

THE GOVERNANCE OF CLIMATE CHANGE

Prospects for a Regional Initiative

WORKING PAPER

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Prologue

For the past year, a group organized by the Hills Program on Governance at the Center for Strategic and International Studies has explored ways to support the efforts of the United Nations to reduce global warming. The individuals supporting this project are listed in Appendix A. These experts, from the United States, China, South Korea, Indonesia, and the Philippines, examined how a regional initiative, begun in the Pacific region by China and the United States, could bolster global climate change efforts. This process included a two-day workshop in Beijing in April 2011. The following report is the result of this initiative. While participants do not necessarily endorse all the specific contents of the entirety of this report, they accept the Summary (pp. 4-5 of this report) as a fair representation of their views.

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THE GOVERNANCE OF CLIMATE CHANGE

Prospects for a Regional Initiative

I. Summary

For the past year, the Hills Program on Governance at the Center for Strategic and International Studies organized a group of experts to explore the governance of climate change. The individuals (“Participants”) listed in Appendix A of this paper explored how a regional initiative, begun in the Pacific region by China and the United States, could bolster global climate change efforts. Many of these Participants gathered in Beijing on April 6 & 7 for a two-day workshop on the subject. The two major questions discussed over the year have been:

- Can a regional initiative provide significant momentum towards the global agreement sought by the UNFCCC; and
- Can such initiative assist in the implementation of the specific pledges that were made in Copenhagen and Cancun?

In exploring answers to those questions, Participants considered the feasibility of a regional initiative that would be led by China and the U.S., herein referred to as the Pacific Climate Initiative (PCI).

Participants believe that there are good reasons for starting with the U.S. and China. They are the world’s two largest emitters of GHG. Both are implementing policies and taking actions that can have a large impact on reducing their respective emissions. Both are engaged in the United Nations Framework Convention for Climate Change (UNFCCC) and remain committed to that effort. Moreover the two countries are presently involved with each other in over 70 separate endeavors that are designed to reduce GHG emissions. In short, if regional efforts to deal with climate control are a sensible way to further the goals of the UNFCCC there are strong economic and political reasons for China and the United States to lead the way.

Participants, including those from South Korea, Indonesia and the Philippines, also concluded that it could be feasible for those countries to join in an initiative once begun by China and the U.S.

Drawing governance lessons from the evolution of the GATT into the WTO, the group recognized that an initiative based on a smaller initial group of countries could be an effective way to build momentum and provide input for a global solution to limiting greenhouse gas emissions and dealing with the effects of climate change.

Policy-level officials of the United States government have expressed their support for an initiative of this type. Also, in a recent note to one of the participants, Christiana Figueres, the Executive Secretary of the UNFCCC, stated that such regional “efforts do not undermine the

UNFCCC process, but are rather very complementary and quite timely.”¹ She encouraged the continuation of efforts to bring together the United States and China on climate change mitigation.

In his keynote address to Participants on April 6th, Dr. Han Seung-soo, former Prime Minister of South Korea and Chairman of the Global Green Growth Initiative, observed:

The regional initiative between the United States and China to address the issue is an important step to enhance climate mitigation actions through cooperation between world's two largest emitters of greenhouse gas. Such cooperation, if successful, will be a significant initiative which could supplement actions under the UNFCCC process.²

The PCI structure contemplated by Participants would be a cooperative mechanism based upon a general agreement to further the UNFCCC process and, specifically, the Cancun pledges. These would not be new commitments, but rather existing or planned actions that are scalable and have clear, strategic goals.

Participants considered specific ways in which the PCI could help countries achieve their Cancun commitments. As an example, they thought the PCI could serve as the type of regional adaptation and technology center called for at Cancun. Other examples are noted in part IV below.

The PCI considered by Participants would deal only with policies to be adopted and measures that can be taken to reduce emissions. PCI countries would not be asked to promise specific reductions in emissions.

In general, Participants concluded that a PCI could:

- provide significant momentum towards the global agreement sought by the UNFCCC; and
- assist in the implementation of the specific pledges that were made in Copenhagen and Cancun.

Participants do not necessarily endorse all the specific contents of the balance of this report but they accept this Summary as a fair representation of their views.

II. Background

In Kyoto in 1997, nations participating in the United Nations Framework Convention for Climate Change (UNFCCC) adopted what is known as the Kyoto Protocol. Under its terms the signatories committed themselves to forge a binding global treaty that would require the 37 industrialized nations and the EU community to reduce their greenhouse gas (GHG) emissions by specific amounts over a specific time period. However, the President of the United States made no effort implement the Kyoto Protocol after the Senate of the U.S. voted its opposition to it by a vote of 95 to 0. Failure of the U.S. to participate is one reason that the Kyoto Protocol has not reached its potential.

In the years since 1997 there have been numerous proposals to create another forum or forums to create a multilateral effort to fight climate change. Some suggest that the G-20 become that forum. Others propose that the world's 10 or so largest GHG emitters be so charged. When a global summit for the UNFCCC was scheduled for Copenhagen in 2009 many countries held the hope that the meetings there would produce the global agreement that had been sought in Kyoto.

Anticipating that the difficulties of Kyoto could also frustrate the Copenhagen meeting, a 2007 publication of the Brookings Institution expressed the view that:

[T]he next U.S. president should pursue a layered diplomacy: seeking consensus on ambitious commitments and policies *with a group of core countries*, developing a special bilateral strategy for engaging China, and encouraging wider, deeper participation at the global level.³ (emphasis added)

While the Copenhagen summit did not produce a binding global treaty, it did make progress in creating the foundation for further agreement by adopting an approach centered on nationally appropriate actions that resulted in meaningful national commitments. Since then, an increasing number of commentators concluded that the complexities of a worldwide agreement to limit climate change will require more time and some have suggested an approach similar to that advocated by Brookings in 2007. Professor David Victor (University of California) wrote:

Instead of universal treaties, I suggest that cooperation should begin with much smaller groups . . . [and] nonbinding agreements that are more flexible.⁴

Others more explicitly suggested such smaller groups be formed in geographic regions:

Emphasis should be placed on regional frameworks, which would allow for a more realistic assessment of countries' abilities to effectively fulfill their commitments at the international level.⁵

A year after the Copenhagen Summit, the UNFCCC parties at the Cancun conference reaffirmed their support for a global treaty and also agreed to take concrete steps toward that goal. The

initiatives agreed to in Cancun commit the parties to work out the details as to how such matters as adaptation strategies, specific mitigation actions, finance, technology development and transfer, and capacity building can be implemented. Emphasis was given in the Cancun release to the use of regional efforts to achieve these goals.

