

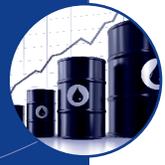


# U.S.-CHINA CLEAN ENERGY COOPERATION: THE ROAD AHEAD

Kenneth G. Lieberthal

SEPTEMBER 2009  
Policy Brief 09-05





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# **U.S. CHINA CLEAN ENERGY COOPERATION: THE ROAD AHEAD**

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## EXECUTIVE SUMMARY

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Since the Obama administration took office, U.S.-China cooperation on clean energy and climate change has become one of the major issues that is shaping the evolution of U.S.-China relations. This change reflects internal developments in both countries, along with the looming prospect of the Copenhagen Conference in December 2009.

Despite this sea change in the importance of the clean energy and climate change issues, accords on specific cooperative efforts to date have not moved much beyond the U.S.-China Ten Year Framework Agreement on Energy and Environment signed in June 2008. The remaining months of 2009—which will witness both a presidential summit in Beijing in November and the UN Copenhagen Conference in December—are critical for translating momentum created in the first nine months of 2009 into concrete progress.

U.S. domestic legislation on cap and trade legislation is an integral part of this near-term future. Opponents of the legislation point to potential Chinese competition as part of their argument for opposing passage. China, in turn, looks at the fate of this legislation as a test of whether the United States is going to play a leading role on restraining CO<sub>2</sub> emissions. And the Obama administration sees serious cooperation with China on clean energy as helpful in mitigating the arguments

against cap and trade that are based on myths about China's efforts in this sphere. On balance, though, it will be very difficult to pass cap and trade legislation and have the bill signed by the president before Copenhagen convenes.

The United States and China signed a Memorandum of Understanding on climate change, energy, and the environment in July 2009. An “memorandum of understanding” is aspirational. The two presidents, if possible, should sign a bilateral agreement on cooperation in clean energy at their November summit in Beijing. That agreement can move cooperation significantly forward if it clarifies the principles guiding cooperation, the priorities in each of five clean energy areas, and specific implementing tasking and procedures.

The Copenhagen summit is itself unlikely to reach a global agreement on country-specific CO<sub>2</sub> targets. Governments should therefore begin to re-frame what will constitute success at Copenhagen to prevent apparent “failure” from sapping the momentum for future negotiations.

In reality, Copenhagen will be highly successful if the parties agree on the architecture of a future agreement, which would require addressing successfully a series of difficult, complex issues such as transparency, capacity, verification, enforcement, and equity. Presently, even the basic

approach to reaching country-specific targets has not yet been settled.

The United States and China can leverage their own cooperation on clean energy and climate change in several ways to promote success at Copenhagen. They can work together to re-calibrate the standards for that “success” along the lines just noted. A U.S.-China bilateral agreement on cooperation on clean energy can impart momentum to Copenhagen, given the tremendous importance of both countries in the climate change equation. Finally, Beijing and Washington can use their influence in other key negotiating forums such as the Major Economies Forum to promote mutual

understandings that will potentially carry over very effectively into the formal UN Conference of Parties negotiations.

Astute U.S.-China cooperation can make expectations about Copenhagen more realistic and the meeting itself more likely to lay the groundwork for a full agreement before the Kyoto Protocol expires in 2012. But it will take astute leadership at the highest levels in both Washington and Beijing—and effective management of domestic politics in both countries—to achieve these results. The issue could not be more important; unfortunately, the chances of success are at this point quite uncertain.

# INTRODUCTION

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The year 2009 is unusually consequential in terms of the global response to climate change. Put simply, the Copenhagen meeting in December can either advance toward more effective worldwide coordinated actions or highlight fissures and sap the momentum for a global agreement. The roles of the United States and China will be influential in the run-up to Copenhagen, and in this context the politics of and progress toward U.S.-China cooperation on clean energy and climate change warrant attention.

Until 2009 Washington and Beijing regarded global warming as a relatively marginal issue in U.S.-China relations, but that is no longer the case. This

significant change potentially has implications both for bilateral ties and for the global negotiations.

This paper focuses on the clean energy and climate change component of U.S.-China relations. It reviews why the cooperation was so minimal before 2009 and the changes since then. It then analyzes the politics of forging U.S.-China cooperation in the coming months and makes policy recommendations on how best to structure a presidential level bilateral agreement on clean energy cooperation. Finally, it examines the need to re-focus the goals at Copenhagen and articulates how Washington and Beijing can play a critical role in teeing up that meeting for success.

# HISTORIC OBSTACLES TO U.S.-CHINA COOPERATION ON CLEAN ENERGY AND CLIMATE CHANGE

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In recent years both Washington and Beijing have played into the politics of clean energy in the other capital, but neither leadership has understood this reality very well. Many Chinese have viewed any U.S. effort to engage China on clean energy issues as simply a ploy by Washington to slow down China's rise by burdening the country with new and unfair responsibilities. Many in Washington have seen China's rapid rise as a manufacturing power as morphing into something even more threatening if the United States were to adopt measures to put a meaningful price on carbon while Chinese enterprises do not bear comparable burdens.

In addition, the George W. Bush Administration evinced considerable skepticism about the climate change issue and generally sought to deal with energy security issues by increasing domestic production of fossil fuels. The Chinese viewed this as a rich, technologically advanced country failing to take seriously its responsibilities for past carbon emissions and failing to take meaningful actions to cope with the threat of climate change. In this context, American efforts to encourage Beijing to assume greater responsibilities appeared

hypocritical, at best. China's own leaders would have difficulty in making the case for stringent efforts on the People's Republic of China's (PRC's) part on climate change grounds, given America's posture. Beyond this, most Chinese view the United States as defining what a "modern" lifestyle entails. As long as Americans are profligate in their energy use, Chinese will see that as the appropriate model to which to aspire. Not surprisingly, China therefore until 2009 justified most of its energy-related measures on the grounds of securing energy resources around the world, not reducing carbon emissions.

The United States, in turn, has repeatedly pointed to China's exemption, as a developing country, from any specific obligations under the Kyoto Protocol to suggest that Beijing was being hypocritical as it shirked its own responsibilities on this issue. Opponents of the Kyoto Protocol created a television commercial that showed China being cut out of a map of the world with a pair of scissors, as a voice said, "The Kyoto Protocol—it's not global and it won't work." President George W. Bush mentioned China often in explaining his administration's rejection of the Kyoto Protocol in 2001.<sup>1</sup>

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<sup>1</sup> See, e.g., <<http://www.whitehouse.gov/news/releases/2001/03/20010314.html>> and <<http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html>>.

In short, each country's posture has made the issue of climate change politically more difficult for the other country's leadership. Neither system took the other country's perspectives into serious account, and the basis for substantial bilateral cooperation has therefore remained very weak. It is a tribute to the commitment of former Treasury Secretary Henry Paulson that he was able to use the Strategic Economic Dialogue (SED) process

to forge a Ten-Tear Framework Agreement on Energy and Environment with the Chinese in 2008.<sup>2</sup> This document played an important role in laying a foundation for the future, identifying areas for cooperation, and helping forge a bureaucratic consensus on the Chinese side to move ahead on cooperation with the United States. Even this Framework, though, avoided a focus on clean energy linked to climate change.

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<sup>2</sup> Strangely, the English title for this document labels it, as indicated in the text, a "Ten-Tear Framework Agreement on Energy and Environment," but the Chinese title omits the term "Agreement" and simply calls this document a "Framework." When the Chinese refer to this agreement, they term it a "document," not an "agreement." This is very unusual and implies a failure to reach a consensus in Beijing on what terminology to use. It resonates with the decision in the 1990s to adopt the name "Asia-Pacific Economic Cooperation" (APEC), without ever indicating the type of organization or body that was being named.

## CHANGES SINCE JANUARY 2009

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Against the above background, significant change has occurred since January 2009. Perhaps most fundamental, a year ago few would have included the issue of clean energy and climate change as among those shaping the U.S.-China relationship, but now both sides acknowledge that it has become a Tier 1 issue in U.S.-China relations. This startling change reflects significant developments on both sides.

President Obama's views differ fundamentally from those of his predecessor on the clean energy and climate change issue. President Bush did not regard climate change as very compelling, and he trusted that technological change produced primarily by the private sector to address the issue adequately.<sup>3</sup> He effectively opposed having the United States take on binding emissions reduction obligations under multilateral regimes to improve its trajectory on carbon emissions.

