAYS WITH AIR POLLUTION OF LEVEL IV (SERIOUS POLLUTION) OR WORSE ON CHINA'S UNIQUE FIVE-LEVEL SCALE (CHINA'S POLLUTION REPORTING SCALE IS EXPLAINED IN REF B, AVAILABLE ON EMBASSY WEBSITE AT [HTTP://WWW.USEMBASSY-CHINA.ORG.CN](http://www.usembassy-china.org.cn)). THIS EXCEEDED THE TARGET OF 70 PERCENT OF DAYS WITH LEVEL III AIR QUALITY OR BETTER. HOWEVER, BEIJING AIR STILL FAILS TO MEET NATIONAL STANDARDS.

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GOALS FOR THE THIRD STAGE  
-----

' END OF THIS YEAR (ALL MUST MEET THE STANDARD BY THE  
END OF NEXT YEAR OR BE CLOSED, ACCORDING TO THE  
NATIONAL ENVIROMENTAL LAW);

- 80 PERCENT OF DAYS NEXT YEAR SHOULD HAVE AIR QUALITY  
NO WORSE THAN LEVEL III (MODERATE POLLUTION);

-----  
STEPPED-UP ENFORCEMENT  
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7. (U) THE NEW MEASURES ARE REplete WITH TOUGH WORDS  
ABOUT DEALING STRICTLY WITH WRONG-DOERS. THE MUNICIPAL  
GOVERNMENT IS TO CONDUCT TWO COMPREHENSIVE INSPECTIONS  
BETWEEN OCTOBER 1 AND DECEMBER 31 DURING WHICH CITY  
AGENCIES WILL BE REQUIRED TO REPORT WHAT THEY HAVE DONE  
TO IMPLEMENT THE 28 STAGE TWO MEASURES. ADMINISTRATIVE  
PUNISHMENTS WILL BE METED OUT TO THOSE FOUND NOT TO HAVE  
FULLY IMPLEMENTED THEM. BUT ALTHOUGH THE REGULATIONS  
IDENTIFY SPECIFIC DEPARTMENTS RESPONSIBLE FOR ASSURING  
COMPLIANCE WITH SPECIFIC MEASURES, IT IS NOT CLEAR THAT  
NEW ENFORCEMENT RESOURCES HAVE BEEN PROVIDED.

8. (U) TECHNICAL MONITORING CAPABILITY IS BEING BEEFED  
UP, HOWEVER. THE STAGE THREE PLAN CALLS FOR PREPARATORY  
WORK TO BE COMPLETED FOR FOUR ADDITIONAL AIR-QUALITY  
MONITORING STATIONS (THERE ARE CURRENTLY 16) AS WELL AS  
FOR PURCHASES OF IMPORTED VEHICLE EMISSIONS MONITORING  
EQUIPMENT. BEIJING HAS RECENTLY BEGUN REPORTING DATA FOR  
NO2 AND FINE PARTICULATE (PM-10). BUT COMPREHENSIVE,  
INTERNATIONALLY COMPARABLE DATA ARE STILL SPARSE. ON-  
LINE MONITORING DEVICES ARE TO BE INSTALLED ON LARGE  
COAL-FIRED BOILERS (MORE THAN 20 TONS OF STEAM OUTPUT  
PER HOUR). AUTHORITIES ARE ADMONISHED TO COLLECT SO2  
EMISSION FEES FROM FACTORIES AND POWER PLANTS MORE  
DILIGENTLY, WITH PROCEEDS TO BE USED FOR POLLUTION  
CONTROL.

-----  
BUT ALSO A FEW CARROTS  
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9. (U) THE MUNICIPAL GOVERNMENT WILL SUBSIDIZE INTEREST  
FOR FIRMS UPGRADING OLD COAL BOILERS TO REDUCE  
EMISSIONS. CERTAIN CITY INFRASTRUCTURE FEES WILL BE  
DEFERRED FOR FIRMS SWITCHING FROM COAL TO ELECTRIC  
BOILERS AND WAIVED ALTOGETHER FOR THOSE SWITCHING TO  
NATURAL GAS. THE ELECTRICITY SUPPLY ADMINISTRATION WILL  
EXPERIMENT WITH VARIABLE RATES TO SMOOTH OUT DEMAND.  
THE PRICE OF LOW-SULFUR COAL HAS BEEN LOWERED TO EQUAL  
THAT OF NORMAL COAL.

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REDUCING COAL SMOKE  
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10. (U) THE STAGE THREE MEASURES CALL FOR 3.5 MILLION  
TONS OF HIGH-QUALITY COAL TO BE CONSUMED IN BEIJING  
UNCLAS SECTION 03 OF 04 BEIJING 010424

WHITE HOUSE FOR OVP-OSSIUS

USEPA FOR OIA-MBAILEY

USDOC FOR ITA-SSIMON

E.O. 12958: N/A

TAGS: SENV, BTIO, ENRG, CH

SUBJECT: BEIJING GETS SERIOUS ABOUT AIR QUALITY

DURING THE COMING HEATING SEASON. THIS WOULD BE ABOUT ONE-EIGHTH OF TOTAL CONSUMPTION. HIGH-QUALITY COAL IS DEFINED AS HAVING A SULFUR CONTENT OF LESS THAN 0.5 PERCENT, COMPARED WITH 1.1 PERCENT FOR THE AVERAGE COAL BURNED IN THE CITY; ASH CONTENT LESS THAN 10 PERCENT, COMPARED WITH 20-25 PERCENT; AND HEAT VALUE OF 6,800 KILOCALORIES PER KG, VERSUS 5,500. OFFICIALS OF OUTLYING COUNTIES ARE TO INSPECT COAL COMING INTO THE CITY TO ASSURE IT MEETS BEIJING STANDARDS.

11. (U) SMALL SCALE COAL BOILERS (LESS THAN 1 TON PER HOUR) WITHIN BEIJING'S FOURTH RING ROAD (ROUGHLY EQUIVALENT TO WASHINGTON'S BELTWAY) ARE TO BE CONVERTED TO CLEANER FUEL (ELECTRICITY OR GAS). BOILERS WITH 1-20 TON CAPACITIES THAT DO NOT CONVERT TO CLEAN FUEL ARE TO USE LOW-SULFUR COAL AND INSTALL HIGH-EFFICIENCY DUST REMOVERS. BOILERS ABOVE 20 TONS MUST HAVE HIGH-EFFICIENCY DUST REMOVERS, ON-LINE MONITORING EQUIPMENT, AND, AS OF NEXT MARCH, LOW-NITROGEN COMBUSTORS.

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EXPANDING USE OF NATURAL GAS  
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12. (U) CHINA NATIONAL PETROLEUM CORP. (CNPC) EXPECTS CONSUMPTION OF NATURAL GAS IN BEIJING THIS WINTER TO DOUBLE TO 6.8 BILLION CUBIC METERS. CHINA'S LARGEST GAS-FIRED POWER PLANT WENT ON LINE IN BEIJING THIS YEAR. A PIPELINE HAS BEEN BUILT TO CARRY GAS TO THE CITY FROM DAGANG, NEAR TIANJIN, AND A COMPRESSION STATION IS EXPECTED TO GO INTO OPERATION IN SHAANXI PROVINCE NOVEMBER 15, AFTER WHICH THE CITY WILL BEGIN PROVIDING RESIDENTIAL GAS HEAT. CHINA'S DOMESTIC SOURCES OF NATURAL GAS ARE LIMITED, HOWEVER. IN SEPTEMBER, CNPC SIGNED AN AGREEMENT WITH SHELL TO PROVIDE 3 BILLION CUBIC METERS OF NATURAL GAS TO BEIJING VIA CHANGBEI. THERE ARE ALSO PLANS TO BUILD A PIPELINE FROM IRKUTSK, RUSSIA, AND TO IMPORT LIQUIFIED NATURAL GAS THROUGH GUANGDONG.

13. (U) BEIJING EXPECTS TO HAVE 2,800 BUSES RUNNING ON LIQUIFIED PETROLEUM GAS (LPG) AND COMPRESSED NATURAL GAS (CNG) BY THE END OF THIS YEAR, AS WELL AS 14,000 LPG/CNG OR HYBRID-FUELED TAXIS. ANOTHER 3,000 TAXIS ARE TO BE ADDED BY MARCH 2000 -- 10,000 BY THE END OF NEXT YEAR. TEN LPG/CNG FUELING STATIONS ARE TO BE BUILT DURING STAGE THREE. CURRENTLY, THERE ARE EIGHT LPG STATIONS AND THREE CNG STATIONS.

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OTHER STAGE-THREE MEASURES  
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14. (U) OTHER SPECIFIC MEASURES TO BE IMPLEMENTED DURING STAGE THREE INCLUDE THE FOLLOWING:

- BY THE END OF 1999, PREPARE A PLAN TO TRANSFER ALL DIESEL-POWERED PUBLIC BUSES TO THE SUBURBS;
- REDUCE NUMBER OF DIESEL POLICE AND TRAFFIC ADMINISTRATION VEHICLES OPERATING INSIDE THE CITY;
- ADOPT NEW EMISSION STANDARDS FOR HEAVY VEHICLES BY JANUARY 1;
- ADOPT A STANDARD FOR SO<sub>2</sub> EMISSIONS FROM POWER PLANTS BY THE END OF 1999;
- REQUIRE BUSINESSES IN SINGLE-STORY BUILDINGS INSIDE

THE FOURTH RING ROAD TO CONVERT TO CLEAN-ENERGY HEATING  
BY NOVEMBER 15;

- PROHIBIT RESIDENTIAL BURNING OF WOOD AND LUMP COAL (AS  
OPPOSED TO BRIQUETTES);

- PROHIBIT OUTDOOR BARBECUES AND OUTDOOR BURNING OF  
TRASH, LEAVES AND GRASS;  
UNCLAS SECTION 04 OF 04 BEIJING 010424

WHITE HOUSE FOR OVP-OSSIUS

USEPA FOR OIA-MBAILEY

USDOC FOR ITA-SSIMON

E.O. 12958: N/A

TAGS: SENV, BTIO, ENRG, CH

SUBJECT: BEIJING GETS SERIOUS ABOUT AIR QUALITY

- TRAFFIC POLICE WILL VISUALLY INSPECT TAILPIPE  
EMISSIONS OF PASSING VEHICLES AND MAY SUSPEND LICENSES  
AND REGISTRATIONS FOR ONE MONTH FOR THOSE EXCEEDING  
STANDARDS;

- GASOLINE AND DIESEL FUEL MUST MEET NATIONAL STANDARDS,  
AND STATIONS EXCEEDING STANDARD FOR VOLATILE ORGANIC  
COMPOUNDS MUST REFORMULATE THEIR FUEL;

- REQUIRE CONSTRUCTION AND DEMOLITION COMPANIES TO TAKE  
MEASURES TO CONTROL DUST; LAND THAT IS LEFT BARREN FOR  
THREE MONTHS AFTER A BUILDING IS TORN DOWN MAY BE  
CONFISCATED;

- BY THE END OF 1999 COMPLETE PRELIMINARY WORK TO USE  
TREATED WATER FROM THE GAO BEI DIAN SEWAGE PLANT  
(CAPACITY 500,000 TONS A DAY) TO CLEAN STREETS AND WATER  
GREEN AREAS TO CONTROL DUST; BY NEXT MARCH CONSTRUCT A  
PUMP STATION AND 26 DISTRIBUTION AND ACQUIRE 20 WATERING  
TRUCKS AND 20 CLEANING TRUCKS;

- ELIMINATE DIRT ROADS AND EXPOSED TRASH HEAPS IN THE  
URBAN AREA AND CONDUCT SURVEY OF BARE SOIL AREAS IN THE  
SUBURBAN FRINGE.

