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Abstract

The U.S. and China are the world's largest and second largest CO₂ emitters, respectively, and to what extent the U.S. and China get involved in combating global climate change is extremely important both for lowering compliance costs of climate mitigation and adaptation and for moving international climate negotiations forward. While it is unavoidable that China will take on commitments at some specific point of time in the future, this paper has argued that the proposal for joint accession by the U.S. and China is not a way forward. For various reasons, such a proposal is in the U.S. interest, but is not

in the interest of China. Given the U.S. political reality and institutional settings on the one hand and China's over-riding concern about economic growth and poverty reduction on the other, the two countries are unlikely to take on emissions caps under an international regime, at least for the time being. Therefore, we need to explore the area where cooperation between the two countries to address climate change seems best. The research, development and deployment of clean technology is the area that is in the best interests of the two countries. The U.S. has adopted a technology-oriented approach to climate issues, and has launched the four multilateral initiatives on technology cooperation and the Asia Pacific Partnership for Clean Development and Climate (APP). China has participated in all these U.S.-led initiatives, and is a partner to the APP. Strengthened technology cooperation between the two countries through these initiatives and the APP has led some tangible benefits. However, it should be pointed out that while technology is a critical ingredient in a climate policy package, efforts such as the APP can only be part of the solution. They alone cannot ensure that best available technologies are always deployed in the marketplace, and that new technologies will roll out at the pace and on the scale that we need. In order to have such technology-oriented approach to play a full role, we do need a coordinated policy framework agreed via the Kyoto Protocol or a follow-up regime or the parent United Nations Framework Convention.

Keywords: Clean technology, Technology cooperation, Asia Pacific Partnership for Clean Development and Climate, Kyoto Protocol, China, United States

1. Introduction

For quite some time, the U.S. and China have pointed at the other as the culprit who is blocking the climate negotiation process. This leads to a dilemma. On the one hand, the U.S. rejects the Kyoto Protocol because it exempts major developing countries like China, Mexico and India, and thus it is conceivable that the U.S. would not re-join the international climate regime without more specific commitments than those general commitments from major developing countries. On the other hand, the U.S. withdrawal from the Kyoto Protocol will substantially reduce incentives to invest in clean development mechanism (CDM) projects that imply reduced financial flows channelled to developing countries through CDM. Given that China is widely regarded as the dominant host country of the CDM projects (Zhang, 2000a and 2004), the significant decrease in demand for permits as a result of the world's largest single buyer remaining outside the international market of tradable permits would lower the gain of China substantially. Against this background, some American analysts (e.g., Stewart and Wiener, 2003) suggest joint accession by the U.S. and China. This proposal does have the merit of enhancing environmental effectiveness of the Kyoto Protocol and helping stabilize the price of permits on the international market. It is certainly in the interest of the U.S. because the participation of China would substantially reduce the U.S. compliance costs and increase the environmental effectiveness. The question then is whether the joint accession proposal is in the interest of China.

In this paper, we will look at this issue from the following perspectives: a) how does China value importance of maintaining unity of the Group of 77?; b) what lessons

has China learned from bilateral negotiations with the U.S. to work out the terms for China to get accession to the WTO?; c) what is the legitimacy of the U.S. insistence that it re-joins the Kyoto Protocol only if major developing countries join?; d) what are implications of the U.S. strikingly reversed position on the commitments of developing countries in New Delhi for initiating discussions on joint accession by the U.S. and China?; and e) how would joint accession by the U.S. and China be perceived?. Although we argue that joint accession by the U.S. and China is not in the interest of China, the strengthened cooperation between the two largest emitters is crucial to any global efforts towards emissions reductions. In that context, we examine the four U.S.-led multilateral initiatives on technology cooperation and the Asia Pacific Partnership for Clean Development and Climate, and evaluate their effectiveness in achieving the stated goals.

2. Joint Accession by the U.S. and China

I doubt the prospects for China's interest in the joint accession proposal for the following reasons.