In all of these regards, President Obama's tenure brings a marked change. President Obama regards climate change as a grave threat to the human condition and believes the government

has a necessary role to play<sup>4</sup> to bring necessary changes to the carbon emissions trajectory. He regards the issue as inherently transnational and believes the United States should play a leading role in shaping the global response to it. And he has chosen people for key positions who are deeply knowledgeable on climate-related issues and determined to improve America's capacity to address this problem. These include Steven Chu as Secretary of Energy, John Holdren as the head of the Office of Science and Technology Policy, Todd Stern as Special Envoy for Climate Change negotiations, Carol Browner as Energy Czar in the White House, and Lisa Jackson as head of the Environmental Protection Agency.

President Obama also believes that China, along with the United States, has a critical role to play in reducing the global trajectory on greenhouse gas emissions. He has been a strong supporter of increased U.S.-China cooperation on this issue. On this as on other foreign policy issues, he has sought to understand the sensitivities in the other capital and how the U.S. is perceived there as part of the strategy for sculpting the U.S. approach.

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<sup>3</sup> The Bush administration established a limited government program to encourage climate change related technology development <<http://www.climatechange.gov/about/index.htm>>, but the Obama administration is undertaking far larger and more robust government efforts on this issue.

<sup>4</sup> Through an economy-wide price signal generated via cap and targeted trade, investments, regulations, standards setting, R&D, etc.

In short, under President Obama U.S. policy has changed very substantially toward clean energy and climate change domestically, globally, and in terms of engaging China.

Beijing has also shifted its position. China's leaders have become increasingly concerned with the impact of climate change on the PRC and the measures required to reduce future damage. An authoritative October 2008 report by Chinese scientists made clear that China itself is one of the more vulnerable countries in the world to the ravages climate change can wreak.<sup>5</sup> In addition, Beijing actively seeks to develop constructive relations with the new Obama administration, and it now recognizes that its approach to climate change will be a serious factor affecting this effort. China's leaders also have found over the past two years that the issue of climate change comes up at virtually every international meeting they attend. They therefore had the Ministry of Foreign Affairs establish a Climate Change Office in order to develop better talking points for them to use on the issue. China wants to avoid becoming a target of criticism at the Copenhagen meeting in December 2009.

More generally, scientific findings continue to come out that indicate that previous estimates of climate change were likely too optimistic, that change is accelerating beyond expectations in studies as recently as two years ago, and that the time available to take significant action to hold

overall global temperature rise below the widely-accepted 2 degrees Centigrade level is shorter than previously thought.<sup>6</sup>

With these underlying changes since January 2009, U.S.-China discussions of cooperation on clean energy and climate change have greatly expanded.<sup>7</sup> When Secretary of State Hillary Clinton visited Beijing in February 2009 on her first foreign trip in her new role, she made clean energy and climate change cooperation a centerpiece of her agenda. Presidents Hu Jintao and Barack Obama included the issue among their joint priorities when they met at the G-20 in London in April and sketched out the future path of development for U.S.-China relations. Energy Secretary Steven Chu and Commerce Secretary Gary Locke highlighted U.S.-China clean energy cooperation on their joint trip to China in July, and serious lower level discussions have also taken place.<sup>8</sup> And House Speaker Nancy Pelosi (with her delegation) and Senator John Kerry focused on clean energy and climate change in their overlapping late May 2009 trips to China.

The opening plenary session of the new U.S.-China Strategic and Economic Dialogue (S&ED) on July 27, 2009, took up clean energy cooperation as a major topic, and the only official document signed by both sides at this inaugural S&ED meeting was a Memorandum of Understanding (MOU) on U.S.-China cooperation on clean energy and climate change. This MOU clearly

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<sup>5</sup> Information Office of the State Council of the PRC, *China's Policies and Actions for Addressing Climate Change* (Beijing: Foreign Language Press, 2008).

<sup>6</sup> Ross Garnaut, *The Garnaut Climate Change Review: Final Report* (Cambridge: Cambridge University Press, 2008). Available in pdf at: <<http://www.garnautreview.org.au/CA25734E0016A131/pages/draft-report>>. See also Jean-Marie Macabrey, "Researchers: Sea Levels May Rise Faster Than Expected," *New York Times*, March 11, 2009. <<http://www.nytimes.com/cwire/2009/03/11/11climatewire-researchers-warn-that-sea-levels-will-rise-m-10080.html>>; and the ongoing work of the IPCC: <<http://www.ipcc.ch/>>.

<sup>7</sup> "Clean energy" is used throughout this paper in its broadest sense to encompass all approaches that reduce CO<sub>2</sub> emissions as against a business as usual (BAU) trajectory in both power generation and energy use. It therefore includes energy efficiency as well as use of non fossil sources of energy. The energy sector, in turn, covers the overwhelming majority of the substantive efforts the U.S. and China can make together in order to reduce greenhouse gas emissions.

<sup>8</sup> Keith Bradsher, "U.S. Officials Press China on Climate," *New York Times*, July 15, 2009: <<http://www.nytimes.com/2009/07/16/world/asia/16warming.html>> and Christopher Bodeen, "China Response to Obama Climate Envoy Positive," *Associated Press*, June 9, 2009: <<http://abcnews.go.com/International/wireStory?id=7790923>>.

stated that cooperation on clean energy and climate change has become an important factor in the ongoing development of U.S.-China relations.<sup>9</sup> In addition, U.S. and Chinese counterparts have engaged the issue at meetings of the Major Economies Forum.<sup>10</sup> And looking ahead, both sides see this issue as one of the key topics in the presidential summit meeting expected in Beijing in November 2009. That summit, if managed well, might in turn bolster their respective positions at the Copenhagen meeting the following month.

The net results of the above activities are significant. As noted above, cooperation on clean energy and climate change is now seen in both Washington and Beijing as a major issue in U.S.-China relations, one that can significantly enhance the depth and stability of the relationship in the future. In addition, the world has awakened to the potential for U.S.-China cooperation on clean en-

ergy and climate change. In some quarters, this has produced concerns that the two countries might work together to reduce the urgency of the global response at Copenhagen.<sup>11</sup> But more generally, this has elicited agreement that U.S. and Chinese support for measures to reduce emissions of greenhouse gases is critical to the capacity of the world to limit climate change.

Having moved the issue of U.S.-China cooperation on clean energy and climate change to a more prominent place on both countries' agendas, the issues for both American and Chinese policymakers now are to understand and manage the politics involved in developing cooperation, to provide substance to the broad assurances of a desire to cooperate, and to leverage bilateral cooperation for better outcomes in the global climate change negotiations.

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<sup>9</sup> See Appendix 1 for the text of the MOU.

<sup>10</sup> For information on the Major Economies Forum on Energy and Climate, see: Office of the Press Secretary, The White House. Press Release, March 28, 2009.

<sup>11</sup> John M. Broder and James Kanter, "Despite Shift on Climate by U.S., Europe Is Wary," *New York Times* (July 7, 2009): <<http://www.nytimes.com/2009/07/08/science/earth/08climate.html?ref=world>>.

# U.S.-CHINA COOPERATION ON CLIMATE CHANGE: THE U.S. POLITICAL CONTEXT

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Before turning to the politics in Washington of U.S.-China cooperation on climate change, it bears mention that cross currents on this issue remain strong in Beijing. There continues to be a strong current of thought in China that views American pressure to address climate change as simply a U.S. effort to disrupt China's rapid rise by convincing Beijing to impose a price on carbon emissions. In addition, at the ministerial level and below strong vested interests argue against China's taking major measures to address climate change. Energy supply is a matter of national security, and environmental protection is a matter of socioeconomic concern. But China remains the world's largest coal consumer, and the size and importance of the country's high greenhouse gas emitting steel, aluminum, cement, power generation and petrochemicals industries are very impressive.

For China to make significant commitments at Copenhagen, therefore, the highest level national political leadership will have to make courageous decisions in the face of a system that is inherently tilted strongly against such action. Such decisions will be driven by overall strategic considerations.

In this context, what the United States itself does and how it deals with China on this issue are very important.

A key factor is whether President Obama will be able to have cap and trade legislation adopted in the Congress during the fall of 2009. The President views this as important in its own right and as providing a strong basis for the U.S. to play a serious role in the negotiations for a new UN Agreement. The U.S. at Kyoto signed a protocol that it then could not get ratified at home. President Obama wants to avoid a similar situation.