It is fair to say that there is now an emerging consensus that the path to the kind of global treaty sought at Kyoto and Copenhagen will be “longer and more incremental” and “will involve a gradual evolution.”⁶ As an example of that consensus, David McCauley, the chief climate specialist of the Asian Development Bank, recently asserted that “enhanced cooperation through national and sub-regional bodies like . . . ASEAN . . . is vital to address climate change.”⁷

A detailed discussion of related issues can be found in the CSIS report “Asia’s Response to Climate Change and Natural Disasters: Implications for an Evolving Regional Architecture” (July 2010).

III. Would the PCI Significantly Support the Goals of the UNFCCC?

As noted, a number of commentators support a regional approach on the grounds that it could be an effective way to help secure the global treaty sought by the UNFCCC process. Their logic is that by demonstrating the ability to reach their own agreement on complex matters, a small number of countries can provide the momentum for a global agreement on such matters. Examples given are the evolution of the GATT into the WTO and the development over the years of the OECD.

William Antholis of Brookings cites historical precedent for the proposition that international agreements on complex economic/political matters need to evolve over time:

One of the keys to the WTO's success is that it did not start as a global body, but rather as a less formal arrangement. If this distinction seems unimportant, keep in mind that the WTO started not as the successful WTO, or even the successful General Agreement on Tariffs and Trade, but as the failed International Trade Organization. . . . The ITO treaty died on the Senate floor, since two thirds of that august body was not prepared to hand over highly political decisions regarding trade policy to an international organization. The negotiators went back to the drawing board.⁸

Antholis goes on to propose that "general agreements" could "effectively link domestic action with an international agreement....If a 'treaty' suggests that nations are tying their fates to one another, 'general agreements' suggests that nations acknowledge one another's interdependence, but also their autonomy."⁹ With this line of reasoning it seems plausible that a regional "general agreement" could be effectively linked to the global UN efforts.

China is fully committed to the UNFCCC process, but Chinese scholars have also pointed out the benefits of a complementary regional approach. Jing Yuejun and Diao Weiyang (Jilin University) write:

The United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol set up the main legal framework for international society to fight against climate change and established the effective mechanism for global environmental cooperation. However, this does not imply that we should refuse regional environmental cooperation to fight against climate change. The regional cooperation should be a helpful supplement to global cooperation, rather than replacement or weakening. The purpose of this regional approach is to fully mobilizing the active participation from various actors to fight against climate change and promoting pragmatic international cooperation. Therefore, in terms of dealing with global climate change, global environmental cooperation should be the main body, and the regional environment cooperation should be the effective part that can facilitate global cooperation.¹⁰

The importance of regional action and cooperation was collectively recognized in Cancun.

The “Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention” (the “Cancun Agreement”) explicitly calls for regional action and cooperation in dealing with adaptation, finance, technology, and capacity building. The Cancun Agreement uses the word “regional” 24 times. Specific areas identified in the Cancun Agreement for regional attention include those listed in Appendix B.

The Cancun Agreement also calls for developed nations to increase the ambition of their mitigation targets. A regional initiative, such as the PCI, could provide a forum and cooperative mechanism for countries to better understand what actions and policies are best able to achieve these higher targets. Participation in a PCI could also assure each country that (and their citizens) that other countries are also taking commensurate action.

Participants cautioned against requiring new Copenhagen-style commitments, and agreed that the PCI should facilitate, complement and supplement the UN process. There was further agreement that the concept of the PCI be discussed and refined through continued engagement with public officials, business communities, and commentators.

Participants agreed that a small group of Asian countries led by an initial agreement between China and the United States is an appropriate start for a PCI. They expressed the hope, however, that the initiative could be expanded to the greater Pacific region which collectively accounts for more than half of the earth’s GHG emissions.¹¹ Strong support was evinced for an early effort to include Japan in the PCI.

There was support also for the view of one Participant that the PCI observe certain tenets:

- It should be voluntary and have strong governmental support;
- It should not have mandatory targets for the reduction of GHG emissions;
- Actions to be taken and policies to be adopted should be domestically appropriate according to sustainable development targets;
- Participation in the PCI should not require any commitments that are not consistent with those previously made in the UNFCCC processes.

IV. How Will the PCI Function?

Simply stated, the PCI would be a regional, cooperative mechanism to further action on climate change. The following examines how the PCI could function, what requirements might be made of Participants and the areas on which it might focus.

A. What should be required of members?

1. What are the criteria for inclusion?

The PCI should begin with the U.S. and China as anchors. Not only do they represent a significant share of global emissions, but they are also arguably essential to getting participation from other countries. The PCI could then expand initially to five members: China, the U.S., South Korea, Indonesia, and the Philippines. There could be numerous ways for them to begin. William Antholis, analyzing the evolution of the General Agreement on Tariffs and Trade (GATT) into the WTO, suggests that:

This model (GATT to the WTO) of building targets from the bottom up could be thought of as a General Agreement on Reducing Emissions (GARE). GARE would be led by a small number of countries . . . in the same way that the GATT talks were spearheaded by a core group . . . [that] drove the initial negotiations, and . . . 15 other countries signed on to the original agreement.¹²

In line with Antholis' GARE concept, these countries could initially become party to a “general agreement” to cooperate on combating climate change.