-----  
COMMENT  
-----

15. (U) ALTHOUGH THE NEW AIR QUALITY MEASURES INCLUDE A  
FEW MARKET-BASED INCENTIVES, FOR THE MOST PART THEY  
REFLECT A COMMAND-AND-CONTROL, CENTRAL PLANNING  
MENTALITY. FACTORIES MUST EITHER COMPLY OR BE SHUT  
DOWN. THERE ARE NO INCREMENTAL REWARDS/PUNISHMENTS FOR  
PARTIAL COMPLIANCE. FEW BELIEVE BEIJING WILL REALLY  
SHUT DOWN LARGE, POLLUTING STATE-OWNED FIRMS LIKE  
CAPITAL IRON AND STEEL (SHOUGANG), WHICH EMPLOYS 170,000  
CITY RESIDENTS. SUCH FIRMS MAY THEREFORE OPT TO CALL THE  
CITY'S BLUFF RATHER THAN REDUCE EMISSIONS. EFFECTIVE  
ENFORCEMENT AGAINST SMALLER BUSINESSES AND HOUSEHOLDS  
WILL REQUIRE SUBSTANTIAL RESOURCES. SHIFTING TO NATURAL  
GAS IS MORE PROMISING BUT WILL TAKE TIME TO DEVELOP  
ADEQUATE SUPPLIES AND INFRASTRUCTURE. IN THE MEANTIME,  
THOSE OF US WHO LIVE AND BREATHE IN BEIJING HAVE LITTLE  
OPTION BUT TO PRAY FOR A FAVORABLE WIND. END COMMENT

MCCAILL

## **Goals for Forum (DRAFT – FOR DISCUSSION PURPOSES ONLY)**

### **Energy Policy Working Group**

1. Approve first tranche of projects under Ex-Im Clean Energy Program
2. Discuss National Academies' study on China's energy future - *briefly 12/1*
3. Discuss key goals in China's 10<sup>th</sup> Five-Year Plan
4. Review progress in energy efficiency programs
5. Review progress in renewable energy programs
6. Review China SACI-USEPA joint coalmine methane market development project
7. Review status of activities under the Oil and Gas Industry Forum, and next steps
8. Reach agreement on Fossil Energy Technology Cooperation protocol
9. Reach agreement on Energy Information Exchange protocol

### **Commercial Cooperation Working Group**

1. Discuss future cooperation in civilian nuclear power
2. Experts exchange information on natural gas/LNG
3. Establish Simulated Lease program for training in oil and gas regulation
4. Review progress on alternative fuel vehicles cooperation
5. Review progress on China Residential Housing Initiative
6. Increase cooperation in forestry
7. Increase cooperation in clean diesel technology
8. Increase cooperation in environmental technologies: air, water
9. Increase cooperation in clean coal

### **Science-related**

1. Agree on work plan and follow-up activities in water resource management
2. Develop land use management work plan
3. Enhance dialogue on agriculture policies, including credit availability, agricultural extension service, water technology, and biotechnology
4. Sign MoU with FEMA and agree on work plan for future collaboration, including post-disaster planning
5. Establish a university consortium for policy research and educational exchange on Environment and Development
6. Designate wetland laboratories in each country
7. Discuss participation in April 2000 Ankara conference on GDIN
8. Enhance cooperation in coastal management

### **Environmental**

1. Discuss China's climate change action plan and prepare for high-level dialogue on climate change
2. Discuss biosafety issues
3. Initiate dialogue on environmental law and regulation

4. Discuss linkage between infectious disease and environmental degradation
5. Cooperate on reforestation and sustainable forest projects, focused on upper watershed of the Yangtze river
6. Review progress in urban air quality cooperation
7. Reach agreement on Phase II Air Monitoring Cooperation
8. Initiate dialogue on Green Chemistry
9. Discuss regional initiatives on Trans-Pacific Air Pollutant Transport, mercury from mining, and dioxin regional workshop

# U.S.-China Forum on Environment and Development

Third Session – January 11-14, 2000, Hawaii

| DAY/TIME                    | EVENT                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tues., January 11<br>10:am  | S&T Executive Secretaries Meeting                                                                                                                                                                                                                                                                                                                                                                               |
| Tues., January 11<br>4:00pm | <b>OPENING PLENARY</b> , Chaired by Mme. Zhu Lilan and Dr. Neal Lane <ul style="list-style-type: none"><li>• Plenary items</li><li>• Introduction of Working Group chairs:<ol style="list-style-type: none"><li>1. Science for Sustainable Development</li><li>2. Energy Policy</li><li>3. Commercial Cooperation</li><li>4. Environmental Policy</li></ol></li><li>• Chairs present goals and issues</li></ul> |
| 6:00pm                      | <b>BREAK</b>                                                                                                                                                                                                                                                                                                                                                                                                    |
| 7:00pm                      | <b>DINNER</b>                                                                                                                                                                                                                                                                                                                                                                                                   |
| Weds., January 12<br>9:00am | <b>WORKING GROUP SESSIONS</b> <ol style="list-style-type: none"><li>1. Science for Sustainable Development</li><li>2. Energy Policy</li><li>3. Commercial Cooperation</li><li>4. Environmental Policy</li></ol>                                                                                                                                                                                                 |
| 12:00 pm – 1:30 pm          | <b>LUNCH</b>                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1:30 pm – 3:45 pm           | <b>CONCLUDING WORKING GROUP SESSIONS</b>                                                                                                                                                                                                                                                                                                                                                                        |
| 4:00 pm – 5:00 pm           | <b>CLOSING PLENARY</b> , Chaired by Mme. Zhu Lilan and Dr. Neal Lane <ul style="list-style-type: none"><li>• Presentation by Working Group chairs:<ol style="list-style-type: none"><li>1. Science for Sustainable Development</li><li>2. Energy Policy</li><li>3. Commercial Cooperation</li><li>4. Environmental Policy</li></ol></li><li>• Close of plenary session and Forum</li></ul>                      |
| 5:00 pm – 5:30 pm           | <b>PRESS AVAILABILITY</b>                                                                                                                                                                                                                                                                                                                                                                                       |

|                                      |                                                                                                                                                                                                                                                                                                   |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Thurs., January 13</b><br>All day | <b>Site visits</b> <ul style="list-style-type: none"><li>• <b>If Maui</b>, then Pacific Disaster Center, a strong backer of GDIN. If NOAA boats are available, view humpbacked whales.</li><li>• <b>If Big Island</b>, then renewable energy lab, Gemini telescope, volcano park, OTEC.</li></ul> |
| <b>Friday, January 14</b><br>All day | <b>S&amp;T Joint commission</b>                                                                                                                                                                                                                                                                   |

**DRAFT AGENDA AND GOALS FOR THE ENERGY POLICY WORKING GROUP OF THE  
U.S.-CHINA FORUM ON ENVIRONMENT AND DEVELOPMENT  
(DRAFT - FOR DISCUSSION PURPOSES ONLY)**

**OPENING STATEMENTS:**

- Identify key Issues, goals, deliverables to advance objectives of the Forum and its "Energy and Environment Cooperation Initiative".

**UPDATE ON DEVELOPMENTS/ISSUES IN NATIONAL ENERGY STRATEGIES, PLANS AND PROJECTS:**

- Promote policies/energy sources that support sustainable energy development in the PRC;
- Seek update of PRC's 10<sup>th</sup> Five-Year Plan (2001-2005), and its key goals;
- Seek better understanding of the respective roles of SDPC, SETC, provinces in energy infrastructure development, project identification and approval;
- Enhance understanding of energy restructuring/reform efforts in the PRC, particularly in the electric power sector, and implications for US private investment opportunities; related issues.

**ANNOUNCE COMPLETION OF NATIONAL ACADEMY OF SCIENCE STUDY ON U.S. AND CHINA ENERGY FUTURES:**

- Enhance understanding of future opportunities for sustainable development, emissions mitigation.

**U.S. EXPORT-IMPORT BANK "CLEAN ENERGY PROGRAM":**

- Stimulate SDPC approval of projects eligible for the Clean Energy Program;
- Identify means to enhance outreach on the Clean Energy Program in the PRC.

**ENERGY EFFICIENCY POLICY AND COOPERATION:**

- Advance energy efficiency policies, cooperative programs and investment opportunities;
- Seek update on implementation of PRC's Energy Conservation Law and explore further cooperative activities to advance it;
- Continue to improve mutual understanding of the building sector and the applicability of U.S. energy efficient building technologies in the PRC; review the status of NRDC's development and implementation of a model energy code for Chongqing;
- Review results/benefits (cost savings, CO2 mitigation) of the feasibility study for the efficient building demonstration project and possible next steps;
- Continue to advance opportunities for energy efficiency training (as used in the November 1999 electric motors pumping workshop held in Beijing) to advance approaches conducive to use of U.S. equipment/services;
- Brief PRC officials on the China Energy Efficiency Industry Partnership program and its efforts to partner PRC firms with U.S. Efficiency companies;
- Review progress from the June 1999 U.S.-China Energy Efficiency Steering Committee meeting in Beijing and continuing next steps.