The House of Representatives passed a cap and trade bill in June 2009.<sup>12</sup> This bill helps to make the case at home and abroad that things have changed in Washington with regard to energy legislation. In addition, the Environmental Protection Agency has made clear that it is prepared to use its existing statutory authority to regulate carbon emissions under the Clean Air Act if the Congress fails to act to reduce the threat such emissions pose.<sup>13</sup> Nevertheless, President Obama rightly sees enormous value in having a bill on his desk for signature before Copenhagen—or

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<sup>12</sup> John M. Broder, "House Passes Bill to Address Threat of Climate Change," *New York Times* (June 26, 2009): <<http://www.nytimes.com/2009/06/27/us/politics/27climate.html>>. The full Text of bill H.R. 2998 is available at: <<http://thomas.loc.gov/cgi-bin/query/z?c111:H.R.2998>>.

<sup>13</sup> Brian Wingfield, "A Chat With America's Top Green Cop," *Forbes.com*, August 31, 2009: <<http://www.forbes.com/2009/08/28/epa-lisa-jackson-business-beltway-epa.html>>.

at least far enough along that the administration feels confident in what it can commit to at Copenhagen. In lieu of this level of progress domestically, the administration has to consider whether taking on significant obligations at Copenhagen might actually increase opposition in the Congress, with some alleging that the administration is prepared to “give up American sovereignty.”

The action on cap and trade legislation has moved to the Senate. Although there as in the House the situation is more favorable for such legislation than it has ever been before, the obstacles to having a bill on the president’s desk remain very considerable. These take several forms.

First, health care reform is dominating the Senate agenda for at least the early part of the fall. Even as Senator Kerry introduces the cap and trade legislation drafted in the Environment and Public Works and other committees,<sup>14</sup> the dominant issue will be health care. And health care reform is potentially consequential for cap and trade legislation in three ways.

- If health care reform, as expected, takes up the major part of the fall, it will push the consideration of cap and trade legislation back, potentially to the point where it cannot be done during 2009. Even when health care reform has cleared the Congress, moreover, consideration of financial regulation may compete with cap and trade legislation for attention on Capitol Hill.
- How President Obama handles health care reform may prove consequential for the cap and trade effort. If the president is able to mobilize popular support and demonstrate strong leadership and sharp political skills

in getting health care through the Senate, then the administration will be in good shape to promote favorable consideration of a significant cap and trade bill. If, however, the health care bill increases rancor in the Democratic ranks and leaves the president looking politically wounded, then opponents (and there are many!) of cap and trade legislation will see an opening they can exploit to prevent a good bill from becoming law. Before the health care effort moves considerably farther along, it is impossible to know how this dimension of the politics in the fall 2009 will play out.

- Opponents of cap and trade may argue that health care reform will cost so much, especially when deficits are already at record levels, that it would be unwise to take on the additional massive costs that these individuals will contend a cap and trade bill will impose.

Second, between health care reform and the recession, the country has not focused on clean energy and climate change legislation. Cap and trade is a system that is simple in theory but very complex in practice. Very few Americans will grasp how the system works and feel confident that they know that this will be an effective approach to dealing with climate change. In addition, there is potential concern about market failures under such a complex system with so much money at stake, especially in the wake of the financial crisis. Even more, polls indicate that there is widespread awareness that climate change is an issue but very little understanding of what it is about, of the level of scientific consensus on the issue, of the adverse consequences for American prosperity and security, and of the reasons why early action

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<sup>14</sup> Edward Luce and Sheila McNulty, “Democratic Battle Lines Separate Green-friendly and Smokestack States,” *Financial Times* (September 16, 2009), p. 4. All relevant committees are moving pieces of this legislation simultaneously to be packaged later by leadership. This rather unusual process is apparently intended to enlarge the buy-in across the Senate.

is necessary even if the greatest dangers are potentially decades into the future.<sup>15</sup> Put simply, the president needs to develop the capacity to educate the American public on this issue in a convincing way. Given the complexity of the issue and its scope, that is a very daunting task, even for as effective a communicator as is President Obama. Unless he is prepared to make this effort and finds effective means to drive the message home, even many senators who appreciate the stakes may find that they lack voters' support to enable them to vote in favor of cap and trade legislation.<sup>16</sup>

Third, the Republican Party in the Senate is prepared to vote overwhelmingly against cap and trade legislation. Some of this is based on misinformation,<sup>17</sup> some on principle, and some on partisan considerations. The net result is that the president has to enlist the support of nearly every Democrat to obtain the sixty votes likely needed in the Senate, and that will be extremely difficult. Many Democrats come from states that are major coal producers or base their power generation overwhelmingly on coal. Many, too, represent industrial states and fear that imposing a cost on carbon emissions will disproportionately harm their state's competitiveness and capacity to recover from the current recession. And some senators simply believe that it is imprudent to begin to set up a system to impose a cost on carbon at a time when the economy is mired in recession.

These concerns are reflected in the group comprising the so-called Gang of 16. Senator Debbie Stabenow (D-Michigan) organized a group of her Democratic colleagues in the 2008 climate bill debate to insist that the scope for emissions auctions be adjusted so as to ease the burden on major manufacturers. She has reassembled that group to try to move the 2009 legislation toward a less burdensome set of measures.<sup>18</sup> Other groups, such as the American Coalition for Clean Coal Electricity, are targeting the constituents of the Gang of 16 in a massive grass roots effort in those states to oppose climate change legislation.<sup>19</sup> This Coalition, which is organized by the coal industry, is reportedly prepared to spend as much as \$40 million in its overall campaign on behalf of the coal industry in industrial states.

China plays into the above factors in a serious way and therefore presents a difficult issue for the administration. Despite the reality that China is taking significant measures to reduce its carbon emissions as it continues to pursue high speed economic growth,<sup>20</sup> the image among many on Capitol Hill is that Beijing refuses to take the clean energy and climate change issues seriously. This stokes fears that imposing a price on carbon emissions on American firms will simply increase the competitive advantage that Chinese manufacturers already enjoy. At a minimum, it is argued, this will undermine American competitiveness and

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<sup>15</sup> See "Increased Number Think Global Warming Is 'Exaggerated,'" *Gallup*, March 11, 2009: <<http://www.gallup.com/poll/116590/Increased-Number-Think-Global-Warming-Exaggerated.aspx>>; "Energy Update-Voters Closely Divided Over Cause of Global Warming," *Rasmussen Reports*, June 18, 2009: <[http://www.rasmussenreports.com/public\\_content/politics/current\\_events/environment\\_energy/energy\\_update](http://www.rasmussenreports.com/public_content/politics/current_events/environment_energy/energy_update)>.

<sup>16</sup> Cf. Senator Richard Lugar's comments at the June 4, 2009, hearing held by the U.S. Senate Foreign Relations Committee. Text of Senator Lugar's statement available at: <<http://foreign.senate.gov/testimony/2009/LugarStatement090604a.pdf>>.

<sup>17</sup> Such as on the purported cost of cap and trade legislation per capita. See the exchange on this issue at the Senate Foreign Relations Committee hearing, June 4, 2009, video of hearing available at: <<http://foreign.senate.gov/hearings/2009/hrg090604a.html>>.

<sup>18</sup> The members of the Gang of 16, all Democrats, are: Kent Conrad and Byron Dorgan (ND), Tim Johnson (SD), Ben Nelson (NE), Carl Levin and Debbie Stabenow (Michigan), Evan Bayh (IN), Sherrod Brown (OH), Jim Webb (VA), Robert Byrd and Jay Rockefeller IV (WV), Claire McCaskill (MO), Blanche Lincoln and Mark Pryor (AR), Jeff Bingaman (NM), and Michael Bennet (CO).

<sup>19</sup> Erika Lovely, "Gang of 16 regroup to flex muscle," *Politico.com* (March 4, 2009). Accessed at: <<http://www.politico.com/news/stories/0309/19583.html>>. On Democratic divisions on this issue, see also Luce and McNulty, *op cit*.

<sup>20</sup> For a summary of these measures, see Kenneth Lieberthal and David Sandalow, *Overcoming Obstacles to U.S.-China Cooperation on Climate Change* (Washington, DC: The Brookings Institution, 2009).

cost American jobs. Even worse, some say, it will actually encourage American firms to shift production to China and therefore will offset most if not all of the carbon reductions that American laws are designed to produce.

The most popular approach to remedy this threat is to adopt some form of tax at the border in order to raise the price of imports from countries such as China that do not adopt clean energy policies comparable to America's. There are various ways such a tax could be structured, and it may be possible to make it compatible with the WTO.<sup>21</sup> The urge to use a border tax provision to protect American jobs is understandable and politically attractive, especially at a time of recession. If carefully structured around reasonable standards and with adequate presidential discretion, such a tax in theory could make sense. But given the politics of the issue, an effort to legislate such a tax runs a high risk of creating counterproductive public policy.