This initial general agreement would be more effective if, by its terms, each member specifically pledged to cooperate with the others on achieving specific goals set out in Cancun (as listed in Appendix B) and were to commit a high-level official to an administrative committee charged with satisfaction of that pledge.

A focus on collectively fulfilling some of the Cancun commitments would be helpful to all members in terms of the UN process and also would provide a clear foundation for further tangible areas of cooperation within the PCI. Recognizing that commitments have already been made in the UNFCCC, both in Copenhagen and Cancun, the majority of Participants in Beijing emphasized the benefits from “operationalizing” these commitments in a smaller forum like the PCI and “depoliticizing” them as much as possible. Some areas to be included could be:

- serving as a regional center for members, thereby fulfilling the commitment to create adaptation and technology regional centers;
- disseminating best practices and creating knowledge sharing networks on such issues as governance of emissions trading markets, green trade, forestry, and innovation;
- serving as a coordinating focal point for member countries; and
- seeking to create a pilot climate risk insurance facility.

2. What is the price of admission?

The signing of a general agreement would begin the process, but to become a member of the PCI each country would need to make further efforts. These efforts would preferably be common in some basic respects, yet nationally appropriate in their detail. Victor proposes that:

[The] most apt solution to the problem [of differential interests and capabilities] would create a common set of norms that apply to all member countries and then focus negotiations on the terms of accession. Reluctant countries would bid a variety of policies and programs that make sense for their development trajectory, and their bids would include information on the barriers (funding, technology, windows to carbon-trading markets, access to international institutions, etc).¹³

Each country's needs and abilities are different, but in discussing the governance of such cooperative efforts, Victor stresses that “the core idea behind these cooperative regimes is commonality in basic obligations.”¹⁴

Victor proposes that each applicant forge a “Climate Accession Deal” (CAD). He likens the CAD concept to the accession arrangements made for a country that wished to join the WTO. Victor’s CAD would normally be tailored to the particular needs and objectives of each country.

In line with this CAD concept, each country could select a number of tangible domestic policies and measures that would form a core portfolio that they would bring to the PCI. Each country's CAD would likely be quite different and tied to respective national priorities. New ideas for a CAD could come from local governments, the private sector, and NGOs, as well as from national governments.

The 5 initial members proposed for the PCI would bring four G-20 countries together with the Philippines, a country with significant development needs. While it too will need a CAD for admission, its obligations under the CAD will necessarily be less substantial than those of the more developed countries.

A guiding principle for all activities of the PCI should be that they are scalable and have clear, strategic goals.

a. Which kind of country-specific policies and actions could be included?

Each of the five countries proposed for the PCI is currently piloting efforts to deal with the challenges of climate change. Many of these efforts are local and experimental in nature. A key part of constructing the CAD would be to sift through existing efforts to highlight for inclusion those policies or actions that fit the above principles.

The level and type of activities to include would need to be refined as part of the PCI accession process. This is not as daunting as it may seem, since commitments were made in Copenhagen

and have been further specified since. Existing plans in these countries document policies to be adopted and actions to be taken that will reduce GHG emissions. China's State Council 2008 White Paper on Policies and Actions on Climate Change is a prime example. With the release of its 12th 5-Year Plan, China is well positioned to construct a substantial CAD.

Recent climate legislation supported by President Obama could have given the U.S. a similar basis for a CAD. Its defeat will make it more difficult. However, there are significant emissions reduction efforts in the U.S. On the state level, California's AB32 climate legislation is worthy of highlighting. At the U.S. regional level, there is the Regional Greenhouse Gas Initiative (RGGI), the Midwest Greenhouse Gas Accord, and the Western Climate Initiative (WCI). And there are also sectoral initiatives such as vehicle emission tailpipe standards, building energy efficiency programs, and the Transportation and Climate Initiative.

The other three proposed PCI members are also currently taking actions in their respective countries that could be highlighted for inclusion in the PCI. South Korea, for example, has been active in promoting a green growth agenda. The Global Green Growth Institute, based in Seoul, is playing a key role in this. This holistic approach of framing issues within the context of green growth already seems to have considerable traction in both South Korea and China, and it is a framework that has strong potential in the U.S. Much of what is proposed fits well into this rubric of green growth.

The Philippines has recently been singled out by the lead climate envoy of the World Bank, Andrew Steer, to do more with regards to climate change.¹⁵ Participation in the PCI would be an effective way for the Philippines to further demonstrate its commitment.

To the degree that countries organize these policies and actions under some common areas, the efforts in one country could provide lessons for the other members. An example would be that if every country were to put forth a strategic domestic project related to smart grid, then California's efforts with demand-side management could be relevant to China's ultra-high voltage transmission network and South Korea's Jeju Island smart grid pilot, and vice versa. Some other areas that could be considered are:

- Cleaner conventional energy
- Renewable energy
- Transportation
- Green building standards
- Agriculture
- Industrial energy efficiency
- Smart grid deployment
- Forestry management
- Waste management
- Recycling
- Water resource management
- Emissions trading

A key operative principle is that each country would be taking actions according to its respective

national conditions. This is an important difference from other international efforts, for as Heike Schroeder stated, “to find a way toward including developing countries, the diverse approaches already adopted by key developing countries could be indicators of ways forward, such as Mexico’s trans-sectoral cap-and-trade scheme, China’s renewable energy goals and Brazil’s efforts to address deforestation.”¹⁶

It is expected that many efforts would be based upon sub-national and private industry actions, allowing this initiative to take advantage and incorporate the many valuable and disparate efforts happening from the ground up. Rabe (University of Michigan) suggests:

Systematic study of actual experience in policy development and implementation might help move the debate from a feckless quest for the optimal toward a more realistic exploration of what policy tools do—and do not—hold considerable promise. In turn, there may also be growing opportunities for cross-jurisdictional policy learning and formal collaboration. This is clearly evident in the growing American pattern whereby multiple states have begun to work together and is reflected in a few initial forays whereby neighboring states and provinces have entered into serious discussion over collaborative opportunities.¹⁷

This portfolio of domestic actions provides an important anchor and framework for the cooperative projects (next section). It allows countries with varied experiences and national interests to contribute to a complex of issues that can collectively result in significant climate action.

b. Which cooperative, cross-border efforts should be included?