**DEVELOPMENTS IN THE PRC'S RENEWABLE ENERGY PLANS AND ASSOCIATED OPPORTUNITIES FOR US PRIVATE SECTOR:**

- Review progress in Rural Energy Development through the use of village scale renewable technologies. The activities include the installation of 320 photovoltaic (PV) solar homes, an evaluation of the potential to use biomass and bioenergy systems, and the installation of hybrid PV/wind systems in 125 households in Inner Mongolia in 1999 and an additional 120 in 2000;



**UNITED STATES DEPARTMENT OF COMMERCE**  
**International Trade Administration**  
Washington, D.C. 20230

**Third United States - China Forum on Environment & Development**  
**PROPOSED AGENDA for the COMMERCIAL COOPERATION WORKING GROUP**  
**January 12-14, 2000**  
**Honolulu, Hawaii**

- I. Civilian Nuclear Power
  - A. Future Contracts
    - Goal: Chinese to discuss planned nuclear power plants in next five-year plan
    - Goal: US to present concept of selecting standardized plant design based on a family of technologies
  - B. March 20-24, 2000 Nuclear Power Exhibition in Beijing China
    - Goal: Hold techno-policy roundtable during exhibition
  - C. Status of 810 Assurances
    - Goal: Chinese to give status report for DOE assurances delivered by State Department
- II. United States-China Oil and Gas Industry Forum
  - A. Technical Gas Experts Group
    - Goal: US experts team will go to China week of January 17 or 24, 2000
  - B. MMS Simulated Lease Sale Exercise for Chinese
    - Goal: Chinese will determine dates to hold exercise
- III. Alternative Fuel Vehicles
  - A. AFV Seminar Outcome
    - Goal: Seminar presentations will be posted on DOC web-site in English and Chinese
- IV. United States - China Residential Housing Initiative
  - A. Generate Commercial Opportunity
    - Goal: Conduct Building Materials Trade Missions to China in May or June 2000
- V. Commercial Clean Coal Technology
  - A. New Clean Coal Mine and Power Plant in Shanxi Province
    - Goal: SDPC will support Sino-American joint ventures in Shanxi province that promote advanced clean coal mining and power plant technologies.
- VI. Clean Diesel Motor Technologies
  - Goal: Present benefits of clean diesel motor technologies in urban areas.
- VII. Environmental Commercial Priorities
  - A. Water Resource Management
    - Goal: ETE will conduct *Water Resources Management Workshop* in March 2000 for Chinese Managers.



B. Air Pollution Control and Monitoring Equipment

Goal: ETE and USEPA will Support Phase I of Urban Air Quality Monitoring Program by Installing Equipment in 11 Chinese cities.

Goal: Chinese will Commit to Support Phase II of Urban Air Quality Monitoring Program.



United States  
Department of  
Agriculture

Foreign  
Agricultural  
Service

Research  
& Scientific  
Exchanges Division

Washington, D.C.  
20250-1084

Date: November 10, 1999

To: Ted Osius  
Office of the Vice President

From: Dick Affleck  
USDA

Subject: Draft U.S. Goals for Forum (Agriculturally Related)

USDA will be prepared to participate in the Vice President's forum in the following areas:

**SCIENCE RELATED:**

1. Provide specific details of the Agriculture and Forestry breakout session at the US-China Water Resources Management Conference in Tucson, Arizona.
2. Participate in the development of the land use management work plan utilizing the technical and managerial expertise of the Natural Resources Conservation Service and the Forest Service.
3. Enhance the dialogue on agricultural policies, in the areas of credit availability, agricultural extension service, and water technology.
4. Provide an authoritative speaker to discuss biotechnology issues (Secretary Glickman would be at the top of the list).

**ENVIRONMENTAL:**

1. Provide an authority on reforestation and sustainable forest projects from the U.S. Forest Service to highlight past collaboration and discuss future reforestation projects on the upper watershed of the Yangtze River.
2. Build on NGO dialogue on environmental issues. USDA would highlight its project with Sheri Xiaoyi Liao, founder and president of the NGO Global Village of Beijing.

U.S.-China Forum  
January 2000 Session

Environment Working Group

**Multilateral Environmental Issues  
Tentative Issues and Goals**

Global Climate Change

- Have full discussion of climate change issues, including next steps on CEA paper on Economics of Greenhouse Gas Emissions Abatement and gain Chinese agreement to jointly study the issue.
- Gain Chinese agreement to scheduling a session of the High-Level Dialogue later in 2000 in preparation for COP-6.

International Forest Issues

- Confirm China's position on alternatives to a global forest convention.
- Exchange views on implementation of the Montreal Process Criteria and Indicators.

Chemicals

- Status reports on respective ratification prospects of Prior Informed Consent (PIC) Convention.
- Exchange of views on the UNEP Persistent Organic Pollutants (POPs) Convention negotiation.

Biotechnology/Biosafety

- Explore common interest in developing biotechnology products and prospects of Biosafety Protocol that could hamper development of such technology.

Rule of Law

- Initiate "rule of law" dialogue focused on development of administrative regulations and procedures in implementing environmental laws and on enforcement of such laws, including the respective roles of various levels of government, industry, NGOs, and private citizens.

APEC Oil and Gas Offshore Infrastructure Workshop

- Gain PRC agreement to provide the site and meeting facilities for a U.S.-China co-sponsored APEC Workshop on Maintaining Integrity of Offshore Oil and Gas Facilities.

Invasive Species

- Consider with the PRC ways in which we could cooperate to address the threats posed by invasive species, such as water hyacinth.

Infectious Disease and HIV/AIDS

- Discuss the linkage between increased infectious diseases and environmental degradation to gain an improved commitment to ecological stability.
- Impress the critical difference that political commitments at the highest levels can make in addressing the HIV/AIDS epidemic.



**DATE:** November 12, 1999 - 3:37PM

**TO:** Ted Osius, Office of the Vice President  
Fax: 202-456-9500

**FROM:** Marianne Bailey, Asia Program Manager  
USEPA  
Fax: 202-565-2412  
Phone: 202-564-6402

\*\*\*\*\*

The following are suggested goals for the Bilateral Segment of the Environmental Policy Working Group of the Forum. After coordinating with the Multilateral Segment input we may wish to make some adjustments.

#### GOALS FOR THE FORUM: ENVIRONMENTAL POLICY - Bilateral Segment

1. Review Progress in Urban Air Quality Cooperation (Market-Based Mechanisms for SO<sub>2</sub> control, Industrial P2E2, Air quality management assessment, Public health co-benefits, Phase I of Air Monitoring Network)
2. Reach Agreement on Phase II Air Monitoring Cooperation
3. Begin Dialogue on Rule of Law and Stakeholder involvement in environmental protection  
[Note: we might want to call this something other than Rule of Law]
4. {TENTATIVE} Sign Statement of Intent to Cooperate on Landfill Methane
5. Begin bilateral governmental dialogue on Green Chemistry (Paul Anastas lead)
6. Encourage Chinese Interest in Regional Initiatives  
{Possibly including Trans-Pacific Air Pollutant Transport, Mercury from Mining, and/or Dioxin Regional Workshop}  
*[note number 6 could be raised in JCST meeting on the 14th instead or also]*

**NOTES:** Rule of Law is both bilateral and multilateral segment  
Peace Corps forestry tentatively dropped due to Bleyle advice

# U.S. - CHINA BILATERAL WTO AGREEMENT

November 15, 1999

## I. AGREEMENT HIGHLIGHTS

The U.S.-China WTO agreement covers all agricultural products, all industrial goods, and all service areas.

### Industrial Tariffs

China's industrial tariffs will fall from an overall average of 24.6% in 1997 to an overall average of 9.4% by 2005.

On U.S. priority industrial products, tariffs will fall to 7.1% with the majority of tariff cuts fully implemented by 2003. Tariffs will fall on a range of products including: wood, paper, chemicals, capital and medical equipment.

In information technology, tariffs on products such as computers, semiconductors, and all internet-related equipment, will fall from an average of 13.3% to 0% by 2005.

### Agriculture

On U.S. priority agriculture products, tariffs will be reduced from an overall average of 31.5% to 14.5% by January 2004, at the latest.

| <u>Priority Products</u> | <u>Tariffs Pre-Agreement</u> | <u>Tariffs Post-Agreement</u> |
|--------------------------|------------------------------|-------------------------------|
| Beef                     | 45%                          | 12%                           |
| Grapes                   | 40%                          | 13%                           |
| Wine                     | 65%                          | 20%                           |
| Cheese                   | 50%                          | 12%                           |
| Poultry                  | 20%                          | 10%                           |
| Pork                     | 20%                          | 12%                           |
| <b>OVERALL AVERAGE</b>   | <b>31.5%</b>                 | <b>14.5 %</b>                 |

China will expand access for of bulk agriculture commodities, on products including corn, cotton, wheat, rice, barely, soybean oil.

China will eliminate export subsidies – this is especially critical for U. S. cotton and rice producers.

China will for the first time ever permit private trade (trade between private parties) in agriculture.

### Services

On industrial goods, China will for the first time permit the right to import and export without middle-men -- so-called trading rights – as well as full rights of distribution including wholesale and retail and aftersale service, repair, maintenance, and transport.

The telecommunications, insurance, banking, securities, audio visual, and professional service sectors,

→ to name a few, will all have expanded market access under the agreement.

## NSTCIEIThemes

### Livable Cities for the 21<sup>st</sup> Century

- Efficient Buildings
- Clean, efficient Industry
- Transportation planning

### Clean Power for the 21<sup>st</sup> Century

- Advanced big power
- Distributed, grid connected power
- Mini-grid and off-grid power

### Competitive Markets for Clean Energy

- Capacity Building
- Sector Reform
- Finance

June 23, 1999

China Development Bank  
Beijing, China

Attn: Ms. Wang Yuan

Re: \$100 Million Clean Energy Program

Dear Ms. Wang,

This is in response to your letter requesting a detailed list of project types which could qualify for support under the \$100 million clean energy program. In principal, projects eligible for inclusion under the program would be those that provide an environmental benefit, directly or indirectly, within China's energy sector.

For illustrative purposes, project types that fit this description are provided below. Please note that the list is not exclusive. The objective of the Ex-Im Bank's support for clean and renewable energy applications is to encourage use purchase by China of U.S. technologies that produce power from renewable energy, technologies that provide for energy conversion that produce reduced levels of greenhouse gases, technologies designed to promote increased energy efficiency and environmental services that recommend mitigation of adverse environmental effects. An illustrative list of projects that would be eligible for inclusion within the program are listed as follows:

- 1) Renewable Energy technologies including projects which make use of or promote the development of photovoltaic technology, passive solar systems, wind conversion technology or goethermal energy conversion technology.
- 2) Energy conversion technologies that produce reduced amounts of greenhouse gas including projects which make use of or promote the development of clean coal technology, integrated gas combine cycle plants for electricity generation, biogasification, fluidized bed boilers, industrial cogeneration that makes use of waste heat for electric energy generation, and conversion of transportation systems to natural gas.

3) Projects designed to reduce emissions from new and existing plants including the purchase of air pollution control equipment, low NOx burners and/or equipment to reduce SO2 emissions from existing generation plants.