In reality, moreover, the embedded carbon content of Chinese exports to the U.S. is extremely low. The major carbon emitting Chinese manufacturing sectors—cement, power generation, steel, aluminum, and petrochemicals—do not send their products into the American market in any significant quantity. Most Chinese manufacturing exports to the United States consist of products that have been assembled in China but whose major components have been produced elsewhere in Asia and imported to China for final assembly and re-export. Therefore, a border tax that discriminates against Chinese exports on the basis that they have a competitive advantage

because China does not have a climate change program comparable to that in the U.S. is fundamentally misplaced.<sup>22</sup>

In addition, as noted above, China in reality has adopted serious measures to improve energy efficiency, develop clean technologies, mandate renewables, improve automotive mileage standards, and in other ways reduce its carbon emissions well below what a BAU trajectory would have been. In most of these spheres its national level efforts considerably exceed those Washington has adopted to date.

That said, the recent U.S. and Chinese records on CO<sub>2</sub> mitigation are difficult to compare. In China, carbon emissions continue to climb rapidly because the rate of urbanization drives carbon intensive infrastructure development on a huge scale, while the U.S. has no comparable process underway. In the United States, many localities have undertaken serious carbon mitigation measures, even if the national government has lagged behind on this issue. China has significant problems in the capacity for rigorous implementation of its national policies. And China is undertaking these measures at a state in its development when its per capita carbon emissions and per capita income are both a small fraction of the comparable figures in the U.S.

Even though meaningful comparisons of efforts in the U.S. and China are difficult to make, it is clearly untrue that the U.S. is leaping ahead and China has failed to take the issues of clean energy and climate change seriously. The reality is that both countries have a long way to go to move

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<sup>21</sup> See Frankel, Jeffrey. "Global Environmental Policy and Global Trade Policy," Discussion Paper 08-14, Harvard Project on International Climate Agreements, Belfer Center for Science and International Affairs, Harvard Kennedy School, October 2008, available in .pdf at: <[http://www.ft.com/cms/s/0/d9d8ad2e-61e9-11de-9e03-00144feabdc0.html?nclick\\_check=1](http://www.ft.com/cms/s/0/d9d8ad2e-61e9-11de-9e03-00144feabdc0.html?nclick_check=1)>, and "Trade and Climate - A report by the United Nations Environment Programme and the World Trade Organization," The United Nations Environment Programme and the World Trade Organization (June 2009), available in .pdf at: <[http://www.unep.org/pdf/pressreleases/Trade\\_Climate\\_Publication\\_2289\\_09\\_E%20Final.pdf](http://www.unep.org/pdf/pressreleases/Trade_Climate_Publication_2289_09_E%20Final.pdf)>.

<sup>22</sup> Trevor Houser, Rob Bradley, Britt Childs, Jacob Werksman and Robert Heilmayr, *Leveling the Carbon Playing Field: International Competition and U.S. Climate Policy Design* (Washington: Peterson Institute for International Economics and World Resources Institute, 2008).

significantly to low carbon growth paths. Neither is in a position to declare that the other is not making a comparable effort.

China, therefore, will deeply resent any tax at the border that is based on the assertion that the U.S. is doing what it should and China is shirking its responsibilities.<sup>23</sup> This would especially rankle in Chinese eyes because the United States is so much richer than is China and so much more economically developed in every way. A border tax would, therefore, most likely stoke Chinese suspicions that America is using clean energy and climate change as excuses to impose protectionist measures and cut China off from a lucrative market. The Chinese would, under those circumstances, look for ways to counter this new threat to their development. A U.S. border adjustment tax would most likely lead Beijing to back away from bilateral U.S.-China cooperation on clean energy and climate change and to become more determined to press a “developing country” agenda in the global climate change talks.

Beijing also harbors doubts about whether the U.S. is really going to adopt clean energy legislation. It suspects that America may be using the promise of such action to lure China into taking on onerous commitments to curb carbon emissions, even as the U.S. then fails to muster the political will to do its share. There is, therefore, a conundrum with which the administration must wrestle—rapid action on cap and trade legislation that includes a border adjustment tax makes clean energy and climate change cooperation with China more difficult, but without a clear prospect of serious cap and trade legislation the Chinese are skittish about agreeing to significant U.S.-China cooperation or making serious commitments in Copenhagen.

To move its own cap and trade agenda forward, the administration would like to be able to point to the serious prospect of clean energy and climate change cooperation with China in order to make the case that: 1) China is doing a lot to combat climate change and is not simply trying to free ride on the efforts of others; 2) the U.S. and China can do a great deal together that will redound to the benefit of both sides even as such cooperation improves efforts to combat climate change; and 3) if the U.S. does not adopt cap and trade legislation or adds burdensome border adjustment tax provisions to it, then the advantages of U.S.-China cooperation will be lost and the capacity for the U.S. to lead in the global effort will also be reduced. But these arguments rely on solid progress in developing U.S.-China cooperation on clean energy and climate change. And the major opportunity to highlight that cooperation and to codify it in a document that specifies the mutual commitments will come at the U.S.-China presidential summit in Beijing that will take place in November 2009.

As the cap and trade legislative effort gets under way, the administration thus can seek to treat China as an opportunity. There is the prospect, through serious cooperation, of involving American firms in the development of effective measures to combat climate change. There is at the same time the prospect of strengthening the hands of both countries in promoting progress in the global climate change talks. To make China into an opportunity, though, progress in the bilateral talks must enable the administration to make the case for cooperation candidly and factually, as there will be many skeptics on the Hill seeking to dismiss these arguments as wishful thinking.

Inevitably, part of the debate on Capitol Hill will revolve around various ways of seeing China as

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<sup>23</sup> For Chinese official opposition to a U.S. border tax adjustment, see: <[http://news.bbc.co.uk/chinese/simp/hi/newsid\\_7950000/newsid\\_7951900/7951978.stm](http://news.bbc.co.uk/chinese/simp/hi/newsid_7950000/newsid_7951900/7951978.stm)>, and <[http://news.xinhuanet.com/fortune/2009-07/15/content\\_11714274.htm](http://news.xinhuanet.com/fortune/2009-07/15/content_11714274.htm)>.

a threat on the climate change issue. In its bald-est form, this argument stipulates that increases in China's greenhouse gas emissions will more than offset any reductions that American actions will produce, thus leaving America and the world worse off while China free rides on global efforts.

To be most effective, the administration is well advised to make the case that China not only is investing heavily to reduce its own carbon footprint but also is developing the industries and technologies necessary to become a major winner as the world places increasing value on green technology. Recent Chinese investments in wind, solar, and nuclear are very impressive,<sup>24</sup> and the administration can argue that it is critical for cap and trade legislation to incentivize American firms to increase their efforts in clean energy if America is not to lose out in the competitive world of a clean energy future. A potentially helpful variant of the argument would point to the opportunities for American and Chinese firms to work together

in selected areas where such cooperation makes especially good sense in order to develop new technologies and business models from which both sides can profit.

Some inevitably will point to Chinese practices that amount to protection of their infant clean energy industries and state-assisted efforts to undermine foreign competition and claim market share abroad and will use this to bolster the case for countervailing American measures.<sup>25</sup> These Chinese tendencies are clearly evident and from an American perspective can lead to very undesirable outcomes. This makes it all the more important that the U.S. develop serious cooperative efforts with China in the clean energy and climate change fields soon so as to shift the Chinese trajectory in a more constructive direction. Given the likely importance of clean technology globally in the years and decades to come, this may prove to be a critical moment in which to set things onto a better course.

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<sup>24</sup> Investment in nuclear (71.85%) and wind power (88.10%) soared in 2008, while investment in coal-fire plants declined year-on-year: "China's energy sector rises to global economic challenge," *People's Daily* (February 16, 2009): <[http://www.china.org.cn/environment/opinions/2009-05/25/content\\_17829361.htm](http://www.china.org.cn/environment/opinions/2009-05/25/content_17829361.htm)>. Overall Investment in renewable capacity was \$10.8 billion in 2007, up 91% from 2006, mainly reflecting the above-noted new investment in the wind sector: "UNEP: clean energy investment grows in China," *People's Daily* (July 19, 2008): <[http://news.xinhuanet.com/english/2008-07/19/content\\_8574930.htm](http://news.xinhuanet.com/english/2008-07/19/content_8574930.htm)>. Over the next 3 years China will reportedly will build eight more nuclear plants with a total of 16 reactors: "China invests US\$85b in energy," Associated Press (February 4, 2009): <[http://www.straitstimes.com/Breaking%2BNews/Money/Story/STIStory\\_334112.html](http://www.straitstimes.com/Breaking%2BNews/Money/Story/STIStory_334112.html)>. Annual investment in new hydroelectric power is to increase from \$6 billion to \$10 billion: "UNEP: clean energy investment grows in China," *People's Daily* (July 19, 2008): <[http://news.xinhuanet.com/english/2008-07/19/content\\_8574930.htm](http://news.xinhuanet.com/english/2008-07/19/content_8574930.htm)>.