First, although broad discussions and cooperation in the field of climate change continue between China and the U.S., it is doubtful that China would be willing to discuss joint cap-and-trade arrangements with the U.S. For historical reasons, China attributes great importance to maintaining unity of the Group of 77, and engaging in discussions on joint cap-and-trade arrangements with the U.S. may well be perceived as threatening the solidarity of that Group. Developing countries, including China, insist that industrialised countries should demonstrate taking the lead in reducing their greenhouse

gas emissions before developing countries even consider taking on such commitments. With the U.S. withdrawal from the Kyoto Protocol and a very low scale of overall emissions reductions in the industrialised countries during the first commitment period (2008-2012), it is unclear whether developing countries would regard their wealthy counterparts as having taken the lead by the time of the second commitment period. This leaves it open to even get launching a dialogue on broadening future commitments on the negotiating agenda. One thing is clear, though, that when it comes to negotiating developing country commitments, it is in the interest of China to join with other developing countries and negotiate developing country commitments under the United Nations Framework Convention on Climate Change (UNFCCC). This will give China much more clout in the final collective bargaining to determine its emissions commitments.¹ International climate negotiations in Bonn and Marrakech clearly demonstrate China's devotion to the Kyoto Protocol. Table 1 shows the positions of China and the final decisions in the Marrakech Accords. It clearly shows that China is willing to give on many issues in order to keep the Kyoto Protocol alive and that China continues to aspire to be recognised as a responsible member of the international community.

¹ It is worthwhile mentioning that China had made a concession to U.S. demand for the extent of openness for markets of many products and services when undertaking a number of rounds of bilateral negotiations with the U.S. to work out the terms for China to get accession to the WTO. The reason why China gave in a great deal is because China faces both obligations and benefits from getting accession to the WTO. But the situation is quite different in case of implementing joint accession by the U.S. and China where China may well perceive only costs.

Table 1 China's Compromises in the Marrakech package

Issue	China's position	COP Decision
Fungibility between the three Kyoto mechanisms	No fungibility	CERs, ERUs, AAUs fungible
Sink provisions under Articles 3.3 and 3.4 of the Kyoto Protocol	No additional sinks credits to Annex 1 countries	Additional sinks credits given to Russia, Japan and Canada
Share of proceeds	All three Kyoto mechanisms	Only CDM
Composition of CDM Executive Board	Geographical representation	Give Annex 1 countries more representatives
Unilateral projects under CDM	Not allowed	Allowed
Nuclear projects under CDM	Allowed	Refrain from using nuclear power to generate CERs

Second, the legitimacy of the U.S. insistence that it will re-join the Kyoto Protocol or a follow-up regime only if major developing countries join as well is questionable. Given that the U.S. is the world's largest economy and emitter of greenhouse gases, it has both the responsibility for the global climate problem and the ability to contribute to solving it. To have a significant long-term effect on global greenhouse gas emissions, a global climate regime eventually must include substantial participation by developing countries. But the U.S. conditioning its commitments on developing countries' commitments is unlikely to induce participation by developing countries. In my view, unless the U.S. has made credible commitments itself, it does not have the moral right to persuade developing countries to take meaningful abatement actions. International climate negotiations prior to the U.S. withdrawal from the Kyoto Protocol suggest that U.S. taking on the commitments first and then jawboning developing countries including China had some impact on the position of developing countries and the timing of their commitments (Zhang, 2000b).²