4) Energy Efficient technologies including the purchase of products such as amorphous core transformers, helical finned tube heat exchangers, high efficiency motors and building products designed to improve energy efficiency by reducing electric or thermal energy consumption.

5) Environmental Services including the undertaking of environmental assessments that recommend measures to mitigate the environmental effects of power generation projects, and related studies to recommend measures to reduce China's use of conventional fossil fuel technology for energy conversion.

This listing is not meant to exclude other projects or purchases which may meet the objectives of the Memorandum of Understanding signed on March 29, 1999 and meet the eligibility requirements for Ex-Im Bank support. This includes adherence to Ex-Im Bank's foreign content policy, and related eligibility criteria.

Please do not hesitate to contact loan officer Edward Ciampa (202)565-3717 or the undersigned, as you wish any additional clarification. We are in receipt of your application request which we are currently processing.

Sincerely,

Deborah L. Thompson  
Vice President, Asia/Africa

cc: Ms. Liu Xiaojing, Division Chief

China 1  
paper

9-16-99

THE WHITE HOUSE  
WASHINGTON

September 12, 1999

MR. PRESIDENT:

Attached are the following weekly reports:

- (A) Interest Rates and Stock Prices
- (B) Update on Global Markets
- (C) Weekly Economic Briefing
- (D) OSTP
- (E) Cabinet Affairs

Sean Maloney

Tab B - Copied Summers, Podesta

Tab C - Copied Baily, Podesta  
Copied pp.3-4 Berger, NSC WW Desk,  
Ballentine, Podesta  
Copied pp.5-6 Sperling, Reed, HRC,  
Podesta  
Copied p.7 HRC, Podesta

Tab D - Copied Lane, Podesta

Tab E - Copied Marshall, Podesta  
Copied p.3 HRC, Podesta  
Copied p.4 Podesta  
Copied p.6 Podesta

9-16-99

## SPECIAL ANALYSIS

### Benefits for China of Greenhouse Gas Emissions Trading

✓ A recent analysis by the Council of Economic Advisers finds that an international greenhouse gas emissions market would offer substantial economic opportunities for China. By adopting an emissions growth target under the Kyoto Protocol and participating in emissions trading, China could attract significant amounts of capital and technology to reduce its greenhouse gas emissions. By reducing its emissions, China would gain from selling unused emissions allowances to developed countries.

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Sawyer  
was needed  
to  
bring China

**Creating a greenhouse gas market.** The Kyoto Protocol calls for the design of an international trading system that will facilitate the transfer of capital and technology to the countries where emissions can be abated at least cost. A country that can abate greenhouse gas emissions at lower cost than others has the opportunity to attract investment for climate-friendly technology. By reducing its emissions, a country can then sell emissions allowances to countries with higher abatement costs. Ideally, an international greenhouse gas emissions market would be similar to the sulfur dioxide trading program in the U.S., which allows trading of permits to emit sulfur dioxide among electric utilities. In the U.S., power plants that can reduce emissions cheaply sell permits to plants for which emissions reduction is more expensive, resulting in estimated cost-savings of 25 to 43 percent. The principle of gains from trade in emissions allowances is basically the same as it is for trade in goods and services.

Copied pp. 3  
Beger  
NSC WW A  
Ballentine  
Podesta

In order to engage in trading, the Kyoto Protocol requires a country to have a greenhouse gas emissions target. It is broadly recognized that any such targets must be made compatible with a country's legitimate development needs. One way to do so would be for a developing country to set its target above current emissions levels, but below what emissions are forecast to be without additional abatement policies during the Protocol's first commitment period (2008 to 2012). Such an "emissions growth target" could provide for continued economic development, but with a lower emissions growth rate. To mitigate the risk that a target could end up being too stringent (or too lax), a target could be indexed to a country's economic performance between now and the 2008-2012 commitment period.

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China

**Economic gains for China.** While China is making impressive strides towards lowering its greenhouse gas emissions intensity (emissions per unit of output), a variety of economic analyses and modeling efforts indicate that there are still many low-cost emissions abatement opportunities in China. Some analyses suggest that China has lower abatement costs than virtually any other country in the world. These international economic models can simulate an international emissions market by assessing the projected marginal cost of abating carbon dioxide emissions across countries and then estimating the extent of buying and

selling until no further economic gains can be achieved through additional trades – i.e., they find the market clearing price for an emissions allowance.

Results from six international economic models indicate that by taking on an emissions target and actively participating in international emissions trading, China would find it economic to reduce emissions 14 to 24 percent below projected 2010 emissions levels and would be able to sell emissions allowances worth from \$4 billion to over \$14 billion annually.

**Environmental gains for China.** Efforts to abate carbon dioxide emissions will likely result in significant reductions in emissions of local air pollutants, such as sulfur dioxide and particulate matter, since both kinds of emissions are by-products of fossil fuel combustion. Local air pollution levels are a significant threat both to China's economy and to its citizens. Current pollution levels increase mortality rates, the incidence of chronic illness, and the number of hospital and emergency room visits. China's position as a low-cost producer in a global greenhouse gas emissions market offers a promising avenue for attracting investment in the energy and industrial technologies necessary to significantly address the high levels of local air pollution.

## **The Economics of Greenhouse Gas Emissions Abatement in China**

Over the past two decades, China has experienced an impressive rate of economic growth. Between 1978 and 1997, the size of the economy increased from the 16th largest to the 7th largest in the world, per capita incomes increased by nearly 400%, and energy consumption grew 112%. Like virtually all countries in the world, economic growth also resulted in the growth of greenhouse gas emissions, especially carbon dioxide.

Emissions of greenhouse gases from all countries pose a risk to the global climate. International efforts to address these risks in Rio in 1992 and Kyoto in 1997 recognize the need to abate greenhouse gas emissions while sustaining economic development. Specifically, the Kyoto Protocol calls for the design of markets that will facilitate the transfer of capital and technology to the countries where emissions can be abated at least cost. A country that can abate greenhouse gas emissions at lower cost than others has the opportunity to attract investment for climate-friendly technology that abates emissions and can then sell emissions credits or allowances to higher cost countries. Effectively, Kyoto provides the potential for low-cost abating countries to create an export industry – whose export products are emissions abatement – that could be financed through foreign direct investment.

What is the potential for a fast-growing economy such as China's to create and benefit from such export industries? The economic literature indicates that China has the opportunity to abate more greenhouse gas emissions at a lower cost than any other country. Selling these abated emissions through the Kyoto mechanisms could attract billions of dollars of investment per year that would finance some technology leap-frogging in the energy generation and industrial production sectors. In addition, abating carbon dioxide, for example by improving combustion efficiency of coal power plants, would reduce emissions of local air pollutants that carry significant economic costs through lost worker days, additional health care expenses, and premature mortality. The potential is clearly available for China to be better off economically through the development of an emissions abatement export industry.

This paper provides an overview of this potential drawing from economic research on China conducted by academic, industry, and government analysts from around the world. First, the paper presents a description of the trade-oriented mechanisms in the Kyoto Protocol that will promote capital and technology flows for emissions abatement. Second, it reviews the extensive literature on the potential economic gains associated with participation in the Kyoto mechanisms. Finally, it describes the potential improvement in public health associated with abating emissions of local air pollutants that usually accompany carbon dioxide abatement.

## **I. Opportunities to Participate in Kyoto Flexibility Mechanisms**

The Kyoto Protocol establishes three mechanisms that, if designed and implemented efficiently, could provide the foundation for a global emissions market. Through international emissions trading (Article 17), joint implementation (Article 6), and the Clean Development Mechanism (Article 12), an emissions reduction would have economic value in the international emissions market.

Since greenhouse gas emissions have the same climatic consequences regardless of where they occur, the least-cost approach to addressing the risks of climate change would be to reduce emissions wherever such reductions are cheapest. This implies that emissions abatement has the economic property of a commodity, which facilitates the evolution of a market where entities that demand emissions abatement (e.g., those with high abatement costs) can funnel capital and/or technology to suppliers of abatement. In such a market, countries with low emissions abatement costs could take advantage of the opportunity to “produce” emissions abatement and to export these abated emissions, as certified emissions reductions or tradable allowances, at lower costs than other, higher-cost countries. Just as in the production of commodities, low-cost producers could attract foreign direct investment to finance their emissions abatement industry.

This potential evolution of an international emissions market reflects some of the experiences and lessons learned from the international trade in a variety of goods and services. The concept of gains from trade in emissions allowances is the same as it is for trade in goods and services. For example, Frankel (1999) notes that developing countries could “specialize in installing clean new-technology power-generation capacity, while industrialized countries specialize in producing the capital goods that go into those plants” (p. 4). Toman et al (1998) also note that “[t]hose countries which find themselves with lower abatement costs and more generous emission ceilings can generate a valuable commodity to export” (p. 3). Thus, developing countries would export emissions abatement, and use their export revenues to import, among other things, these new energy technologies.

The gains from trade in emissions allowances occur as a result of the large differences in marginal abatement costs across countries. Weyant and Hill (1999) note that “if the marginal cost in any country participating in a trading regime is higher than in any other participating country, it is advantageous to both countries for the higher cost country to buy emissions rights at a price that is between the two marginal costs” (p. xvii). However, before reviewing the estimated marginal costs across countries, it is important to understand how the Kyoto Mechanisms, specifically the Clean Development Mechanism and international emissions trading, could serve as the necessary foundation of an international emissions market.

### **A. The Clean Development Mechanism**

The Clean Development Mechanism was incorporated in the Kyoto Protocol to 1) promote sustainable development; 2) contribute to the Framework Convention's climate objective; and 3) to assist Annex B parties in complying with their commitments (Toman et al 1998). The CDM allows for developed and developing countries to work together to design and implement projects in developing countries that abate greenhouse gas emissions. These projects must undergo a review process to certify that the emissions reductions are below what would have been otherwise. In addition, a portion of the proceeds from the project must be used for an adaptation fund for low-income countries especially vulnerable to climate change and for administrative costs of the CDM. Under the Buenos Aires Plan of Action, the rules for the Clean Development Mechanism are scheduled to be developed by the sixth Conference of the Parties.

In addition to firms in developed and developing countries working together to design and implement specific projects, some have suggested that governments could cooperate to design project "fast-track" processes (Chayes 1998). To reduce some of the transaction costs associated with participating in the CDM, two countries could design a fast-track process that makes the project approval process more transparent to the private sector and simplifies the rules for approval.

[Brazilian example?]