<sup>25</sup> Keith Bradsher, "China Racing Ahead of the U.S. in the Drive to Go Solar," *New York Times* (August 25, 2009), highlights these measures in the solar energy sector.

## U.S.-CHINA SUMMIT

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Against this background, Presidents Barack Obama and Hu Jintao have agreed to hold a summit in Beijing in the latter half of 2009. That meeting is expected to occur around mid November as part of the President's trip to Asia to participate in the APEC Leaders Meeting. A presidential summit is an action forcing event that, if used astutely, can advance significantly the cause of U.S.-China cooperation on clean energy and climate change. Of note, this summit is likely to take place less than a month before the Copenhagen meeting.

Although Presidents Obama and Hu meet a number of times a year,<sup>26</sup> a formal stand-alone summit is unique. A summit entails especially extensive planning and interaction at the staff levels for both leaders, and almost always both sides seek to produce "deliverables"—specific agreements that demonstrate the progress that is being made in the relationship. An agreement on U.S.-China cooperation on clean energy would fit very well with the goals of this summit in demonstrating that the United States and China are effectively coming to grips with finding significant ways to cooperate on a truly global issue, climate change.

In addition, such an agreement could provide impetus both to the American effort to put a cap and trade system into law and to the U.S. and China as they prepare for the Copenhagen meeting.

As noted above, the U.S. and China signed a Ten-Year Framework Agreement on Energy and Environment at the Strategic Economic Dialogue (SED) in June 2008.<sup>27</sup> This Framework specified significant areas for potential U.S.-China cooperation. Given the Bush Administration's disinterest in climate change, the document never mentions that issue. Indeed, "clean energy" itself was added as an area of cooperation only during the final SED meeting in December 2008. At that point, extensive discussions took place on follow-up efforts.

Because the Bush White House did not agree on the importance of the clean energy and climate change issues in general, the discussion of cooperation on energy and the environment took place under the somewhat peculiar aegis of the SED led by the Treasury Department. In addition, the change in U.S. administrations in January 2009 unavoidably disrupted follow-up efforts to implement the Ten-Year Framework Agreement.

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<sup>26</sup> In 2009, these include meetings associated with gatherings of the G-20, the G-8 (which China attends as one of the "plus" countries), the APEC Leaders Meeting, and the UN General Assembly opening in September.

<sup>27</sup> Details of the agreement available at: <<http://treas.gov/press/releases/hp1311.htm>>.

The Ten-Year Framework nevertheless served an important role. Treasury Secretary Henry Paulson attached enormous importance to climate change and worked hard to develop U.S.-China cooperation around that issue. The climate change issue itself never fully engaged either White House or Chinese enthusiasm, but the effort to finalize the framework nevertheless played a very important role on the Chinese side. Within Beijing, the pressure to put this together produced a serious process of consensus building that forged the capacity to sign this rather wide-ranging document. It produced a similar interagency process in the U.S.

The new Obama administration from the start regarded clean energy and climate change as very high priority issues, but there have been inevitable hiccups as the new administration has sought to engage with the Chinese side effectively on bilateral cooperation.

One issue has concerned how to handle the clean energy and climate change issue within the successor to the SED, the new Strategic and Economic Dialogue that is co-chaired on the U.S. side by the Secretaries of State and Treasury and on the Chinese side by Vice Premier Wang Qishan and State Councilor Dai Bingguo. Within the U.S. side, Secretary of State Clinton is strongly committed to playing a leading role in America's international diplomacy around clean energy and climate change, while Treasury Secretary Geithner does not have the passion for these issues that his predecessor brought to bear. On the Chinese side, State Councilor Dai is Secretary Clinton's functional counterpart in the S&ED, but it is Vice Premier Wang who forged the 2008 consensus and who remains highly engaged with this issue.

This lack of parallelism created significant problems in coordination that vexed preparations for

the July 2009 inaugural S&ED meeting and occupied much of the time of the respective staffs.<sup>28</sup> The final compromise was to take up the clean energy and climate change issue in the opening plenary session, when all four co-chairs would participate in the discussion. In the ensuing twenty-four hours the two sides finalized agreement on a Memorandum of Understanding to Enhance Cooperation on Climate Change, Energy and the Environment,<sup>29</sup> which was signed on July 28th.

This MOU notes specifically that, "Cooperation on climate change, clean and efficient energy and environmental protection can serve as a pillar of the bilateral relationship, build mutual trust and respect, and lay the foundation for constructive engagement between the United States and China for years to come, while also contributing to multilateral cooperation." It calls for cooperation, *inter alia*, on energy conservation and energy efficiency, renewable energy, cleaner uses of coal, carbon capture and storage, sustainable transportation (including electric vehicles), modernization of the electrical grid, joint research and development of clean energy technologies, and combating climate change and promoting low-carbon economic growth.

The problem with the MOU is not in its scope or ambition but rather in the fact that it is neither an agreement nor a partnership. In Chinese practice, the term "MOU" is employed to indicate that both parties consider an issue of sufficient importance that they agree to discuss it intensively in order to ascertain whether they can reach an agreement on how to proceed with it. This MOU is, therefore, aspirational. It does not in itself command authority among the many pertinent bureaucratic actors on the Chinese side. The November presidential summit provides the opportunity to transition from an aspirational document to an action-focused agreement.

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<sup>28</sup> On the Chinese side this was especially difficult, as China does not normally assign two leaders of basically equal rank to co-lead one activity.

<sup>29</sup> See Appendix I.

In both countries the energy-related policy community is more fully defined than is the broader and more diffuse climate change community. Cooperation focused on clean energy, therefore, can effectively target climate change while potentially avoiding some of the controversies and definitional problems that an explicit broader climate change objective might entail.<sup>30</sup>

Preparation for a presidential summit agreement on clean energy requires reaching agreement on three dimensions: guiding principles, substantive priorities, and implementation mechanisms. Work on all of this must begin in the early fall, as in China a consensus must be reached at the top of the system before President Hu can sign such an agreement. The advantage is that, once the agreement is signed, it should carry substantial weight in Beijing.

*Principles* are always very important in an agreement with the Chinese. The agreement negotiated for the November summit should state clearly that it builds directly on the Ten-Year Framework. Given the effort made internally in Beijing to secure a consensus in favor of that earlier document, appearing to neglect that consensus now risks undermining the earlier consensus and creating a very unfavorable dynamic.

It is also important for the U.S. and China to agree that the objective situation requires effective cooperation, even if there are ongoing differences on the traditional issues of principle that have divided the industrialized from the developing countries. These differences are briefly as follows. Beijing focuses on the facts that the U.S. has overall since 1900 emitted more carbon dioxide than has any other country, U.S. per capita emissions remain nearly five times China's per capita emissions, and the U.S. is already an urban society with mature urban infrastructure. The U.S.

counters that China's recent emissions trajectory indicates that China will be the largest cumulative historical emitter if the time frame is extended forward to 2040, that China's total national emissions are now the largest in the world, and that the current U.S. infrastructure is not energy efficient and will be more expensive to retrofit or replace than would be the case if the U.S. were starting from scratch now.

The reality is that the facts adduced by each side are valid, and each is presenting the facts that most effectively limit its responsibilities. Neither leadership is able to accept the other side's perspective as "the correct" approach, and thus making such acceptance a condition of serious cooperation is a formula for failure. Rather, both sides should agree that as a matter of principle:

- Each will continue to articulate its own principled view;
- Each accepts that the other side's facts are also valid; and
- Both agree that, in view of the pressing need for serious cooperation, they will set aside differences and move ahead on cooperative efforts that present win-win opportunities.

In short, a U.S.-China bilateral agreement on clean energy cooperation should be feasible despite the disagreements on principles that have made the global talks so difficult. The above type of consensus in the U.S.-China bilateral agreement may also help negotiators in the global talks find their way forward.

In addition, the U.S. and China should pledge to reduce barriers that inhibit investment in clean energy in either direction and to seek to harmonize respective regulatory provisions and standards. These can be important measures for permitting new products and processes to gain

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<sup>30</sup> Lieberthal and Sandalow, *op cit.*

scale more rapidly by growing in both countries' markets. Scale is critical to bringing the cost of new breakthroughs down to a level that can meet market tests.