That China and the United States have a unique opportunity to create the PCI is apparent. They already have multiple cooperative projects on which they are now engaged that could benefit by using the PCI as a cooperative mechanism to affect them.

There are, in fact, a staggering number of ongoing cooperative efforts and pilot projects between the two governments. We have easily counted over 70 (see Appendix C for full list). The U.S.-China Ten Year Framework (TYF) for Cooperation on Energy and the Environment provides a forum for cooperation on a number of initiatives. The Clean Energy Ministerial (CEM) also provides a forum for some ambitious collaborative efforts that extend beyond just the U.S. and China. While these projects are all valuable in their own right, some are especially ripe for ratcheting up and scaling in an initiative like the PCI. A brief look at one project could serve as an example:

- *Ten-Year Framework Clean Efficient Transportation Action Plan*

China and the United States launched a joint effort of policy and technical cooperation to develop and adopt clean and efficient transportation. As a part of this agreement, the U.S. and China have agreed to gradually reduce the sulfur levels in fuels in China to 50 ppm or lower in both gasoline and diesel.¹⁸ Moving to ultra-low sulfur diesel (ULSD) is one of the best ways to reduce soot and particulate matter.¹⁹

The U.S. has moved from 500 ppm to ULSD 15 ppm, while the EU is moving to its Euro V standard of 10 ppm or less. Cooperation by all members on this specific and tangible area could produce substantial benefits, not only for the climate, but also for public health.

There are similar initiatives between the U.S. and other countries. The following project drawn from the Clean Energy Ministerial includes the U.S. and South Korea:

- *Clean Energy Ministerial Global Superior Energy Performance Partnership*

Last year, a number of countries, including the United States and South Korea, created the Global Superior Energy Performance (GSEP) Partnership, which aims to cut energy use and reduce greenhouse gas emissions and pollution. It is estimated that this demanding certification process, if implemented in all major economies, would result in energy savings each year by 2050 equivalent to the production of 530 mid-sized power plants.²⁰ It seems plausible that members of the PCI could pledge to implement standards in specific cities for a defined number of buildings over a specific time period.

Another area that was discussed at the Beijing meeting was cooperation on forestry, which plays a large role in dealing with climate change and creates jobs (45 million in China), according to one Participant).

As these cooperative programs are already established and underway, they could be ratcheted up and extended to the other members of the PCI, thereby helping the projects grow in size, ambition, and strategic focus. Cooperative projects, such as these, provide the opportunity to push beyond what each country can do by itself and create an environment where greater cooperation with larger global benefits is possible. The dissemination of lessons learned and best practices are critical; this harkens back to Victor's core principle of "transparency in policies...so that all members of the agreement can learn from and scrutinize the efforts of others."²¹ Through continued collaboration more strategic initiatives will become apparent.

While Participants agreed that membership in the PCI should not require new "commitments" there was general consensus that PCI could be a forum for the development of new initiatives.

To give the formative general agreement more substance, some Participants felt it would make sense to add a specific initial pledge that would require initial cooperation between all members. An example of this would be an agreement to take specific action to reduce black carbon and tropospheric ozone in member countries by a certain date. A recent assessment done for the United Nations Environmental Programme (UNEP) on the ability to reduce such emissions concluded:

The Assessment examines a large number of potential measures to reduce harmful emissions, identifying a small set of specific measures that would likely produce the greatest benefits, and which could be implemented with current available technology.²²

Professor Victor had the following to say on the subject in a New York Times editorial:

From a political point of view, the most appealing greenhouse emissions to reduce are ozone and soot, because they contribute so much to local air pollution. After all, people everywhere care about the quality of the air they breathe and see — even if most of them are not yet very worried about global warming. A desire to clean up the air is a rare point of commonality between developing and industrialized nations.²³

Agreement on policies to reduce soot may be within the reasonable grasp of a near-term deal. The goal is to create an initial area of cooperation that will further strengthen the PCI.

Cooperative agreements such as those described above are analogous to the initial efforts of the GATT, which revolved around “a club of willing countries that made reciprocal (and thus self-enforcing) agreements with each other that then deepened and expanded with experience and confidence.”²⁴

Another important element of such cooperative projects is that they involve the business community. Especially in this time of fiscal austerity, governments need to effectively leverage business efforts.

c. Is there a role for sectoral initiatives within the PCI?

Specific sectoral initiatives could be organized around certain key industrial sectors. Encouraging companies in such industries to work together on policies and actions they can agree upon is both practical and sensible. Power generation, chemical, transportation and logistics, cement, steel, fertilizer, and construction industries all have a huge capacity to reduce emissions. They could be brought into a discussion of how they might work with other members of their respective industries.

Sectoral initiatives can also engender the sharing of best practices that can lead to the emission reduction that will result from improvements in areas like industrial energy efficiency and low-sulfur fuel adoption.

Some Participants in Beijing noted that sectoral agreements that raise the costs of operations can put participating companies at a comparative disadvantage to companies in their same industry that are located in countries not in the PCI. The discussion of this issue is below in B. 3.

Sectoral initiatives also allow industry to come together on some of the most immediately effective areas in which to reduce emissions in the near term, like the afore-mentioned black carbon and tropospheric ozone.²⁵ While one approach to dealing with these issues was mentioned above, it could also be addressed on a sectoral basis. By coordinating across individual sectors, many of the key touch points impacting black carbon could be activated. Without sectoral cooperation, solutions to these kinds of efforts may be difficult to resolve.

d. Can the PCI address forestry issues?