However, even these efforts to promote sustainable development by increasing the number of CDM projects probably would not compare to the likely volume of capital and technology flows expected for a country with an emissions target that is participating actively in international emissions trading. The CDM carries with it several transaction costs, such as project approval and certification, the adaptation charge, and a charge to cover administrative expenses that reduce the potential cost-effectiveness of this approach relative to a less-burdened trading system. It should also be noted that non-Annex I countries that adopt emissions targets could be able to participate as a host to CDM projects until the beginning of the commitment period, at which time, it would participate in international trading.

## **B. International Emissions Trading**

Articles 3 and 17 of the Kyoto Protocol allow countries with binding targets to lower the cost of meeting their targets by participating in international emissions trading. These binding targets take the form of an "assigned amount" – the number of metric tons of greenhouse gases (counted in carbon dioxide equivalent) that may be emitted by sources within the country during the five-year commitment period running from 2008 through 2012. In emissions trading, one country transfers part of its assigned amount to another. This transfer of assigned amount lowers the number of tons of greenhouse gases that the first country may emit between 2008 and 2012, and raises the number of tons that the second country may emit by an equal amount. It is useful to think of each one-ton unit of assigned amount as a tradable allowance for one ton of emissions

that may be transferred between countries.

Because the cost of controlling greenhouse gases differs by many times from country to country, emissions trading will allow substantial gains from trade in meeting the Kyoto targets. Countries that have relatively inexpensive ways to control greenhouse gases have incentives to reduce emissions by more than their targets require, because they can sell tradable allowances that they will not need to others. Countries facing the most expensive control measures have incentives to buy less costly allowances from others, and thereby increase the amount they may emit. Since greenhouse gases are global pollutants, the environmental impact of reducing them is the same no matter where the reductions take place. The same overall reduction is achieved, total costs are reduced, and both buyers and sellers gain from the savings allowed by trading.

A country that wants to increase the number of tons of greenhouse gases that it is allowed to emit would seek out other countries that are willing to sell some of their tradable allowances. Buying and selling countries could arrange their transactions directly or use brokers or exchanges. Because of the voluntary nature of trading, a selling country would engage in a trading transaction only if it makes that country better off.

In addition to trading at the governmental level, some countries (including the United States) plan to use both domestic and international emissions trading at the company level as part of their program to meet their Kyoto commitments. Companies and other legal entities subject to these domestic trading programs (integrated with the international trading system) would have strong incentives to look constantly for innovative ways to abate their greenhouse gas emissions. Those who found inexpensive opportunities to abate their emissions could sell the allowances they do not need to other companies or countries who face higher costs. Further, some companies that have climate-friendly technology may find it cost-effective to transfer this technology to facilities in a low-cost abatement country in return for tradable allowances. These tangible rewards for innovation should provide the incentive for research and development and subsequent technological breakthroughs (Petsonk et al 1998).

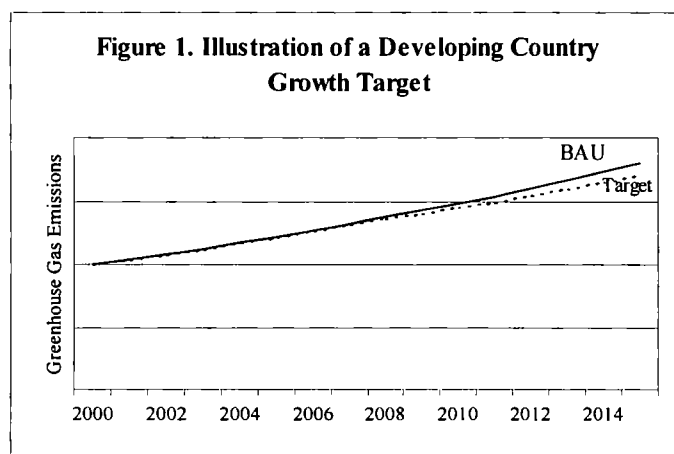
As stated above, the Kyoto Protocol stipulates that countries must have an emissions target to engage in international emissions trading. Since the Kyoto Conference, several non-Annex I countries have expressed an interest in emissions targets. Consistent with the Framework Convention on Climate Change, targets for non-Annex I countries should help promote their sustainable development. To do so, such targets should accommodate emissions growth. Unlike Annex B targets, which were set below most countries' current emissions levels, such a target for non-Annex I countries would be set above current emissions levels. To contribute to the international effort to address climate change risks, it would also be desirable for such targets to result in real abatement in emissions below levels that would otherwise occur during the

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The term "business as usual emissions level" as used in this paper is synonymous with the term "reference

commitment period – that is, below the projected business as usual (BAU) emissions level. This kind of target, often referred to as an emissions growth target, would provide for continued economic development but with a lower emissions growth rate.

If developing countries were to agree to binding limits, even if they involved only small cuts below BAU in the first budget period, then such targets, with trading, would imply gains for their economies and gains for the environment. Figure 1 provides an illustration of an emissions growth target. Such a target could be expressed as some percentage of a base year, in a similar fashion to Annex B targets, but with a different base year and a percentage greater than 100% to account for emissions growth.



An emissions target could also take alternative forms. Some have expressed concerns about the

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emissions level.”

uncertainty associated with BAU emissions projections (Baumert et al 1999). A country that takes on a commitment for the 2008-2012 period that is fixed *now*, faces the risk, for example, that its economy will grow more rapidly than expected, resulting in an inadvertently stringent target. Alternatively, a country's economy could grow less rapidly than expected, resulting in an inadvertently lax target. There are, however, ways of designing targets to reduce uncertainty and mitigate these risks. In particular, targets could be indexed to future values of economic and other, possibly demographic, variables.

A target could, for example, be indexed to a country's economic performance between now and the start of the 2008-2012 commitment period (Frankel 1999). This approach is used in the private sector, where contracts are frequently indexed. This approach is also used in the public sector (e.g., the U.S. government provides cost-of-living adjustments for social security recipients). A target could then be specified in a way that depends on the future values of economic variables, such as GDP. For example, Baumert et al (1999) have argued for a carbon-to-GDP intensity measure as an appropriate form of developing country commitment. Zhang (1999) also discussed a greenhouse gas emissions per unit GDP measure as the basis for a voluntary commitment by China around 2020.

Such targets would avoid the risk of inadvertent stringency associated with higher than projected economic growth between now and the beginning of the commitment period in 2008. Non-Annex I countries would face only the much smaller risk that emissions would be higher than expected, *given* the economic conditions realized in 2007. Similarly, such targets would also avoid the risk of inadvertent laxness associated with lower than expected economic growth between now and the start of the commitment period.

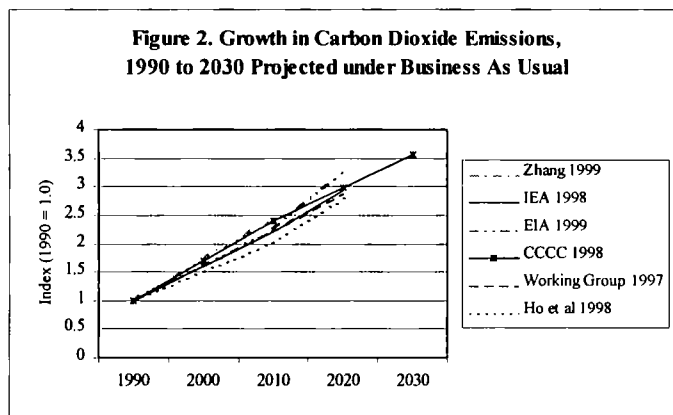
An indexed emissions growth target set slightly below the 2010 business as usual emissions level could result in economic gains from trade for all trading participants. Further, participation in international emissions trading could attract investment capital and facilitate the transfer of technology to a greater extent than would be anticipated under the CDM, and the investment in clean-energy technologies would help address the local air pollution problems. Finally, the indexed nature of the target would reduce the risk that a target could be too stringent or too lax due to unanticipated economic performance between now and the commitment period.

## **II. Economic Gains from the Clean Development Mechanism and Emissions Trading**

A variety of economic models have been developed throughout the world that can evaluate the potential economic gains from trade in emissions allowances. These economic tools effectively model trade in emissions as if they were any other internationally tradable commodity where both production costs and demand vary across countries. However, before reviewing the summary of model results for China, it may be useful to consider some relevant statistics regarding China's projected energy trends. These data will facilitate an understanding of and provide some context for the model results presented below.

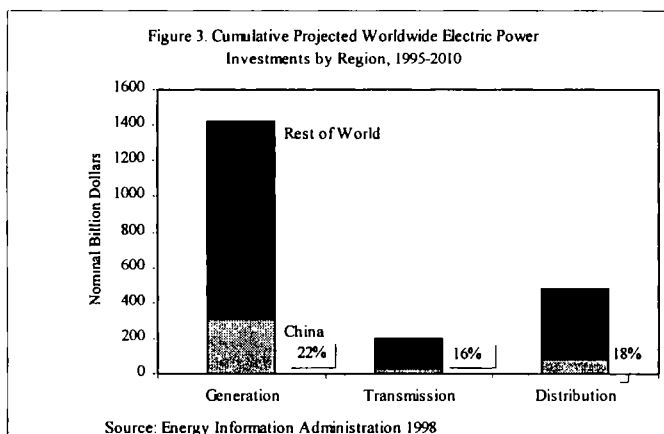
### **A. Illustrative Energy and Economic Statistics**

China's economy is expected to continue growing at a strong pace. The International Energy Agency (1998) projects China's economy will grow 5.5% for the 1995-2020 period, while IEA projects OECD countries' GDP to grow on average about 2% over this time period. The higher economic growth rate will likely result in a higher emissions growth rate. However, projected emissions in China are estimated to grow at a slower rate than GDP growth, consistent with the declining energy-to-GDP ratio trend of the past twenty years (IEA 1998, CCCC 1998).



Emissions growth rates through 2010 across six different business as usual projections appear to be fairly similar (figure 2). The differences in projections also appear to be influenced by different economic growth rate assumptions. Indeed, energy-to-GDP projections by many of these analysts follow very similar trends of continued improvement. These forecasts illustrate that the recent decoupling of carbon emissions and economic growth will likely continue into the future.

Because of the higher growth rate, China has more opportunities than many OECD countries to reduce emissions relative to baseline projections by installing new carbon-efficient plants and adopting other new technologies. In contrast to retrofitting existing plants, new investment in carbon-efficient plants is a less costly approach to abate emissions.