Reaching agreement on *substantive priorities* requires intensive, practical consultations. Each country has strong interest groups and its own concerns. But a presidential agreement on clean energy cooperation must establish initial priorities if it is to amount to more than a feel-good document that provides too little direction to motivate serious action.

A presidential level agreement, though, cannot go into serious detail on specific projects and details. Substantive priorities should, therefore, assume the form of identifying some particular areas of initiative and should set up a process that will move quickly to turn those identified priorities into concrete programs and projects. The key considerations in negotiating the priorities should include:

- Identifying a key priority in each of five areas: coal, transportation, renewables, energy efficiency, and joint R&D.
- Prioritizing initiatives where the U.S. and China bring complementary capabilities to the table so that the initial major efforts can meet the test of being potentially significant win-win cooperative opportunities.
- Including among these at least one priority in which the U.S., without a major expenditure of funds, can contribute significantly to Chinese capabilities that it is in the interests of both countries that China develop.
- Supporting at least one major program that will generate a sense of excitement among the publics in both countries so that U.S.-China clean energy cooperation captures

the popular imagination and begins to build a supportive political base in each country.

Moving from the above guidelines to identifying specifically what should be included in a bilateral agreement will require both conceptual and practical discussions among pertinent national level government officials and, in linked fashion, among the scientists, corporations, local officials, and NGOs of both sides. With time short, both governments should accord priority to organizing those discussions and moving them forward. Almost certainly, many of the activities supported by the presidential agreement will involve various types of public-private partnerships with both national and local governments variously involved on both sides.

It is beyond the scope of this paper to identify particular initiatives that should be incorporated into a presidential agreement. The following discussion is intended simply to highlight the reality that efforts that fit within the above guidelines are quite feasible.

*Coal:* Both the United States and China are coal countries. While each aspires to reduce substantially its reliance on coal in the future, the reality is that coal will remain a critical source of power in each country for many years—and likely many decades—to come. There is no such thing as “clean coal,” but there are approaches to reducing carbon dioxide emissions from coal that hold promise of substantially reducing the climate change impact of coal-fired power.

Carbon capture and sequestration (CCS) is one of the approaches that holds promise. CCS entails separating out CO<sub>2</sub> emissions, capturing that CO<sub>2</sub> stream, and then pumping it into the ground for permanent storage. Within this broad framework there are a very large number of questions that remain unanswered. Where is it safe to store CO<sub>2</sub> underground? What uses (such as utilizing CO<sub>2</sub>

to pressure oil out of the ground) can be made of some of that CO<sub>2</sub>? How can costs be driven down to the point that this approach imposes a feasible economic burden? What kinds of engineering problems will need to be resolved? How much will it cost to convert a coal fired power plant so that its CO<sub>2</sub> emissions can be captured and stored? How much does this vary according to the technology used in the power plant involved?

There are various experiments in carbon capture and sequestration that have begun in China, the U.S., and Europe, but none of these has been at full commercial scale.<sup>31</sup> In addition, a great many experiments will be required in order to gain the necessary experience to cope with each of the above questions and more. For example, this approach to reducing greenhouse gas emissions can be highly sensitive to the specific geology of the location chosen for sequestering the CO<sub>2</sub>.

U.S.-China cooperation to develop carbon capture and sequestration capability makes great sense because the two sides bring complementary capabilities to the effort. The American side to date has done more theoretical work and garnered more technical data. But in the U.S., it takes an average of six years to clear the regulatory hurdles to construct a carbon capture and sequestration test bed facility, while the comparable period in China is roughly two years. The Chinese side also has advantages in terms of being able to scale up operations at less cost than is the case in the U.S., while U.S.-China cooperation will permit both sides to adopt regulatory approaches that will make it far easier to achieve scale once initial technologies have been developed. Complementary engineering capabilities further enhance the

potential value of cooperative projects to develop and deploy carbon capture and sequestration. And cooperative public-private partnerships can facilitate the effort to raise funds, develop and share intellectual property, scale up, and drive down costs to the point where this technology becomes economically viable.

There are, of course, uncertainties around carbon capture and sequestration, including questions as to whether it will ever be economically viable, whether it will take such a long time to deploy at a significant scale that it should not be a priority approach, and whether it will prove technologically feasible. This example is, therefore, presented simply to illustrate that there are important areas in which U.S.-China capabilities are highly complementary. Whether this particular approach should be a top priority requires serious discussions between the two governments. At this point, it appears the U.S. side is more enthusiastic about the potential for CCS than is the Chinese side.

*Energy Efficiency:* Energy efficiency provides an arena in which the U.S. can contribute to Chinese capabilities at relatively modest cost. Under the Ten Year Framework the U.S. Department of Energy began a specific program to help China's one thousand largest enterprises to do energy audits and analyze how to improve energy efficiency.<sup>32</sup> While well intentioned, this program has made very slow progress to date. Presidential endorsement might help move it onto a faster track. There is considerable potential for important results if the program can be scaled up. This is an area in which U.S. expertise is well-developed and technology transfer can greatly facilitate improvements in China's energy efficiency effort. It might

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<sup>31</sup> For examples of projects in the U.S., Europe, and China, see: <<http://www.egovmonitor.com/node/27527>, <<http://www.climnet.org/CTAP/CTAP.htm#research>>, <<http://www.wri.org/stories/2009/03/ensuring-safe-carbon-capture-and-storage-china>>, and <<http://www.nytimes.com/cwire/2009/06/22/22climatewire-a-sea-change-in-chinas-attitude-toward-carbo-94519.html>>.

<sup>32</sup> "U.S.-China Joint Fact Sheet: Ten Year Energy and Environment Cooperation," Website of the U.S. Department of Treasury, December 2008: <<http://treas.gov/press/releases/hp1311.htm>>.

also generate demand that American companies are well positioned to meet in such areas as sensors and other types of instrumentation.

An extension of this program might target China's over 200 local energy offices. These have been established to help localities improve their energy efficiency. But virtually none of these offices has personnel who have sufficient training in performing energy audits. The United States has relatively advanced techniques for doing such audits. It might be highly cost effective for America to provide training to personnel from each of China's local energy offices. China currently builds roughly two billion square meters of floor space per year—about half of the world's total. Serious improvements in the capabilities of local regulators to determine the energy efficiency of new buildings could have an important impact on energy efficiency and on greenhouse gas emissions.<sup>33</sup>

*Green Energy Corps:* There are various types of programs that can potentially tap the popular imagination in both countries. One, for example, would be to develop a bilateral Green Energy Corps, comprised of young people from both countries who would do a period of national service by working together in teams to do projects such as retrofitting buildings to improve their energy efficiency or providing technical assistance to local governments, NGOs, and businesses to improve their energy outcomes. Such teams could be deployed in both countries or even in third countries. Many existing programs—such as the International YMCA, Sister City program, AFS, Fulbright and National Science Foundation—could potentially provide platforms for various component parts of the Clean Energy Corps effort by incentivizing them to find ways to

incorporate aspects of a clean energy corps into their programming. There would not be a single approach to what the clean energy corps does. Rather, each participating institution would come up with its own activities to meet overall goals. And while it would be infeasible to have a million young people travel from one country to the other, through digital/electronic programming and other means it should be possible to actively involve a very large number of young people over the course of a few years.<sup>34</sup>

Any such program would, of course, have to find ways to manage numerous bureaucratic obstacles. But this is an idea that could tap into the idealism of the youths of both countries and become an inspiring example of cooperation among members of the younger generation in the world's two largest greenhouse gas emitting countries in order to reduce the dangers of future climate change.

As noted above, a presidential level agreement can specify agreed-upon principles and articulate key priorities, but it is critically important that it also set up *procedures* to assure prompt and serious follow up. This requires on each side an interagency group specially designated to implement the agreement, to consult intensively with the comparable implementation group on the other side, and to report back regularly to the respective president on progress and recommendations. The S&ED in July 2009 established such groups to oversee clean energy cooperation in both countries. On the U.S. side, this is led jointly by the Secretaries of State and Energy, while on the Chinese side it is led by the NDRC. Either these bodies or specially-designated subgroups of them should be tasked with following up the presidential agreement and issuing regular reports on implementation.

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<sup>33</sup> Barbara Finamore, "Four ways the U.S. and China can start cooperating now to reduce emissions and tackle climate change together," Natural Resources Defense Council – Switchboard website, August 21, 2009: <[http://switchboard.nrdc.org/blogs/bfinamore/four\\_ways\\_the\\_us\\_and\\_china\\_can.html](http://switchboard.nrdc.org/blogs/bfinamore/four_ways_the_us_and_china_can.html)>.