Another example of a sectoral initiative is the one announced in December 2010 by the Consumer Goods Forum, a trade organization comprised of representatives from around 650 companies and related stakeholders, to achieve zero net forestation by 2020.²⁶

A focus on forestry issues could play a prominent role in the PCI. Up to 30% of GHG emissions result from deforestation.²⁷ Indonesia and China are both key actors for dealing with the deforestation issues. Indonesia has the world's fastest deforestation rate, and if deforestation is included then Indonesia would be the world's third largest emitter.²⁸ While the U.S., China, South Korea, and the Philippines are net carbon sinks with their forestry sector, each could still improve reforestation and do more in the way of forestry protection. Moreover, China's demand for cheap timber has a huge effect on deforestation in Brazil, Myanmar, Malaysia, and Indonesia. Responsible sourcing by the U.S. and China could play a significant role in dealing with forestry issues.

While support for the UN's initiative on Reducing Emissions from Deforestation and Forest Degradation (REDD) is growing, the PCI could also include an initiative that would create a responsible supply chain and commitments for reforestation within its immediate member countries. This could be done in concert with the aforementioned Consumer Goods Forum commitment or as a separate initiative.

B. Other issues for the PCI

1. Adaptation

There are a number of core issues on which the PCI could focus. One of these is adaptation.

A unique feature of the proposed PCI unique is that the 5 members under consideration for membership includes developed and developing countries, major and minor emitters, countries required to contribute to adaptation finance, and those that are in dire need of adaptation assistance.

A recent paper by RSIS pointed out that in Southeast Asia:

[Observed] and projected climate change affects have the potential to lead to damage to natural, communal, and business assets -- loss of agricultural outputs due to droughts, flooding, transboundary haze and unseasonal weather and disruption to business from infrastructure damage due to extreme weather. The Asia Development Bank (ADB) considers the region to be one of the world's most vulnerable regions to the impact of climate change and projects that the worst is yet to come.²⁹

The UN is organizing the Green Fund and Fast-Start Financing, but there is room for other funding efforts within a regional initiative. And it may be feasible to have financial support made in a regional initiative to be credited towards obligations made under the UN. Three examples of

adaptation financing are:

- Regional climate/catastrophe insurance facility

Similar in structure and concept to the Caribbean Catastrophe Risk Insurance Facility (CCRIF), a climate risk and/or catastrophe risk insurance facility could be established in the Pacific basin. A regional facility that helped the most vulnerable areas prepare for extreme events and move some of the risk from central governments and international aid agencies to local areas and the region can not only be an excellent adaptation tool, but also use some of the proceeds from the fund to provide adaptation financing. The benefits of such a scheme come not only from the risk mitigation, but also in the adaptation planning that such a risk assessment entails. A number of Participants in Beijing agreed that this was an area worthy of further investigation.

- Agricultural insurance

There could be an agricultural insurance pilot facility to help farmers hedge against weather-related risk. This is a significant issue in all the proposed member countries.

- Green infrastructure fund

A private infrastructure fund could also be set up for access by members to invest in critical infrastructure projects. While these would not necessarily have to be adaptation projects, the fund could define its investment criteria accordingly. Being open only to members, the fund would be agile and focus on those core projects that can be justified within the scope of members' respective PCI commitments, with possible “quick-start” criteria for smaller projects.

It may be that a small amount of public funds could jump-start some of these financing mechanisms. An initial core investment might be leveraged to raise funds from the private sector.

2. Carbon trading

A notable result of the Kyoto Protocol was the development of the European Trading System (ETS). Central to ETS is the Clean Development Mechanism that allows the sale of “carbon credits” to entities that need them to “offset” a regulatory requirement that their own carbon emissions be reduced. The Obama administration supported legislation which would have created a “cap and trade” system in the U.S. but the proposal was defeated. There are, however, a number of countries and sub-national governments that are developing such systems, and there is considerable support for a global system that could, someday, link them.

Several Chinese provinces are developing pilot emissions trading systems.^a South Korea will

^a China already has some carbon trading pilot programs, including environmental and carbon exchange centers as well as designated third-party verification (determined by the NDRC) for measuring pollution like sulfur oxides

embark on one beginning in 2015, Canadian provinces and several of the U.S. states, including California, are actively developing systems. There is some reason to believe that the several U.S. states and the Canadian provinces could push emissions trading to involve as much as a third of North America.³⁰

To date there has been no apparent governmental support for development of carbon trading in the Philippines or Indonesia. However, entities from Europe and Australia have purchased carbon credits from geothermal³¹ and forestry³² projects in those countries.

All of the above raises the question of whether the PCI, which initially includes five countries, could contribute to the development of effective linked carbon trading systems.

Jeffrey Huang, China Director for ICE (InterContinental Exchange), suggests that there are strong reasons for the U.S. and China to cooperate on these emissions market standards and linkages. He points out that there is historical precedent for this type of cooperation: the Chicago Climate Exchange worked with China to register 2 million tons of carbon offsets. Huang points out that both Chongqing and California are establishing forest offset standards that could benefit from their cooperation:

In the United States, next year's planned mandatory carbon market in California will also include forestry offsets; in this regard, as they are at the same starting line, Chongqing and California experts could undertake comprehensive cooperation to develop common standards. According to Reuters' forecast, the scale of California's carbon market could probably reach 10 billion U.S. dollars in 2016, becoming the second largest after the EU carbon market. Since climate change is a global problem, then China-U.S. cooperation at the provincial and state level, will have far-reaching significance.³³

Considering the early stage of market development by PCI members it could be sensible for the PCI to be a forum for developing an improved trading system. While highly complex, if done correctly such a system could substantially lower the costs of reducing GHG emissions and provide a constructive example for others to follow. An important part of the effort would be to establish a framework in which the PCI markets could be linked. Initially, this discussion could be focused on the harmonization of standards. This is much easier to do at the outset of market pilots than it is once markets are fully functioning. Since China will be actively exploring different types of pilots and the U.S. markets are still in their infancy, this could be an auspicious time for cooperation. Technical details such as the structure of instruments, measurement of comparable units, MRV procedures, registry creation, and other key issues can be discussed in this forum.