² Prior to Kyoto, developing countries' demand for the U.S. to demonstrate the leadership and the EU proposal for a 15% cut in emissions of a basket of three greenhouse gases below 1990 levels by 2010 put collective pressure on the U.S., which leads the world in greenhouse gas emissions. At Kyoto, the U.S. had made legally binding commitments. The Kyoto target is seen as not enough but yet not unreasonable given that the U.S. economy would not be disrupted unreasonably. After Kyoto, the ball was kicked into China's court. The U.S. had made it clear that bringing key developing countries, including China, on board had been and would continue to be its focus of international climate change negotiations. According to some U.S. Senators, it will be countries like China, India and Mexico that will decide whether the U.S. will ratify the Kyoto Protocol. It is therefore conceivable that the pressure will mount for China to make some kind of commitments at the negotiations subsequent to Buenos Aires. The world's media will undoubtedly bring attention to China's non-participation, which will be seen as holding up the ratification of the Protocol by the U.S. Senate and possibly even be blamed for "blowing up" subsequent negotiations aimed at dealing with developing countries' commitments. The U.S. commitments at Kyoto and diplomatic and public pressure on China had put China in a very uncomfortable position. It looked like China would be

Third, developing countries have been sensitive to commitment issues, and the U.S. position at the eight Conference of the Parties to the UNFCCC in New Delhi makes the launching of a dialogue on broadening future commitments difficult, not to mention to ask developing countries to take on commitments. The U.S. strikingly reversed the position on the commitments of developing countries in New Delhi in comparison with the position at Kyoto. At Kyoto, the U.S. called for stronger action by developing countries, but in New Delhi declared such discussion about developing country's commitments premature. This would have long-term implications because developing countries would defend their position using this argument in the future when being asked to take on commitments. This certainly complicates initiating discussions on joint accession by the U.S. and China.

Fourth, the U.S. withdrawal from the Kyoto Protocol does nothing but erode trust and reinforce the stalemate between the North and the South, and it is difficult to imagine that China and India would assume emissions targets before the U.S. re-entry into Kyoto or a follow-up regime. Doing so would be perceived as rewarding the U.S. for disregarding the Protocol.³

3. Technology Cooperation between the U.S. and China

In the previous section, we argue that joint accession by the U.S. and China is not a way forward. However, this by no means prevents the two countries from cooperating in their

pressured to take on commitments at much earlier date than what China wished (Zhang, 2000b). This situation has changed once the U.S. withdrew from the Kyoto Protocol.

³ The U.S. uses its re-entry of the Kyoto regime as a leverage to take on less stringent targets in the later commitment periods.

efforts to address climate issues by developing and deploying advanced energy technologies. Both the U.S. and China are participating in International Thermonuclear Experimental Reactor program to develop fusion energy for peaceful purposes. Since June 2003, the U.S. has initiated the following four multilateral initiatives on technology cooperation. The *Carbon Sequestration Leadership Forum* seeks to develop improved cost-effective technologies for the separation and capture of carbon dioxide for its transport and long-term safe storage. Its purpose is to make these technologies broadly available internationally as a means of mitigating climate change.⁴ It currently includes 21 countries and the EU. The *International Partnership for the Hydrogen Economy* (IPHE) is an effort to “advance the global transition to the hydrogen economy with the goal of making fuel cell vehicles available by 2020”.⁵ Launched in November 2004, the *Methane-to-Markets Partnership* (M2M) advances cost-effective, near-term methane recovery from leaking oil and gas systems, underground coalmines and landfills and uses it as a source of clean energy.⁶ The U.S. government is committing up to US\$ 53 million over the next five years to support this Partnership. Finally the Generation IV International Forum supports research and development for the next generation of safer, more affordable and more proliferation-resistant nuclear energy systems.⁷ All of these initiatives emphasize the development and deployment of clean technology, and have not

⁴See the Carbon Sequestration Leadership Forum web sites at: <http://www.fossil.energy.gov/programs/sequestration/cslf>; <http://www.cslforum.org>.

⁵ See the IPHE web site at: <http://www.iphe.net>. Domestically, the IPHE is complemented by the *Hydrogen Fuel Initiative*, which seeks to accelerate the transition to a hydrogen economy through cooperation with the private sector.

⁶ See the M2M web sites at: <http://www.epa.gov/methane/international.html>; <http://www.methanetomarkets.org>.

⁷ See the Generation IV International Forum web sit at: <http://www.gen-4.org>.

established legally binding emissions targets. They set out immediate and medium-term actions, including possible flagship projects, to achieve the stated outcomes.