<sup>34</sup> The author wants to thank Anne Phelan to contributing to his thinking on this issue.

Both presidents must, of course, also pledge to put resources behind their commitment and must make clear that this agreement is an important pillar in U.S.-China relations and thus must command serious attention.

There is a potentially important issue in specifying how this U.S.-China agreement on clean energy cooperation relates to other bilateral and multi-lateral efforts on clean energy and climate change in which the U.S. and China respectively are engaged. There is no question that, as the world's two largest greenhouse gas emitters, the United States and China can do a great deal of good if they can initiate serious cooperation on clean energy. This will pave the way to faster substantive

progress in moving to a cleaner energy future. It will embed clean energy cooperation in the heart of the U.S.-China relationship and thereby give both countries increased reasons to continue to pursue this effort. And it will increase hope in the rest of the world that the major players are becoming serious about rising to the challenge of climate change, thereby potentially increasing the potential for cooperation among other countries. At the same time, it is important for both Washington and Beijing to make clear that their bilateral cooperation does not come at the cost of full cooperation with others,<sup>35</sup> and indeed that activities under their agreement will welcome participation by others wherever it is advantageous to the goals of the program to have this.

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<sup>35</sup> The Chinese, for example, already have cooperative projects with countries in the EU, and with Japan, Singapore, and others. For China-EU cooperation on climate change and energy issues, see: <<http://ec.europa.eu/environment/climat/china.htm>>; for China-Japan cooperation projects, see: <[http://www.meti.go.jp/english/press/data/nBackIssue20081128\\_01.html](http://www.meti.go.jp/english/press/data/nBackIssue20081128_01.html)>; for China-Singapore cooperation projects, see: <<http://www.guardian.co.uk/world/2009/jun/04/china-singapore-tianjin-eco-city>>.

## DEALING WITH COPENHAGEN

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The Copenhagen meeting in December 2009 will bring together representatives of 192 countries to try to agree on a successor regime to the Kyoto Protocol, which expires in 2012.<sup>36</sup> This meeting is extremely important because a global scientific consensus points to the need for very substantial efforts to reduce greenhouse gas emissions worldwide starting within a few years, lest the costs and risks become unmanageable if countries delay. But climate change has all the attributes that make such a problem difficult to address.

- Reducing greenhouse gas emissions is a classic collective action issue: it is in the interest of every country for every other country to take serious measures to reduce its greenhouse gas emissions while doing relatively little itself. Free rider effects are very salient to this issue.
- The costs of measures to reduce greenhouse gas emissions are generally concrete and immediate, but the impacts of climate change are generally long-term and, in popular discourse, disputed.
- Even though it is the most industrialized countries that have emitted that greatest

volume of greenhouse gases historically—a highly pertinent fact, given that such gases can remain in the atmosphere for a century—the populations most affected are typically from countries that emit the lowest levels of greenhouse gases.

- Equity issues are made more complex by consideration not only of national levels of greenhouse gas emissions but also of per capita emissions that to a fair extent correlate with standards of living.

All of these characteristics make achieving a global agreement on how to move the world to a low carbon path of development ineffably difficult.

With these formidable hurdles to overcome, the strategy for negotiating to a global agreement becomes crucially important. As of September 2009 there is serious reason to worry that Copenhagen will be seen as the type of failure that sets back—perhaps fatally—the effort to put a global agreement together.

The initial hope for Copenhagen was that by the end of the conference the participant countries would have agreed on targets for carbon

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<sup>36</sup> Website of the United Nations Climate Change Conference: <<http://en.cop15.dk/frontpage/faq>>.

emissions. While some still talk of having all countries take on targets for absolute reductions in greenhouse gas emissions, most of the rhetoric now assumes that the industrialized countries should take on such targets, while the developing countries should commit to reducing emissions significantly below what they would have been had current trajectories continued (the BAU model), with the notion that at some future point they would agree to absolute reductions in emissions.<sup>37</sup>

There are endless arguments about the baseline against which reductions should be measured. The European Union (EU), for example encourages the use of 1990 as the baseline year. The economic changes resulting from the collapse of communism in Europe in the 1990s themselves produced major reductions in greenhouse gas emissions, all of which the EU can take credit for with a 1990 baseline.<sup>38</sup> The United States, by contrast, seeks 2005 as the baseline year in order to put everyone on a more truly comparable basis.<sup>39</sup> The reality is that every country will promote the base year that makes itself look best, but in fact all of this posturing unfortunately tends to obscure the fact that the only number that really counts is 2—the number of degrees Centigrade many scientists have concluded the global average temperature can warm up (as against pre-industrial levels) before possibly triggering catastrophic changes in the climate.

The issue of targets is complex, and there appears to be almost no possibility that agreement can be reached by late December on specific targets that each country will assume. Even though, for example, the Obama administration wants to take a leadership role at Copenhagen, the United States will have a hard time agreeing to specific targets

if it has not yet passed cap and trade legislation domestically. The Obama administration is very sensitive to the reality that the Clinton administration erred in agreeing to targets at Kyoto that the White House could not then convince the Congress to accept. Indeed, the commitments made at Kyoto stoked anger on Capitol Hill that arguably made ratification of the Kyoto Protocol even less likely. As noted above, with cap and trade legislation a major objective for late 2009, the administration will likely prove hesitant to take on specific targets at Copenhagen unless that legislation is already passed at home—a prospect that is at best uncertain.

It is, in reality, a mistake to seek final commitments on targets at Copenhagen, as there is too much that must be sorted out before any such set of target commitments would be meaningful. Indeed, it is sobering to consider the array of issues that must be addressed to build a climate change global architecture, beyond the issue of individual country targets.

To identify but a few key concerns:

- How will actual greenhouse gas emissions be measured by each country? Will this rely on national reporting alone? If so, how will countries that lack the technical capacity to reach such determinations be treated? If there are international inspection mechanisms, will they apply equally to all countries, regardless of their levels of economic development, institutional and technical capacities, and political systems?
- What enforcement mechanisms will be put into place to motivate countries to take their

<sup>37</sup> See Jake Schmidt, "Texting Copenhagen: Draft Negotiating Text Proposed for Copenhagen Agreement (Part 1)," Natural Resources Defense Council – Switchboard website, May 28, 2009: <[http://switchboard.nrdc.org/blogs/jschmidt/texting\\_copenhagen\\_part1.html](http://switchboard.nrdc.org/blogs/jschmidt/texting_copenhagen_part1.html)>.

<sup>38</sup> Richard Black, "G8 Fails to Set Climate World Alight," *BBC*, (July 8, 2009): <<http://news.bbc.co.uk/2/hi/science/nature/7494891.stm>>.

<sup>39</sup> Website of United Nations Climate Change Conference: <<http://en.cop15.dk/news/view+news?newsid=1686>>.

own targets seriously? How effectively can they be deployed, and what processes will be necessary in order to initiate enforcement actions?

- How should national targets be developed? Should they be the result of multilateral negotiations or should they amount to international registration of each country's effort to develop its own national program?<sup>40</sup> If the latter, how to develop incentives to encourage countries to take on serious national responsibilities?
- Should the new agreement maintain the distinction between developing and developed countries that is built into the Kyoto Protocol? If so, how to account for the reality that, for example, China and Africa have almost nothing in common when it comes to emissions of greenhouse gases and to their respective capacities for climate change adaptation and mitigation measures?
- How broad should be the scope of issues that a new UN agreement seeks to encompass? Almost certainly any new agreement will include some type of funding for adaptation and mitigation provided by the wealthier countries. But is the best vehicle for managing these funds a new UN-based architecture or would the World Bank or a creation of the G-20 be better able to handle this? Intellectual property rights (IPR) are a potentially critical issue, given the important role that technology development and transfer will play in the battle to contain global climate change. Should a new UN framework agreement try to manage the IPR issue or would this be better handled through the World Trade

Organization, which has had long experience in dealing with trade-related IPR? In short, much work remains to be done to reach agreement on the most effective scope for the new UN framework agreement to take.

- Given stark differences in wealth, capabilities, and emissions, how should issues of equity be taken into account, and what metrics should be utilized to address equity issues?
- How much of the pre-Copenhagen negotiation process should be done in the formal set of meetings under UN auspices to prepare for Copenhagen and how much should be shifted to other forums? The Copenhagen process brings in nearly 200 countries and automatically invokes all of the formulas and history of Bali and other preparatory meetings. This is both cumbersome and unwieldy. Arguably, significant parts of the negotiation should take place among the relatively small group of countries—under twenty—that cumulatively produce well over 80 percent of global emissions. That suggests the value of pertinent talks within the framework of the Group of 20 and of the Major Economies Forum.