(SOx) and energy consumption. In the early 2000s, local governments began to implement pilot emissions trading programs in Jiangsu, Zhejiang, Hubei, Beijing and Shanghai. In 2008, three environmental trading agencies were officially established in Beijing, Tianjin and Shanghai. In late-January of 2009, the first low-carbon trading market was established in Shenzhen. Meanwhile, a number of local governments, including Xiamen, Wuhan, Hangzhou, Kunming and Hebei Province, are developing markets to trade emissions permits. China has also put forth its own standard called the Panda Standard.

There is reason to believe that a better carbon trading system than the ETS is both needed and possible. One prominent critic has called “the experience with the CDM . . . disastrous.”³⁴ A “large fraction” he continues “of CDM credits are not genuine –they reflect investments that would have happened anyway and wrongly earn credits. . . .” In speaking of California’s plans for emission trading he argues that California “should set tough offset rules so that the California market . . . triggers a race to quality . . . [and] demonstrate to other jurisdictions a better way to manage an offset scheme.”³⁵

The question of linking emissions trading markets is particularly complex. David Victor has observed that “[l]inking to states that have lax or flaky rules will create the carbon equivalent of Gresham’s rule and political support. . . will evaporate if people see their money flowing into states where the effort isn’t genuine.”³⁶ An initial focus on standards’ harmonization could yield substantial benefits for future market linkage prospects. In short, there appears to be a substantial opportunity for the PCI to address emissions markets.

3. Climate change and trade disputes

Another important topic that the PCI could attempt to deal with is green trade. Participants in Beijing agreed that this was a timely and important topic.

It is evident to most observers that trade and climate change are on a collision course.³⁷ An effective trade regime is necessary for global economic growth, and it is important that efforts to combat climate change do not interfere with the WTO. Yet national, sub-national, and corporate efforts to spur green growth and innovation raise a number of thorny issues. Carbon taxes, carbon leakage, border tax adjustments (BTAs), subsidies, sector-specific allowances, and government procurement guidelines are some of the issues likely to be highly contentious under the existing WTO regime. Much of the underlying contention over greenhouse gas emissions deals with externalities resulting from trade, so the relationship between trade and climate is close and complex.

While the WTO has currently re-invigorated negotiations on environmental goods and services in the Committee on Trade and the Environment, it would be unwise to wait for an agreement in that forum while cases are being brought for dispute resolution now. The case brought by the United Steelworkers Union with respect to China’s support of “wind power” highlights many of areas of potential dispute.³⁸

PCI members could discuss some of the key issues and propose solutions in a manner that shows a certain general consensus to take back to each member’s respective governments. The ability to reach out to industrial sectors, as mentioned above, is also helpful in forging areas of consensus on trade. The group could seek a plurilateral trading agreement that lays out certain ground rules, within the bounds of the WTO, for members only. The PCI members may find agreements that work under existing rules of the WTO. At the least such efforts could provide recommendations and valuable feedback for further WTO negotiation rounds.

That said, some Participants cautioned strongly about doing anything that would collide with established trade principles.

4. Technology development and transfer

Efforts to cooperate on the development of technology are underway between several countries. The U.S.-China Clean Energy Research Center is a good example. However, it is yet to be seen whether this type of cooperation can result in an improvement over fully private sector efforts. Issues such as sharing of intellectual property are likely to be especially sticky. Technology transfer is a particularly difficult issue. It is reasonable to believe that a PCI type involvement could stimulate such efforts. For example, the establishment of a regional technology center, as suggested in Cancun, within the PCI, could act as a hub to share technology best practices and as an organizing entity for technology issues.

5. Measurement, Review, and Verification (MRV)

MRV, pledge and review, and other forms of verification have been difficult issues and some of the stickiest parts of an international agreement. These issues may be less contentious within the PCI, since a regime that focuses on seeking pledges to adopt policies and take actions needs far less measurement than one that hinges upon specific emissions reductions.

Instead of focusing on a rigid, uniform system for MRV, the PCI might want to focus more on the cooperative projects as a way to allow participants to learn about possible approaches to MRV on a project-by-project basis. This type of iterative approach is likely to bear fruit because it will allow participants to experience real-world examples before committing to an international regime. Moreover, the MRV requirements in emissions trading projects, clean air cooperation, building energy efficiency projects, and a forestry initiative are likely to be quite different from each other. This project-specific approach allows each smaller group of participants to forge a set of MRV rules that are directly applicable to the particular project, its unique characteristics and requirements, and the specific set of participants. The knowledge built up through these projects should be very helpful in assessing future MRV regimes and thus have positive feedback for the UN framework.

C. What are the benefits of membership in the PCI?

To ensure that a regional initiative has “staying power” and provides strong incentives for new members to join and grow the group, benefits for participation need to be clear and significant. In addition to the direct benefits discussed so far, some benefits of participation in the PCI are:

- *Cooperative fulfillment of UN Cancun pledges*

By establishing the PCI initially as a cooperative mechanism for the fulfillment of certain key Cancun objectives, members will be able to not only efficiently accomplish these goals, but also be part of a stable and visible showcase within the UN. There is strength in numbers, and beyond the tangible benefits from the cooperation envisioned within the PCI, members will also have the cachet of being part of one of the most significant

examples of UN cooperation.

- *Enhanced likelihood of implementation of plans and policies*

One of the underlying premises of this type of initiative is that commitments made by countries to a small group of peers are stronger than actions taken on their own. If the specific policies and measures that are hoped to enable each country to attain its global commitments are put into a regional initiative, then the likelihood of UN success is substantially increased, as a commitment to these “building blocks” is strengthened.