To date, China is only few developing countries that participate in all these U.S.-led initiatives.⁸ For example, one flagship project under the M2M is that U.S.-based engine manufacturer Caterpillar Inc. was awarded a US\$ 58 million contract from China to supply the power generation equipment for the world's largest power plant fueled by coalbed and coal mine methane from the Sihe mine. This project is the result of collaborative efforts between the public and private sectors through the M2M. Once the power plant of 120 megawatts has been completed, 4.5 million tons of carbon dioxide equivalent emissions are estimated to be avoided each year. This is equivalent to take out emissions from one million cars annually (U.S. EPA, 2006). Except few projects like this, however, China's participation in the U.S.-led initiatives is limited to large extent by lack of financial and technical capacity. This will limit the prospects for China to adopt advanced mitigation technologies at an early stage and thus undermine their effectiveness of helping China to significantly lower its growth rate of greenhouse gas emissions.

Largely reflecting its belief that technological development, deployment and transfer is solution to climate problems, the U.S. proposed, and together with other five nations – Australia, China, India, Japan, and South Korea, announced in July 2005 the formation of the Asia Pacific Partnership for Clean Development and Climate (APP) in Vientiane. Australian and the U.S. governments claim that this pact is a technology-

⁸ At the recent China-U.S.Strategic Economic Dialogue in Beijing, China agreed to join the Government Steering Committee of the FutureGen project, a US\$1 billion initiative announced by President Bush in 2003 to build a prototype power plant of 275 megawatt that will remove and sequester carbon dioxide while producing electricity and hydrogen from coal. This makes China the third country to join the U.S. in the FutureGen International Partnership (U.S. DOE, 2006).

focussed, pro-growth approach to climate change. It is about substance rather than symbols; results rather than rhetoric. However, when the pact was announced, no details had been agreed on. So, while it drew great attention of the media, this lack of information led the European Union and its member states to be very cautious. Their initial official reactions turned to emphasize that the pact is not a substitute for global agreements like the Kyoto Protocol. But the views from the environmental groups worldwide and some leading politicians were very critical. The leading U.S. Senator John McCain said that the pact “amounts to nothing more than a nice little public-relations ploy...It has almost no meaning. They aren’t even committing money to the effort, much less enacting rules to reduce greenhouse-gas emissions” (quoted in Little (2005)). The environmental groups were fairly united, criticizing that the pact is nothing but a repackaging of existing technology partnerships and short on substance.

Then, in January 2006, the six partner countries met at Sydney for their inaugural ministerial meeting to flesh out the APP. They adopted a Chapter aimed to implement the vision of pursuing development and poverty eradication, and jointly established eight public-private sector task forces (covering cleaner use of fossil energy, renewable energy and distributed generation, power generation and transmission, steel, aluminium, cement, coal mining, and buildings and appliances) and defined their work plans.⁹ It becomes also clear that the APP focuses on technological development, deployment and transfer. These fleshes help us to have a better understanding of the APP, although it is still very difficult to infer its full effectiveness at this stage.

⁹ See the APP web site at: <http://www.asiapacificpartnership.org>.

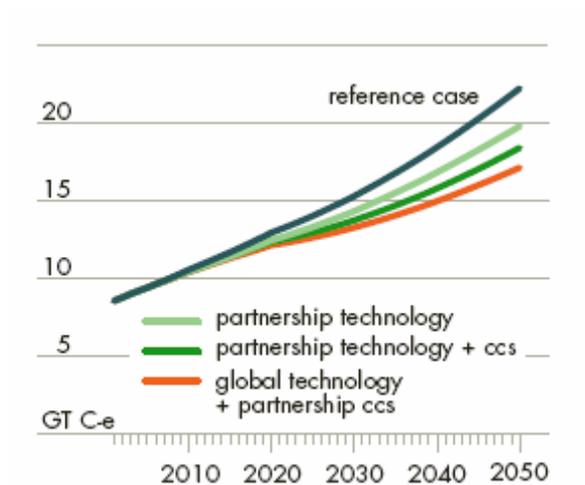
The partnership brings together - for the first time – the six key developing and developed countries in the region to address the challenges of air pollution, energy security and climate change in a way that is designed to promote economic development and reduce poverty. The six countries represent almost half of world GDP, energy consumption, greenhouse gas emissions and population. Given the scale of this group, theoretically speaking, the APP has the potential to make a significant impact. The U.S. led this initiative. On the U.S. side, the President Bush has requested US\$ 52 million in the upcoming FY2007 budget to support the efforts of the APP.