The faster economic growth expected in China implies a higher rate of investment than most OECD countries. For example, investments in electric power generation in China are projected to comprise nearly  $\frac{1}{4}$  of total world generation investment between 1995 and 2010 (figure 3). Many of these Chinese investment projects are likely to increase total generation, while a larger share of OECD investments will likely replace existing power plants. Current Chinese coal plants are about 25 to 33% less efficient than developed countries' coal plants (Fang et al 1998). Investing in power technologies with comparable efficiencies to developed countries' plants could significantly reduce Chinese emissions per unit of electricity generated. Further, one out of every six dollars expected to be invested in transmission systems around the world will be spent in China through 2010. Improving transmission efficiency in China – where transmission losses are twice those found in developed countries and can range up to 30% (Ni and Nien 1998) – through these investments can further reduce emissions per unit of energy consumed.

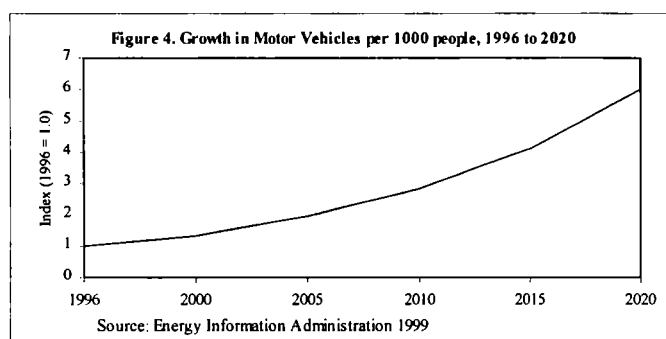
Differences in energy efficiency between China and developed countries also exist in various

industrial sectors. Table 1 illustrates some of these differences in industrial production activities. As these industrial sectors in China evolve, new investment could be leveraged by the value derived from generating emissions abatement to install more advanced, more energy-efficient production technologies.

Table 1. Comparison of Physical Energy Efficiency in Industrial Production between China and Western Countries

| <b>Production Activity</b> | <b>China</b>          | <b>Western Countries</b> |
|----------------------------|-----------------------|--------------------------|
| Industrial Boiler          | 55-60%                | 75-80%                   |
| Industrial Furnaces        | 20-30%                | 50-60%                   |
| Thermal Electrical Power   | 25-30%                | 35-40%                   |
| Steel Industry             | 1.0 tce/ton of output | 0.7 tce/ton of output    |
| Synthetic Ammonia          | 2.1 tce/ton of output | 1.15 tce/ton of output   |
| Cement                     | 0.2 tce/ton of output | 0.13 tce/ton of output   |

Source: Fang et al 1998, p. 125.



As per capita incomes continue to rise in China, the number of motor vehicles per capita is projected to increase much faster (figure 4). Between 1996 and 2010, motor vehicles per capita is projected to triple, and then double again by 2020 (EIA 1999). Since Chinese fuel intensity in highway transport is 25% higher than in developed countries, and domestic-made vehicles consume 30-40% more fuel than comparable import vehicles (Lin and Polenske 1998), this growth in vehicle usage could significantly increase emissions. However, this differential in fuel economy also illustrates another potential opportunity to improve energy efficiency as the transportation sector continues to expand.

## **B. Clean Development Mechanism**

The Clean Development Mechanism can serve as a vehicle for transferring technology from developed countries to developing countries. In addition, CDM projects can provide investment opportunities for clean energy technologies developed within developing countries. CDM projects will attract investment from firms in developed countries if they generate a sufficient economic return, which includes the value of the certified emissions reductions. The technologies to be diffused through the CDM most likely will be focused in the energy sector.

China has many options for improving efficiency in the energy sector with the continued use of coal. For example, Atmospheric Fluidized Bed Technology achieves thermal efficiency rates of

34-37% by combusting a circulating mixture of coal and gas. If an AFBT plant of X MW displaced a X MW Y coal-fired plant that was part of China's base load, then X MMTC per year could be abated. Further, Integrated Gas Combustion Cycle (IGCC) is the state of the art in electricity generation from coal. IGCC employs coal gasification along with gas turbines to achieve efficiency rates of 38-45% with SO<sub>2</sub> removal technology in place (Fang 1998). Desulfurization efficiency can reach levels as high as 99%, and the technology can reduce levels of NO<sub>x</sub> formation by 25% to 50% when compared to a traditional pulverized coal plant (Government of China 1996). An IGCC plant displacing the same Y coal-fired plant discussed above could abate X MMTC annually.

China has extensive potential for the development of wind power especially along the coastline and in the north. Large-scale wind projects could directly replace coal plants and can usually start generating electricity within a year of beginning construction. Two examples highlight the potential for wind power. One effort, begun in the 1980s to subsidize rural electrification in Inner Mongolia, has generated 140,000 small systems, employed 15,000 technicians, and fostered 42 Chinese enterprises engaged in wind power development. Another project imported medium scale turbines to create a wind farm in Dabancheng, Xinjiang. Overall, China has about 30 MW of grid-connected wind power in operation (Fang 1998).

[Natural gas example]

In addition to technology investment opportunities in the energy sector, several technologies in industrial sectors could also have potential under the CDM. For example, the direct reduction technique for iron smelting could decrease energy use per unit of output. This process uses gas or liquid fuel and non-coking coal as a reducer to smelt iron. It achieves energy savings of 40-50% over blast furnace methods and can reduce carbon dioxide emissions by 50-60% per ton of steel produced (Government of China 1996).

To evaluate the economic potential of the CDM, several Dutch analysts modified their WorldScan model to account for some of the characteristics of the CDM (Bollen et al 1999). While the analysts did not include an adaptation or administrative charge, or costs associated with project review and certification, they designed the model so that it would mimic the efforts of private firms to cost-effectively invest in large energy projects. Thus, they analyzed CDM projects only in the form of investments that alter the input intensities of existing production capacity or replace existing capital. With this assumption, and assuming no trading among Annex I countries (thereby assuming higher demand for CDM credits than under an Annex I trading assumption), Bollen et al found that China could profitably abate approximately 150 MMTC annually during the first commitment period through the CDM. The WorldScan model estimates that the price for the certified emission reduction would be \$X/ton.

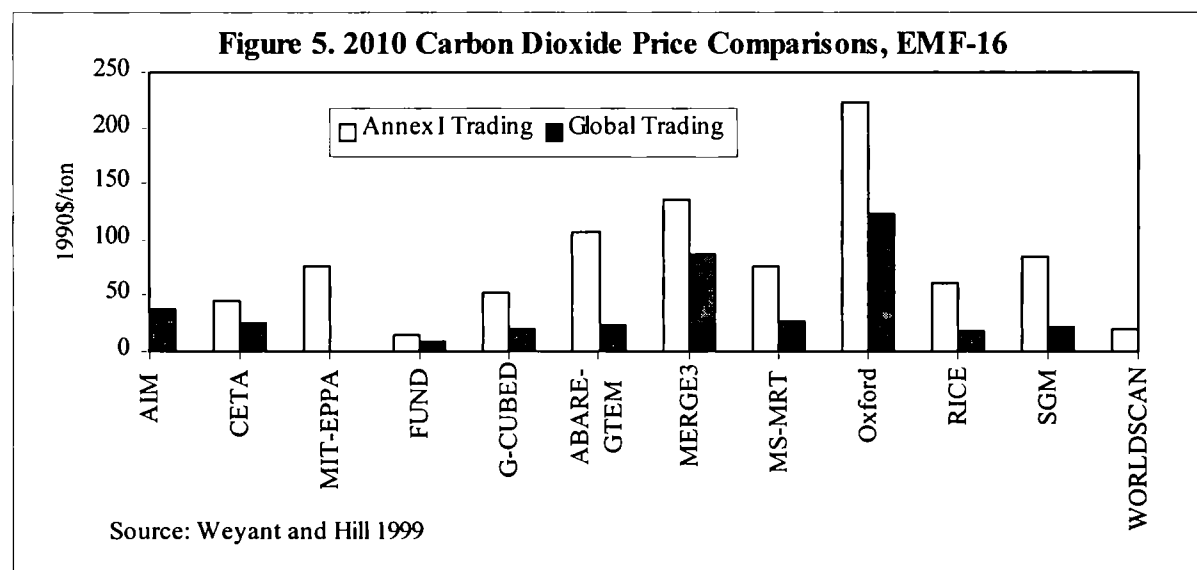
Since a project-oriented approach, like the CDM, may not deliver least-cost abatement first like a tradable permit or tax system, some have argued that the CDM will deliver fewer tons of emissions abatement at a given price of carbon than a trading system (MacCracken et al 1999). Indeed, because of the complexity of the CDM, Manne and Richels (1999) assumed that a developing country would be able to generate only 15% the emissions abatement through the CDM that it would by adopting an emissions target set at 2010 business as usual and engaging in international emissions trading using their MERGE3 model. With this model, Manne and Richels estimate that Annex I trading plus CDM participation by all developing countries would result in a price of carbon of \$97 per ton. At this price, China would find it economic to abate 16 MMTC per year during the commitment period, generating revenues from the sale of certified emissions reductions of \$1.5 billion annually.

### **C. International Emissions Trading**

A variety of international energy-economic models have been used to evaluate the potential economic implications of the Kyoto Protocol. For example, the Stanford University Energy Modeling Forum coordinated a modeling comparison exercise involving 13 models developed by teams in Europe, the United States, Asia, and Australia. Further, the Organisation for Economic Cooperation and Development (OECD) hosted a workshop in 1998 where 9 modeling teams presented their assessments of the Kyoto Protocol.

These models assess the projected marginal cost of abating carbon dioxide across countries and then estimate the extent of buying and selling in an international emissions market until no further economic gains can be achieved through subsequent trades – i.e., they find the market clearing price for an emissions allowance. For estimating the marginal cost within a country, most of these models evaluate a country's potential emissions abatement by assuming that such abatement occurs at least-cost. This effectively represents the effects of a domestic tradable permit system or a domestic emissions tax. In the case of China, emissions abatement is assessed in these models assuming that the incentive to abate is provided through an instrument comparable to the U.S. sulfur dioxide trading system, but where carbon dioxide is traded, or some of China's pollution discharge fees (Panayotou 1998), but where carbon dioxide is taxed. Such a policy approach would provide the incentive to attract carbon-efficient technologies like those discussed in the CDM section above, but at a higher volume than would be expected under the CDM. These models provide estimates of marginal cost (e.g., price of one ton of carbon abatement), emissions abatement by country, capital transfers by country, and measures of total economic costs or benefits.