Outside the UNFCCC there exist a number of bilateral and multilateral forums for international cooperation, such as the U.S.-China Ten Year Framework, the Asia-Pacific Partnership, the Clean Energy Ministerial, and many others. Many of these are research projects or efforts to create pilot programs. Inclusion of a select number of high-quality projects drawn from these forums in the PCI could also strengthen their prospects for greenhouse gas reduction.

- *Access to best practice and knowledge networks*

Countries in the PCI will be able to monitor, learn from, and borrow for their own domestic use those policies and initiatives in which other countries or groups of countries are engaged. Over a relatively short period of time it is likely that PCI members would be able to cross-pollinate each other with best practices backed up by real results. This type of linkage and knowledge sharing is the best breeding ground for innovation. Participation can also serve to raise confidence in each country on what mitigation targets can reasonably be achieved.

States and cities understand the benefits from this type of sharing and collaboration. Since many of the likely components of the CADs would be sub-national efforts, local entities will also benefit from the PCI by acting as an international showcase for best climate practices and highlighting their state or city as a hub of innovation and an attractive target for investment.

- *Better linking of domestic actions to international progress*

Despite significant progress achieved via the UN process, there is still a gap between the international commitments made in Copenhagen, their further specification in Cancun, and domestic policy and action. Barry Rabe (University of Michigan) suggests:

The continued preoccupation of policymakers, scholars, and the media with international regime development for climate change has served to largely ignore the question of whether various national and subnational governments are passively awaiting international guidance or have taken proactive steps reflected in homegrown policy responses.³⁹

So not only can the PCI directly support the UNFCCC, but it might also provide a

governance mechanism that connects disparate local action to the international regime.

- *Greater innovation*

The PCI could stimulate innovation. China has been very conscious and deliberate in its efforts to move up the industrial value chain. Innovation is a key to such movement, and many of the emerging areas of industrial innovation revolve around climate and energy-related technologies. During the industrial revolution, the first countries to industrialize continued to hold a distinct advantage over those countries that were late. Clean technology is very likely to follow a similar path. Those countries who embrace the new policies, participate in cutting edge technology research and demonstrations, and are at the hub of cooperative activities and knowledge sharing are likely to be the innovation leaders in the 21st century. With the U.S., China, and the EU engaged in an “innovation race,” smaller countries need to find ways to get involved with these developments and find ways to contribute. Participation in the PCI would be one such way.

- *Greater recognition for efforts*

To some extent, the global focus on the UNFCCC process has obscured progress at local level. Both the U.S. and China are taking meaningful action, unilaterally and cooperatively, yet they absorb a large share of criticism in the international climate forum and in public opinion. The clear framework of the PCI could help these nations garner greater recognition and goodwill for their efforts and reassert meaningful leadership roles in the global climate talks.

- *Reduced cost of climate action*

Collective efforts can reduce the cost of climate action. Lowering the cost of carbon, better disseminating effective policies, speeding up the deployment of new technologies, effectively managing risk, supporting investment and technology by establishing partnerships, easier accessing funds, and learning from a diverse set of best practices can all contribute to lowered costs. As discussed earlier, there could also be certain funding mechanisms that are only available to members.

V. Conclusion

In a recent article William Antholis observed:

Reversing the greenhouse gas emissions of the world's \$60 trillion economy will be among the most complex international governance challenges ever – rivaling the forty year effort to dramatically reduce tariffs and establish a rules-based trading system.⁴⁰

He and others have strongly argued that a small grouping of nations can advance the cause of climate control without interfering with the processes of the UNFCCC. Referring to the successful evolution of GATT into the WTO he proclaims:

Lesson learned: size matters. When it comes to global governance, it was and is easier to get things done with a smaller number of the right countries.⁴¹

He credits the success of GATT with the work of the “biggest and most technically competent trade players”; the “Quad” consisting of Europe, the U.S., Canada and Japan.⁴²

Assuming that he is correct in suggesting that climate control efforts can be substantially advanced if they are assisted by small groupings of nations, could the five initial countries proposed for the PCI mount an effective effort? Are they, to use Antholis' words, “the right countries?”

China and the U.S., the world's largest GHG emitters, are surely “right countries.” The addition of Indonesia, arguably the third largest emitter, and South Korea, a country that has made substantial progress with climate control, will provide a broader basis for our discussion.

Adding the Philippines, a country with serious development and adaptation issues, to those four G-20 members will bring focus to a most significant issue. As posed by Antholis:

Perhaps the greatest lesson the climate regime can learn from the trade regime is something that the latter has failed, so far, to entirely address: how to bring the developing countries into the regime in a way that acknowledges their development challenge but also allows them to graduate to full responsibility as their economies grow.⁴³

In light of this, it seems likely that these five countries could provide a solid foundation for expansion into a greater Pacific effort.

In conclusion, the PCI is a timely concept that would allow the U.S. and China to forge meaningful cooperation in support of the UN process and address a recognized need for regional action.