Based on the current information available, my adjument is that the APP can contribute the overall efforts, but whether it is going to deliver any substantial outcomes as Australian and the U.S. governments claim remains to be seen. Three reasons for my cautiousness. First, the partnership does not incorporate legally binding commitments or targets to reduce greenhouse gas emissions. Rather, it will rely on voluntargy measures to encourage the take-up of greenhouse gas reducing investments. This has raised serious concern about its effectiveness. Past experience shows that voluntary measures can be helpful, but not enough to ensure that new technologies will roll out at the pace and on the scale that we need. The modeling work by the ABARE (2006) indicates that, even with favorable assumptions on the timing and scope of adopting advanced technologies, global greenhouse gas emissions are expected to rise from 8 gigatons of carbon equivalent in 2001 to over 17 gigatons in 2050 as a result of the APP activities (see Figure 1).¹⁰ This means that global emissions would more than double with the APP,

¹⁰ Note that even if all commitments were met by Kyoto parties, global greenhouse gas emissions could still rise to well above the 1990 levels during the first commitment period. But what makes the Kyoto Protocol different from the APP is that the Protocol, as

although they would rise to over 22 gigatons in 2050 in the absence of the APP. This is far from the required greenhouse gas reductions in the order of 60-80% by the middle of this century to avoid dangerous climate-induced changes.

Figure 1 Global Greenhouse Gas Emissions by 2050 under Various Scenarios



Partnership technology scenario refers to increased energy efficiency and uptakes of advanced energy technologies in key sectors;

agreed, is only intended as a first step, and includes specific reference to a second commitment period to follow the first. As exemplified by the Montreal Protocol, the history of international environmental agreements has almost entirely been one of increasing the scope and strength of commitments, and there is no fundamental reason why the future development of the Kyoto Protocol should be any different (Grubb et al., 1999). Now the open-ended Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol was established at the COP/MOP1 in Montreal, December 2005 to have the charge of negotiating post-2012 commitments for developed countries. In its submission on future reduction paths, the European Union calls for developed countries to cut their greenhouse gas emissions by 15-30% by 2020 and by 60-80% by 2050 from their base year 1990 levels.

Partnership technology + CCS scenario refers to the same technology advances plus the use of carbon capture and storage (CCS) technologies in electricity generation in all partnership countries at different times;

Global technology + partnership CCS scenario refers to the diffusion of more energy efficient technologies throughout the world, with the CCS being used only within the partnership countries.

Source: ABARE (2006).

My another concern is the extent to which the APP is going to facilitate the transfers of low emission technologies, once they become available, to developing partners like China and India, beyond that already being achieved through the Kyoto flexibility mechanisms like the clean development mechanism, which encourages the transfers of low or zero emission technologies to developing countries by allowing industrialized countries to meet part of their emission reduction obligations using the emission credits generated through investment in emission abating projects in developing countries. This is very crucial for China and India to deploy these technologies in order to significantly lower their growth rates of greenhouse gas emissions. This is the key criterion to assess the effectiveness of the APP. I believe that expectation for significant transfers of advanced energy technologies in addition to that already occurring under the CDM is the main motive for the two largest developing countries to join in the APP.¹¹