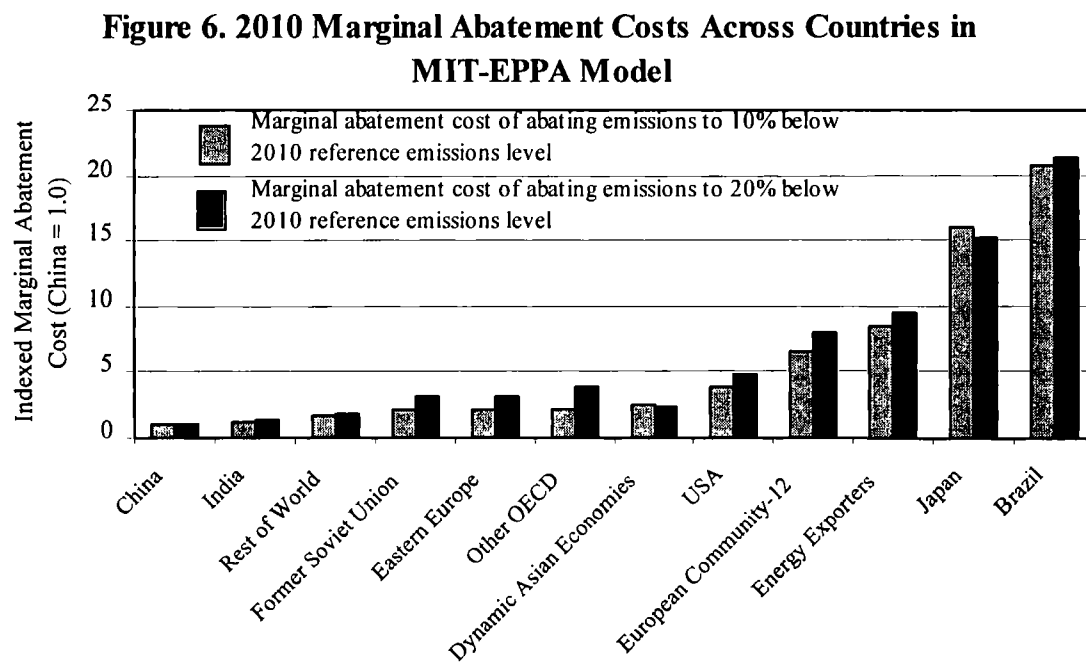
In scenarios involving non-Annex I countries, these models assume that developing countries adopt emissions targets set at 2010 business as usual emissions levels and participate in international trading. Figure 5 presents results from 12 models that participated in the Stanford



While the price of a ton of carbon may vary across models, several common lessons can be drawn from these results. First, gains from trade, especially in expanding trading from Annex I countries to all countries, can be substantial. All the models found that marginal and total costs fell going from Annex I to global trading, because developing countries can undertake low-cost emissions abatement and sell their emissions abatement to OECD countries. Second, higher

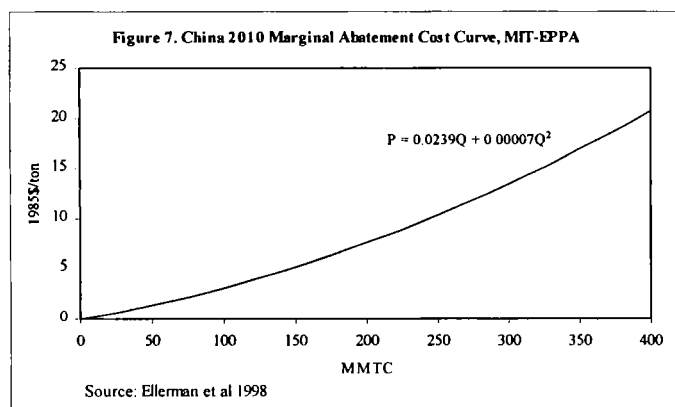
rates of economic growth in OECD countries increase demand for emissions allowances, while higher rates of economic growth in developing countries create more opportunities to substitute carbon-lean technology, and thus increase supply of low-cost emissions abatement. Third, countries with larger coal shares of total energy have more opportunities to abate emissions through energy efficiency and fuel switching than countries with smaller coal shares.

These model results provide illustrations of the possible characteristics of an international emissions market. What kind of role can China play in this emissions market? Analyses based on the EPPA model developed by researchers at the Massachusetts Institute of Technology indicate that China has the lowest marginal abatement cost of any country or region in the world (figure 6). To abate emissions to 10% below 2010 projected business as usual levels, Japan realizes marginal costs 16 times greater than China. The European Community would experience marginal costs more than 6 times greater than China, while the United States would witness marginal costs nearly 4 times greater. The relative differences in marginal costs increase as countries move from abatement of 10% below 2010 BAU to 20% below 2010 BAU. Further, no developing or transition economy countries have marginal costs lower than China's marginal cost. Thus, in this international emissions market, China would be the lowest-cost producer of emissions abatement.



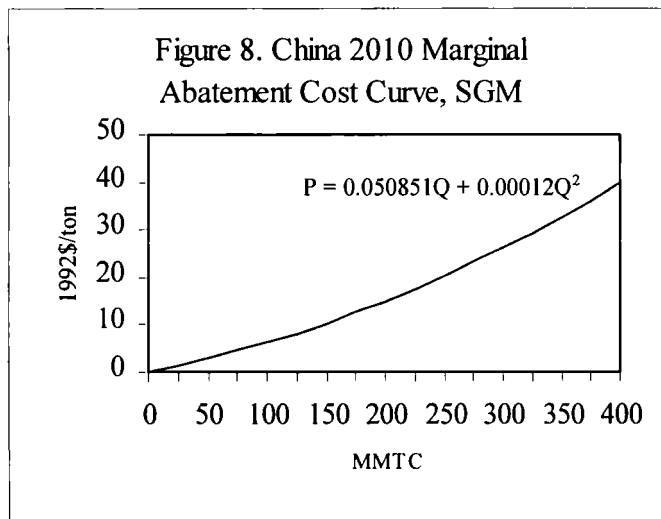
In addition to having the lowest abatement cost to achieve a percentage abatement below 2010 business as usual, as the largest non-Annex I economy, these modeling results illustrate the potential for China to be the largest producer of emissions abatement. Several of the EMF-16 modeling analyses also confirm the potential for China to produce the largest quantity of emissions abatement.

For example, Ellerman et al (1998) have estimated the marginal abatement cost curve for China with the MIT-EPPA model presented above (figure 7). With this marginal abatement cost curve, or emissions abatement supply curve, one can estimate the number of tons abated in 2010 at a given price of carbon. In



their assessment of global trading, they found that the market price for a ton of carbon would be \$23.80 (1985\$). At this price, China would find it economic to abate 436 MMTC in 2010. This estimate of emissions abatement is larger in absolute terms than the some other estimates (e.g., MacCracken et al 1999), but because Ellerman et al project a higher emissions growth rate for China, the projected abatement as a percentage of BAU is rather similar between these two models. If China had a target set at 2010 BAU, Ellerman et al estimate that it could sell \$10.4

billion per year in emissions allowances which would generate gains from trade of \$6.2 billion per year on average during the first commitment period.



MacCracken et al (1999) employed the Second Generation Model (SGM) to evaluate the international emissions market assuming global participation. The SGM includes a China module, developed in coordination with Chinese energy-economic experts. The marginal abatement cost curve for China has then been estimated with SGM model outputs (figure 8). They found that under global participation in the international emissions market, the price for a

ton of carbon would be \$26/ton (1992\$), and China would find it profitable to abate 341 MMTC in 2010. With a target assumed to be set at 2010 business as usual, these 341 MMTC of abatement would be exported, generating revenue equal to 0.3% of GDP.

Van der Mensbrugghe (1998) conducted several analyses of the Kyoto Protocol with the OECD's GREEN model. GREEN also includes a distinct China module. Van der Mensbrugghe found that under global trading, the international market price for a ton of carbon would be \$19/ton (1985\$). At this price, China would find it profitable to abate 228 MMTC. China would be able to sell \$4.3 billion in allowances under a 2010 BAU target. In this analysis, Van der Mensbrugghe assumed that China provided the incentive for in-country abatement through a carbon tax, revenues of which would comprise 1.4% of GDP. Moreover, by participating in the international emissions market, he found that China's GDP would increase 0.4% above 2010 BAU.

In addition to the CDM analysis noted above, Manne and Richels (1999) evaluated two other international emissions market scenarios involving China. The researchers found that under global trading, the international market price for a ton of carbon would be \$67/ton (19XX\$). At this price, China would find it profitable to abate 109 MMTC annually during the first commitment period. China would be able to sell \$7.3 billion in allowances under a 2010 BAU target. Further, assuming that Annex I countries and China participate in a trading system, the carbon price is estimated to be \$80 per ton. China would find it economic to abate 131 MMTC at this price generating sales revenues of \$10.5 billion annually.

In addition to the international economic models used in the EMF-16 exercise, some China specific assessments of abatement potential have been conducted. While these studies cannot explicitly illustrate the potential role of China in an international emissions market, they have the benefit of evaluating the Chinese economy in greater detail, and can provide additional insights about the abatement potential in China.

For example, Garbaccio et al (1999) completed a recent evaluation of a carbon tax on the Chinese economy. Such a tax could mirror other emissions and pollutant charges in China. Garbaccio et al designed a 29-sector computable general equilibrium model based on China's 1992 input-output (I-O) tables. They estimated three streams of carbon taxes necessary to abate emissions 5%, 10%, and 15% below business as usual over a 40-year period. Revenues from the carbon tax were recycled to the economy by proportional reductions in labor and capital taxes, although given the higher rates of taxation on capital than labor, this recycling promotes higher rates of investment. While GDP falls below projected business as usual in the first year of these three simulations, the investment induced by revenue recycling results in GDP growth above BAU after the first year in all scenarios. In this model, China's emissions could be abated by 15% below business as usual at a cost less than \$10 per ton, which is well below the estimated Annex I trading carbon prices in the EMF-16 model results. This analysis indicates that China

can substantially reduce its greenhouse gas emissions while maintaining or even increasing its rate of economic growth. Participating in emissions trading and exporting emissions allowances would further increase economic benefits and bring in additional capital that could also contribute to economic growth.

While not an explicit modeling exercise, the China Climate Change Country Study (CCCC 1998) did evaluate several scenarios for emissions mitigation. The authors found that in its “policy” case, emissions could be abated over the next 3 decades such that 2030 “policy” emissions were 30% below 2030 business as usual emissions levels. Without accounting for any potential gains from exporting this emissions abatement, the authors found that this mitigation would not reduce economic output from the projected level.

Table 2 summarizes the key findings in the economic-energy modeling literature on the potential economic gains for China in participating in international emissions trading. These results assume that China has an emissions target for the first commitment period set at 2010 business as usual.