Appendix A

List of Participants

(asterisk designates Beijing workshop participant)

William Antholis, Managing Director of the Brookings Institution

Scott Barrett, Lenfest-Earth Institute Professor of Natural Resource Economics at Columbia University's School of International and Public Affairs and the Earth Institute

***Cheng Siwei**, former Vice Chairman of the 10th Standing Committee of the National People's Congress and Chair of many organizations, including the International Finance Forum

***Choi Hyeonjung**, Assistant Secretary to the President for Green Growth, Republic of Korea

***Elliot Diringer**, Vice President for International Strategies at the Pew Center on Global Climate Change

Michael Gerrard, Professor at Columbia Law School and Director of the Center for Climate Change Law

***Emmy Hafild**, Program Director at the Partnership for Governance Reform in Indonesia

***Han Seung-soo**, former Prime Minister and Trade Minister of the Republic of Korea, President of the 56th General Assembly of the United Nations, former Ambassador to the United States and Chairman and Founder of the Global Green Growth Institute

***Hu Angang**, Professor at Tsinghua University and Director of the Center for China Studies

***Jeffrey Huang**, Managing Director for Greater China at InterContinental Exchange

***Ann Klee**, Vice President of Corporate Environmental Programs for General Electric and former General Counsel of the Environmental Protection Agency

Richard Stewart, Professor at New York University's School of Law, Chair and Faculty Director of the Hauser Global Law School Program, and Director of the Center for Environmental and Land Use Law

David Victor, Professor at University of California at San Diego, director of the Laboratory on International Law and Regulation, and former director of the Program on Energy and Sustainable Development at the Freeman Spogli Institute for International Studies at Stanford University

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***Angela Garcia**, Executive Director of the Hills Governance Center at Asian Institute of Management, Philippines

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***Roderick M. Hills**, Chairman and Co-founder of the Hills Program on Governance at the Center for Strategic and International Studies in Washington, DC and former Chairman of the U.S. Securities and Exchange Commission

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Appendix B

Cancun and the PCI

The Ad Hoc Working Group on Cooperative Action in Cancun agreed upon a number of issues and actions. Trevor Houser of the Peterson Institute for International Economics summarizes the main outcomes of the agreement as follows:

It includes emissions reduction commitments from both developed and developing countries, a mechanism to track countries' progress in meeting those commitments, and a review of the adequacy of the commitments in meeting long-term global emission reduction goals. It also establishes a number of mechanisms and institutions to help accelerate national emission reductions and protect vulnerable countries from the impact of atmospheric warming that's already occurred and will continue in the years ahead even under the most optimistic scenario. These include a new World Bank-managed climate fund, a global network of climate-related technology experts, an adaptation framework, and a strategy for addressing deforestation.⁴⁴

Within this agreement, there are a number of action areas that could be addressed within the PCI:

1. Adaptation
 - Create national adaptation plans and strategies
 - Perform impact vulnerability assessments
 - Promote access to technologies
 - Enhance disaster risk strategies
 - Strengthen institutional capabilities
 - Establish and strengthen regional networks and centers
 - Consider a climate risk insurance facility
2. Mitigation
 - Set up a registry of NAMAs
 - Address forest governance issues and create action and monitoring plans
 - Ensure good governance and robust market functioning in emissions trading
 - Promote open green trade
3. Finance, Technology, and Capacity Building
 - Create a climate technology center
 - Strengthen national innovation systems and centers
 - Facilitate network of regional, sectoral, and international technology networks, organizations, and initiatives
 - Strengthen relevant institutions, including focal points for national coordinating bodies
 - Strengthen networks for generation, sharing, and management of knowledge
 - Strengthen communication, education, and training

Appendix C

U.S.-China Energy and Climate Cooperation^b

Ten Year Energy & Environment Cooperation Framework (Strategic & Economic Dialogue)

- Clean Air
- Clean and Efficient Transportation
- Clean, Efficient, and Secure Electricity
- Clean Water
- Energy Efficiency

U.S.-China Renewable Energy Partnership

EcoPartnerships

MOU to Enhance Cooperation on Climate Change, Energy and the Environment

U.S.-China Clean Energy Research Center

U.S.-China Energy Cooperation Program

Clean Energy Ministerial

- Carbon Capture Use and Storage Action Group
- Electric Vehicles Initiative
- International Smart Grid Action Network

Memorandum of Cooperation to Build Capacity to Address Climate Change

FutureGEN

Energy and Environment Cooperation Initiative (EECI)

Carbon Sequestration Leadership Forum (CSLF)

U.S.-China Renewable Energy Forum

Asia-Pacific Partnership on Clean Development and Climate

- Aluminum Task Force
- Buildings and Appliances Task Force
- Cement Task Force
- Cleaner Fossil Energy Task Force
- Coal Mining Task Force

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- Power Generation and Transmission Task Force
- Renewable Energy and Distributed Generation Task Force
- Steel Task Force

Scientific and Technology Cooperative Agreement

MOU for Bilateral Energy Agreements

Atmosphere and Science and Technology Protocol

Protocol on Nuclear Physics and Magnetic Fusion

Protocol on Cooperation in the Field of Fossil Energy Research and Development (the Fossil Energy Protocol)

Annex III to the Fossil Energy Protocol Cooperation in the Field of Atmospheric Trace Gases

Sino-American Conference on energy demand, markets and policy in Nanjing

U.S. Joint Commission on Commerce and Trade

U.S. Commercial Mission to China

Establishment of the Beijing Energy Efficiency Center (BECon)

Annexes to the Fossil Energy Protocol

China's Agenda 21 Document

Series of DOE bilateral agreements signed by Secretary of Energy Hazel O'Leary

Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization

Statement of Intent for Statistical information exchange (later became a Protocol)

U.S.-China Forum on Environment & Development

Agreement of Intent on Cooperation Concerning Peaceful Uses of Nuclear Technology

U.S.-China Energy and Environmental Center

Joint Statement on Military Environmental Protection

The U.S.-China Oil and Gas Industry Forum (OGIF)

U.S.-China Forum on Environment & Development

Fusion Program of Cooperation

Joint Oil Data Initiative (JODI)

U.S.-China Energy Policy Dialogue

U.S.-China Green Olympic Cooperation Working Group

MOU on Cooperation on the Development of Biofuels

U.S.-China Bilateral Civil Nuclear Energy Cooperative Action Plan

U.S.-China Westinghouse Nuclear Reactor Agreement

U.S.-China Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization

Climate Change Policy Dialogue

U.S.-China Joint Commission on Commerce and Trade

Shale Gas Resource Initiative

U.S.-China Energy Efficiency Forum

U.S.-China Advanced Biofuels Forum

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