Copenhagen should thus seek to reach agreement on the architecture of a global agreement and on the process by which targets will be developed over the ensuing 1-2 years.

With all these uncertainties and conundrums, U.S.-China cooperation can play three very important roles.

First, as of the time of this writing in mid September 2009 many governments are well aware that

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<sup>40</sup> See the recommendations of Australia and of the Republic of Korea at the Ad Hoc Working Group on Long-term Cooperative Action Under the Convention, United Nations Framework Convention on Climate Change, Sixth session, Bonn, 1–12 June 2009, pp. 3 and 78.

Copenhagen should not be judged on the basis of targets, but no country has been willing to state this publicly. Each presumably fears being criticized for backing away from an ambitious target-centered approach. This reticence comes at potentially serious cost because it means that global media continue to report overwhelmingly on the issue of targets and to largely ignore the other important questions raised above. It is critical, therefore, for some key governments to begin to brief prominent media on the realities concerning Copenhagen and to make the case to these media that real success should be measured by the extent to which Copenhagen is able to produce agreement on the architecture of a final climate regime and the process for getting to targets instead of on specific targets.

The United States and China can play a vital role in this effort, and each is more likely to take the necessary initiatives if it has agreed with the other that both will move simultaneously on this. If this effort to shift media expectations of Copenhagen succeeds, it becomes far more likely that what is in reality an effective Copenhagen meeting will be judged a success and will build momentum toward a final agreement—instead of its being caricatured as a failure and taken as evidence that a global agreement is almost impossibly difficult to achieve.

Second, a U.S.-China bilateral agreement on clean energy cooperation at the presidential summit in November can provide serious impetus to

Copenhagen. The U.S. and China produce more than 40% of total global greenhouse gas emissions, and each has been widely viewed as underperforming in terms of addressing the emissions issue. If these two big players highlight the importance of clean energy cooperation at the presidential summit and demonstrate through a serious bilateral agreement that they can deal with each other despite the problems that have plagued cooperation between industrialized and developing countries, this can give an enormous psychological boost to the global mindset leading into Copenhagen. It is often said that without the U.S. and China, there can be no effective global agreement. If the U.S. and China make clean energy cooperation a highlight of their relationship, then, that will also give them increased standing at the global talks and, very likely, make other participants feel more confident that such talks can potentially lead to success.

Finally, as two key players in both the G-20 and the Major Economies Forum, the U.S. and China can help those forums advance the state of negotiations outside of the more cumbersome UN Conference of Parties (COP) meetings. The G-20 and the Major Economies Forum cannot, of course, reach formal agreements that substitute for the negotiations at the COP meetings. But serious talks among the major greenhouse gas emitters at these alternative forums—especially in view of the fact that these forums include the major developed and developing countries—can produce mutual understandings that will potentially carry over very effectively into the formal COP negotiations.

## CONCLUSION

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In view of the above complications, it is difficult to be very optimistic about making adequate progress on climate change during the remainder of 2009. U.S.-China bilateral cooperation should be the easier task. The number of players is small, both sides see potentially welcome side benefits in terms of strengthening their overall relationship, and it should be possible to focus in particular on those activities that clearly are beneficial to both sides. The global talks enjoy none of these advantages and are in addition weighed down by larger political considerations that revolve around both the negotiating history and the relationship between developed and developing countries.

As indicated above, astute U.S.-China cooperation can make expectations about Copenhagen more realistic and the meeting itself more likely to lay the groundwork for an eventual full agreement. But it will take astute leadership at the highest levels in both Washington and Beijing—and effective management of domestic politics in both countries—to achieve these results. The issue could not be more important; unfortunately, the chances of success are at this point quite uncertain.

## **Memorandum of Understanding to Enhance Cooperation on Climate Change, Energy and the Environment between the Government of the United States of America and the Government of the People's Republic of China**

July 28, 2009

The Government of the United States of America and the Government of the People's Republic of China (hereinafter referred to as "the Participants"), recognize the following:

Climate change, clean and efficient energy and environmental protection are among the greatest challenges facing the United States and China.

Cooperation between the United States and China is critical to enhancing energy security, combating climate change, and protecting the environment and natural resources through pollution control and other measures.

Cooperation on climate change, clean and efficient energy and environmental protection can serve as a pillar of the bilateral relationship, build mutual trust and respect, and lay the foundation for constructive engagement between the United States and China for years to come, while also contributing to multilateral cooperation.

The Participants have therefore reached the following understandings:

### **I. PURPOSE**

The purpose of this Memorandum of Understanding (MOU) is to strengthen and coordinate our respective efforts to combat global climate

change, promote clean and efficient energy, protect the environment and natural resources, and support environmentally sustainable and low-carbon economic growth.

Both countries commit to respond vigorously to the challenges of energy security, climate change and environmental protection through ambitious domestic action and international cooperation.

Toward this end, both countries intend to transition to a low-carbon economy, carry out policy dialogue and cooperate on capacity building and research, development and deployment of climate-friendly technology.

Both countries resolve to pursue areas of cooperation where joint expertise, resources, research capacity and combined market size can accelerate progress towards mutual goals. These include, but are not limited to:

1. Energy conservation and energy efficiency
2. Renewable energy
3. Cleaner uses of coal, and carbon capture and storage
4. Sustainable transportation, including electric vehicles
5. Modernization of the electrical grid
6. Joint research and development of clean energy technologies
7. Clean air

8. Clean water
9. Natural resource conservation, e.g. protection of wetlands and nature reserves
10. Combating climate change and promoting low-carbon economic growth

Wherever possible, cooperation should seek to include expertise from all sectors of society and provide incentives for engagement at the sub-national level as well as by the business and academic sectors and non-governmental organizations.

## II. IMPLEMENTATION

This MOU is to be co-chaired by the Department of State and Department of Energy on the U.S. side and the National Development and Reform Commission on the Chinese side. The Participants intend to hold regular ministerial consultations to deepen mutual understanding and promote and guide bilateral cooperation on climate change, clean and efficient energy and environmental protection through a range of mechanisms, including:

### A. Ten Year Cooperation Framework on Energy and Environment

The Participants recognize the ongoing importance of the Framework for Ten Year Cooperation on Energy and Environment (“TYF”) dated June 18, 2008 in facilitating practical cooperation between the two countries in the areas of energy and environment. Both sides are committed to implementing all five existing action plans and to expanding the work of the TYF through new action plans.

The Participants also recognize the importance of and are committed to strengthening the Eco-Partnerships initiative under the TYF in promoting sub-national cooperation and public-private partnerships to meet climate change, clean and efficient energy, and environmental goals.

Both sides also recognize the fruitful work of the TYF Joint Working Group in meeting the goals of this MOU and are committed to maintaining this effective working mechanism. As is defined by the TYF, the Joint Working Group is composed of officials at the Assistant Secretary-level for the United States and at the Director General-level for China. The Joint Working Group is co-chaired by the Department of State and Department of Energy on the U.S. side and by the National Development and Reform Commission on the Chinese side.

### B. Climate Change Policy Dialogue and Cooperation

The Participants have decided to establish Climate Change Policy Dialogue and Cooperation as a platform for the United States and China to address global climate change and to identify and resolve areas of concern.

Consistent with equity and their common but differentiated responsibilities, and respective capabilities, the United States and China recognize they have a very important role in combating climate change. The United States and China will work together to further promote the full, effective and sustained implementation of the *United Nations Framework Convention on Climate Change*.

The Participants concur that their Climate Change Policy Dialogue and Cooperation should promote (i) discussion and exchange of views on domestic strategies and policies for addressing climate change; (ii) practical solutions for promoting the transition to low-carbon economies; (iii) successful international negotiations on climate change; (iv) joint research, development, deployment, and transfer, as mutually agreed, of climate-friendly technologies; (v) cooperation on

specific projects; (vi) adaptation to climate change; (vii) capacity building and the raising of public awareness; and (viii) pragmatic cooperation on climate change between cities, universities, provinces and states of the two countries.

The Participants intend to hold consultations between representatives of the two countries' leaders on a regular basis. The Participants may establish working groups or task forces involving relevant ministries as necessary to support the objectives of the Climate Change Policy Dialogue and Cooperation.

### **C. Other Mechanisms for Cooperation**

New initiatives, frameworks or other mechanisms for cooperation intended to achieve the goals of this MOU may be established with the mutual consent of both countries. Existing bilateral efforts may also be included as part of the cooperation described in this MOU, with such mutual consent.

Cooperation under this MOU may commence upon the date of signature and is not intended to give rise to rights or obligations under international law.

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