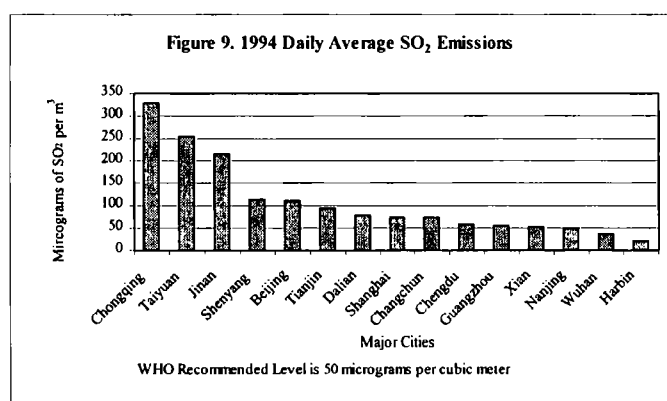
Table 2. Potential Economic Effects of Chinese Participation in International Emissions Trading

| Model                       | Price of Carbon | Emissions Abatement (% below BAU) | Value of Sales of Emissions Allowances 2008-2012 |
|-----------------------------|-----------------|-----------------------------------|--------------------------------------------------|
| EPPA (Ellerman et al)       | \$24/ton (85\$) | 24%                               | \$10.4 billion/year                              |
| SGM (MacCracken et al)      | \$26/ton (92\$) | 24%                               | \$8.9 billion/year                               |
| GREEN (van der Mensbrugghe) | \$19/ton (85\$) | 15%                               | \$4.3 billion/year                               |
| MERGE3 (Manne and Richels)  | \$67/ton (xx\$) | 8%                                | \$7.3 billion/year                               |

*These are gross \$'s; we need estimates of net abatement costs.*

### III. Local Air Quality Benefits from Abating Greenhouse Gas Emissions

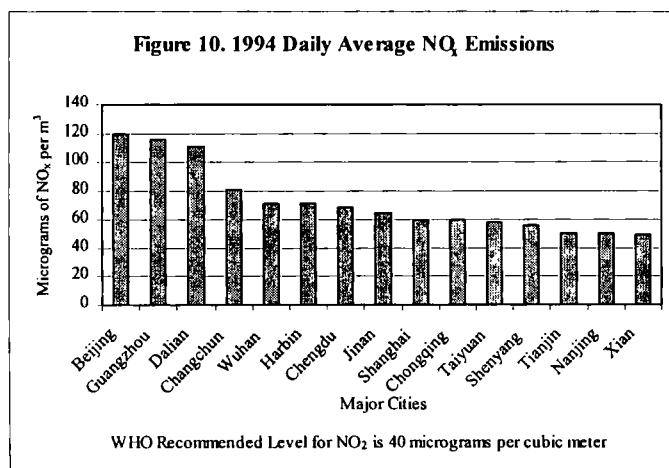
The same combustion processes that emit carbon dioxide and other greenhouse gases also generate numerous local air pollutants like sulfur dioxide and particulate matter. In its Report on the State of the Environment in China, the State Environmental Protection Administration noted that “atmospheric pollution results mainly from coal-burning” (SEPA 1998, p. 8). This is true for both global and local pollutants. By reducing carbon emissions through the use of coal substitutes and the adoption of more efficient coal combustion methods, China can simultaneously abate greenhouse gases and improve local air quality.



### A. Local Air Quality

Local air quality is the most immediate environmental threat facing China. As figures 9 and 10 show a number of China's cities regularly encounter more than 2 to 3 times the World Health Organization's recommendations for levels of sulfur dioxide (SO<sub>2</sub>) and nitrogen dioxide (NO<sub>2</sub>).

In recent years, the level of pollutants has stabilized due primarily to two countervailing effects (Florig 1997). First, more efficient power generation technology and the use of pollution control devices have reduced emissions from industrial sites. Second, household pollution, primarily a result of cooking and heating with coal, increased substantially, leaving the total pollution levels constant. Estimates from the World Bank (1997), however, show particulate emissions increasing 39% and household smoke increasing 90% between 1995 and 2020.



## **B. Costs of Local Air Pollution**

A number of studies have analyzed the relationship between current high levels of local air pollutants and health problems. Xu Zhaoyi and associates at the Liaoning Public Health and Anti-Epidemic Station estimated that indoor and outdoor pollution cause 60% of urban chronic obstructive pulmonary disease cases (Florig 1997). Research by Xu Xiping at the Harvard School of Public Health and his colleagues found that a one-percent increase in SO<sub>2</sub> and total suspended particulates (TSP) levels increased the number of non-surgical visits by 20% and 17%, respectively (Xu et al 1995a; Xu et al 1995b). Xu Zhaoyi and Xu Xiping have also estimated the effects of pollution on mortality rates in Shenyang and Beijing respectively (Xu 1998). In Beijing, a doubling of SO<sub>2</sub> levels increased the mortality rate by 11% while in Shenyang, mortality increased by 2% for each 100 g/m<sup>3</sup> of SO<sub>2</sub> and by 1% for each 100 g/m<sup>3</sup> for

TSP. The World Bank (1997) estimates that the economic costs from lost work hours, hospital and emergency room visits, and chronic bronchitis at \$20 billion per year in China.

Researchers have also documented the effects of pollution on children. Liu Yulin of the Institute of Pediatrics in Beijing found that children's chances of contracting pneumonia doubled if they lived in a home with coal stoves or adults who smoked. He Qingci of the Wuhan Environmental Protection Institute showed that children from Wuhan's urban areas had lung capacities 5% smaller than children from the suburbs where outdoor TSP levels are 50% lower (110 g/m<sup>3</sup> vs. 251 g/m<sup>3</sup>). Finally, Xu Zhaoyi found "up to four times more rhinitis, pharyngitis, and tonsillitis [inflammation of the nasal mucous membrane, pharynx, and tonsils, respectively] among children living in areas of heavier outdoor pollution" (Florig 1997).

While these estimates demand consideration, they should be used with caution. This area of epidemiology has a relatively short history compared with other disciplines. As a result, many of the studies ignore the effects of pollution levels over time and may not adequately control for the presence of covariates that could magnify or diminish the estimated effects of pollution levels on public health. This criticism withstanding, the Working Group on Public Health and Fossil-Fuel Combustion (1997) estimates the number of potential lives that could be saved from particulate matter (PM) alone through a 10% reduction from business as usual over the 2000 to 2020 period. The authors project that 1.5 million premature deaths could be avoided in Centrally Planned Asia. Since the study assumes an immediate reduction in the mortality rate after a reduction in PM concentrations, the actual number of premature deaths avoided may extend beyond 2020. Additionally, the study does not account for other causes of death, which brings into question the actual number of life-years these statistical lives represent. By assuming PM distributions similar to the United States, however, the authors underestimate the number of deaths because of China's higher use of coal and residential reliance on coal and biomass stoves.

In addition to public health effects, local air pollution adversely impacts agricultural and silvicultural production activities. The World Bank (1997) estimates that the share of farming and forestry output damaged by sulfur deposition is more than 5% of total economic output in these industries in several provinces. This damage affects commodities representing a value of more than \$4 billion annually in the Chinese economy.

### **C. Options for Carbon Dioxide Abatement and Local Air Quality Improvement**

The future increases in pollution levels reflect the growth of numerous small pollution sources, including new power plants, household heating sources, and automobiles. China has set a goal of 95% electrification by the year 2000, and to that end, electricity capacity has increased by 200% between 1980 and 1994. Because Chinese generators tend to be small, to run for long life

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Centrally Planned Asia includes China, Laos, North Korea, and Vietnam.

spans, and to have low efficiency levels, significant potential exists both to improve ambient air quality and to generate credits for carbon abatement under an emissions target. Even relatively simple policies such as washing and screening coal could both improve air quality and generate more efficient power, reducing levels of carbon emissions (Murray and Rogers 1998).

Similarly, to reduce congestion on public transportation and to improve commercial service, China has begun encouraging the use of automobiles. Between 1983 and 1990, the automobile stock increased from 1.8 million to 8.2 million and road transportation volume increased at an average annual rate of 13.5% for both passengers and freight while rail volume only increased 7.7% and 5.6% for passengers and freight, respectively (Lin and Polenske 1998). China's emissions standards and automotive technology are similar to those of the west in the 1970's; compared to foreign vehicles, Chinese vehicles emit "2.5 to 7.5 times more hydrocarbons, 2 to 7 time more nitrous oxides, and 6 to 12 times more carbon monoxide" (World Resources Institute 1998). These trends also offer substantial opportunities for simultaneous reductions in local air pollutants and carbon dioxide emissions through improved highway infrastructure and the use of more recent automotive technology.

Finally, most Chinese residents rely on coal and biomass stoves for cooking and heating. These also constitute the main sources of indoor air pollution. If other energy options develop such as natural gas or electricity, then the adoption of gas furnaces or electric appliances would provide an obvious route to reducing pollution levels. Absent these developments, however, options still exist. China's cities, for example, are very dense. This may allow a more centralized control of pollution emissions through large scale heating systems that service multiple housing units (Fang et al 1998).

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If China adopts an emissions target for the first commitment period and participates in an efficient international trading system with Annex I countries, then China could enjoy both economic and environmental gains. The results below derived from the Second Generation Model show the potential annual outcomes from Chinese participation during the first commitment period. Emissions growth targets set slightly below the 2010 business as usual emissions level (which can serve as a proxy for the average 2008-2012 emissions level) would generate additional emissions abatement than would have occurred without a Chinese target. In the scenarios provided below, additional global emissions abatement would range from about 15 to 40 MMTC annually. In addition, China would find it economic to abate its emissions well below these targets to sell excess emissions allowances to Annex I countries with higher abatement costs. Chinese emissions abatement could profitably occur some 200 to 275 MMTC below these hypothetical emissions targets. This example indicates that the value of the sales of allowances representing this additional abatement could be on the order of \$7 billion annually, resulting in economic benefits, net of the costs of abatement, of about \$2 to \$4 billion annually.

Table X. Illustrative Results of Hypothetical Chinese Targets from the Second Generation Model

| <b>Target</b>  | <b>Carbon Allowance Price (98\$)</b> | <b>Abatement below 2010 BAU</b> | <b>Transfers per year</b>   | <b>Transfers net of direct economic cost of abatement per year</b> |
|----------------|--------------------------------------|---------------------------------|-----------------------------|--------------------------------------------------------------------|
| 2010 BAU – 1%  | \$27/ton                             | -21%<br>(288 MMTC)              | \$7.4 billion<br>(274 MMTC) | \$3.9 billion                                                      |
| 2010 BAU – 5%  | \$29/ton                             | -22%<br>(309 MMTC)              | \$7.1 billion<br>(240 MMTC) | \$3.1 billion                                                      |
| 2010 BAU – 10% | \$33/ton                             | -24%<br>(333 MMTC)              | \$6.5 billion<br>(195 MMTC) | \$1.7 billion                                                      |