¹¹ Prodipto Ghosh, Secretary of the India's Ministry of Environment and Forests, was quoted as saying that "we had hoped for much larger foreign direct investment. We are disappointed by the scale of foreign technology under CDM". India is the second largest host of CDM projects (Zhang, 2000a, 2004 and 2006). Even if the Indian government is disappointed by the scale of technology transfer under the CDM, then prospect for

The question then is whether the two countries are able to get and afford to these technologies. This requires some kind of market incentives, given that most advanced technologies are commercially valuable and held by private companies. It is true that the APP views the private sector as critical to its efforts. But for now at least, I don't see such market incentives there. Without such incentives, governments can do little to ensure the transfers of these technologies to the scale that we need to have a real impact on the emissions of these two countries. As a result, this will undermine the effectiveness of the APP.

The third concern is the level of funding provided. The success of the APP will depend heavily on it. At this stage, Australia has promised AU\$100 million over the next five years, and the Bush administration is struggling to persuade the Congress to approve the requested US\$ 52 million in the upcoming FY2007 budget to support the efforts of the APP. To put these initial sums into perspective, the global carbon market was valued at € 9.4 billion in 2005 (Point Carbon, 2006) and was estimated to be a value of US\$ 21.5 billion in the first nine months of 2006 (World Bank, 2006), while the combined value of the global markets for biofuels, wind power, solar PVs, and fuel cell and hydrogen equalled US\$ 39.9 billion in 2005 (Clean Edge, 2006).¹² Clearly, the sums are very small, compared with current investment in low or zero carbon emission technologies. Another reference is the overall need for investment in the energy sector.

technology transfer under the APP is hardly to be brighter than that under the CDM. See the *AFP News* "India 'Disappointed' by Foreign Help with Climate Change", 7 December 2006, Available at:

http://news.yahoo.com/s/afp/20061207/wl_sthasia_afp/indiaclimatewarming.

¹² According to Clean Edge (2006), in the year 2005, the market for biofuels (ethanol and biodiesel) hit US\$ 15.7 billion, the wind power and solar PVs markets reached US\$ 11.8 billion and US\$ 11.2 billion respectively, while the fuel cell and distributed hydrogen market rose to US\$ 1.2 billion.

IEA (2006) estimates that the cumulative investment of US\$ 20.2 trillion is needed to meet increasing global energy demand over the period 2005-2030. While it is an open question to say that these initial sums are a drop in the ocean compared to what is needed, it is fair to say that the current funding provided is minute. Clearly, the APP leaves a large gap between its current funding commitments in emissions reduction and the overall needed investment in lower carbon technologies. The U.S. government expects the private sector to fill in the gap. James Connaughton, Chairman of the Council on Environmental Quality at the White House, was reported in January 2006 as saying that “the real dollars we are looking for are the private sector dollars, we are talking tens of billions of dollars if not hundreds of billions of dollars. If we don’t get the investment sector we can’t succeed.” (Quoted in Regan (2006)). In a testimony to the U.S. Senate’s Environment and Public Works Committee in September 2006, he said that the partnership’s success “should be measured not by how much governments and taxpayers spend on the effort, but on how much new private sector investment and financing can be unleashed and accelerated to achieve partnership security and environmental performance goals.” (Quoted in Griffin (2006)). The aforementioned eight sector task forces have developed an initial set of about 100 projects and activities under their corresponding Action Plans, and the Policy and Implementation Committee of the APP endorsed these plans at its meeting in Jeju Island, Korea, October 2006 (APP, 2006). It is expected that these sector task forces get something in the process of implementing an initial portfolio of these projects and activities. However, given that the APP does not have much money on the table and the past record of limited leverage of public funding, it is not at all clear

whether the APP is able to mobilize significant investment from the private sector to bridge the aforementioned large gap.

4. Concluding Remarks

The U.S. and China are the world's largest and second largest CO₂ emitters, respectively, and to what extent the U.S. and China get involved in combating global climate change is extremely important both for lowering compliance costs of climate mitigation and adaptation and for moving international climate negotiations forward. To get the world's largest emitter back to the international regime, some analysts suggest for joint accession by the U.S. and China. While it is unavoidable that China will take on commitments at some specific point of time in the future, this paper has argued that the U.S. conditioning its commitments on China's commitments is unlikely to induce China's participation. For various reasons, such a proposal for a China-U.S. bilateral regime is in the U.S. interest, but is not in the interest of China.

Political reality and institutional settings in the U.S. indicate that the country will not return to Kyoto anytime soon. Recognizing that, at least for the time being, cooperation under the Kyoto framework seems impossible, other forms of cooperation between the two largest emitters need to be encouraged and explored. The U.S. strongly believes that technology holds the key to solve climate problems, and accordingly has led the four multilateral initiatives in the areas of carbon separation and capture, hydrogen, methane recovery and advanced nuclear energy systems. All of these initiatives emphasize the development and deployment of clean technology, and set out immediate

and medium-term actions, including possible flagship projects, to achieve the stated goals. China has participated in all these U.S.-led initiatives. But its participation is limited to large extent by lack of financial and technical capacity. This will limit the prospects for China to adopt advanced mitigation technologies at an early stage.

Largely inspired by the same basic principle, the U.S. proposed and, together with Australia, China, India, Japan, and South Korea, formed the Asia Pacific Partnership for Clean Development and Climate. While environmental groups view the partnership as a breakaway from Kyoto, the partners describe it as complementary to – and not a substitute for – the UNFCCC and the Kyoto Protocol. In my view, the APP can contribute the overall global efforts, by aligning a portfolio of very practical, sector-based actions to increase energy security, reduce air pollution and cut greenhouse gas emissions. Indeed, integrating energy security, air pollution and climate issues under the APP has been considered a plus. Take China and the U.S. as an example. Cooperation on these broader issues will yield benefits to both countries as well as the whole world. To what extent energy conservation, hydropower, nuclear power and renewable energies are going to play in lowering the overall dominance of coal in China's energy consumption and putting the country on the path further away from fossil fuel reliance in the future is an issue of perennial great concern, not simply for China because this gives rise to unprecedented environmental pollution and health risks in China (Zhang, 2005), but also for the U.S. because spreading air pollutants from China is reported to go as far away as the U.S. (quoted in Chea (2006)). Moreover, China is already the world's second largest oil importer behind the U.S., importing over 40% of its oil consumption. If clean technologies from the U.S. are transferred and deployed in China, that will reduce its

needs for fossil fuels and increase alternative energy sources to meet a larger portion of the nation's energy needs. This will reduce its growing hunger for foreign oil, leave more oil on the market, and thus help to stabilize the oil prices. This will significantly benefit the U.S., because this will reduce the world's largest importer spending on oil and reduce potential conflicts between the two countries in the current and emerging oil fields.¹³ In addition, the APP could add some value to the Kyoto process by bringing some key missing players to the table, shedding lights on those sectors that have to date been left out by the CDM, and adding the flexibility in implementing actions. However, few people see the APP as a star policy recruit. For the various reasons, whether this voluntary, cash-hunger partnership is going to prove a valuable team player remains to be seen.

Finally, I like to emphasize that the role of the U.S. is of paramount importance to either effective China-U.S. cooperation or global efforts towards climate control. The U.S. has led several multilateral efforts in this area, but has not taken the lead in global efforts towards combating global climate change. Winston Churchill said that “[you] can always count on the Americans to do the right thing – after exhausting every other alternative.”. In my view, the U.S. leading the world in climate control or setting a good example for China may well be remembered as a case where Americans can do the right thing after exhausting at least some of the alternatives. Only history will tell us whether that will be a case.

¹³ China's practice of oil diplomacy is widely perceived in Washington as attempts to threaten U.S. security interests because Beijing strikes deals either with the so-called rogue states that Washington has tried to marginalize or in America's backyard which Washington perceives as its turf and within its traditional sphere of influence (Zhang, 2007).

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