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Editorial

Same dream, different beds: Can America and China take effective steps to solve the climate problem?☆

In June 2013, Presidents Obama and Xi agreed to work toward eliminating the production and consumption of the powerful greenhouse gases known as hydrofluorocarbons or HFCs. They followed this initiative in September with an agreement to pursue this goal within the framework of the Montreal Protocol. This is a welcome development in efforts to address a prominent form of global environmental change. But as the level of carbon dioxide in the Earth's atmosphere rises above the symbolically significant benchmark of 400 ppm, we are reminded that the climate problem has reached crisis proportions and that there is a need to address this problem through effective measures to reduce CO_2 emissions. America and China hold the keys to progress in this realm, contributing about 44% of current global emissions (America ~ 16%, 16%, China ~ 28%).[1] No effort to solve this problem can succeed without concerted action on the part of the two countries. Vigorous actions on their part might well provide the leadership needed to energize the efforts of the Ad Hoc Working Group on the Durban Platform to craft a new legally binding instrument to fulfill the mandate of the UN Framework Convention on Climate Change to avoid "dangerous anthropogenic interference with the climate system" (UNFCCC, 1992, Art. 2).

The two countries face profound but distinct challenges regarding the climate problem (see Fig. 1). Although total American emissions are now showing modest declines, emissions per capita remain among the highest in the world. Chinese emissions have risen at an annual rate of 8–9% since 2000, despite the success of efforts to reduce energy intensity. Emissions per capita are also rising, en route to matching those of some advanced industrial countries. In both countries, effective measures to address the problem of climate change will require macro-level socioeconomic changes reflecting an updated vision of human well-being that deemphasizes material consumption and moves beyond GDP as the principal indicator of progress (Costanza et al., 2012).

Can the two countries rise to this challenge? Although less visible or emotionally charged than earthquakes, tsunamis, or wars, the climate problem has reached crisis proportions. There is no guarantee of success in responding to this crisis. But both countries have demonstrated a capacity to respond effectively to severe crises in the past. The American mobilization as the "arsenal of democracy" during World War II and the Chinese reforms initiated in 1979 in the aftermath of the Cultural Revolution are prominent examples. Like all crises, moreover, the climate crisis offers not only threats but also opportunities to introduce innovations in policymaking and policy implementation needed to break the grip of path dependence that stymies movement beyond business as usual under normal circumstances.

Given the differences in their governance systems, America and China must pursue this common goal in their own ways. It is unrealistic to expect the two countries to embrace similar environmental governance systems during the foreseeable future. Nevertheless, there are opportunities to learn not only from their own but also from each other's prior experiences in addressing the climate problem, during a time when leaders in both countries are evaluating the effectiveness of existing governance systems and searching for helpful innovations.

At the level of policymaking, American leaders must find a way to overcome legislative gridlock resulting from political polarization as well as the tendency to produce byzantine and confusing political compromises arising from efforts to overcome gridlock (Aldy and Pizer, 2009). President Obama's decision to rely on executive initiatives in his Climate Action Plan announced in June is understandable. Nevertheless, it is hard to exercise executive authority effectively in the face of entrenched and determined congressional opposition. Fortunately, the American political system is dynamic; opportunities to move forward on climate legislation can arise unexpectedly. The next time around it will be essential to present the issue in a manner that appeals to the general public by choosing an option (e.g. the cap-and-dividend system) that offers tangible benefits to the ordinary citizen rather than cap-and-trade, which provides benefits mainly to efficient corporations (Barnes, 2003).

The challenge for China at the level of policymaking differs since leaders can count on approval on the part of the State Council and the National Peoples Congress regarding the terms of the Five Year Plans they propose. The inclusion of a separate chapter on climate change in the 12th FYP, crafted by the National Development and Reform Commission, is a step in the right direction. So is the adoption in September 2013 of a National Action Plan of Air Pollution Control. But these steps are not sufficient. President Xi and his colleagues must lead an effort in preparing the 13th FYP to move from a policy stressing reductions in energy intensity to a policy calling for reductions in GHG emissions. Since 2014 and 2015 will be the crucial years for hammering out the terms of this plan, scheduled to go into effect in 2016, it is time now for the leadership to confront this issue and to devise a workable method of initiating reductions in total emissions.

☆ Based on discussions occurring at the international conference on "The Performance of Environmental Governance Systems: Comparing America and China" held in Nanjing, China on 6–7 May 2013 and sponsored by the School of the Environment at Nanjing University and the Bren School of Environmental Science and Management at the University of Califorina (Santa Barbara).

[1] The next highest emitters are the European Union with ~11% and India with ~7% of global emissions (Global Carbon Project, 2012).

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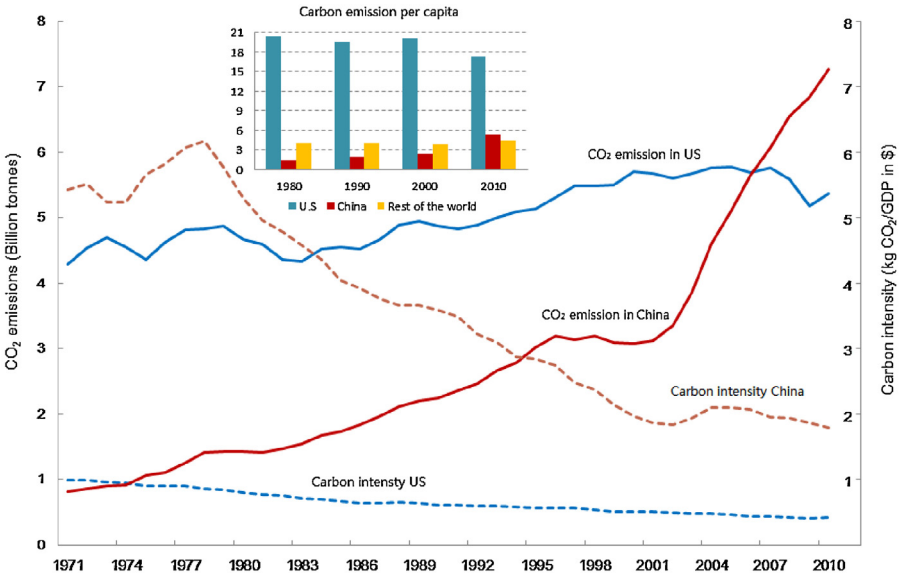

Fig. 1. Climate mitigation challenges in America and China.
Source: International Energy Agency, 2012.

The gap between policymaking and policy implementation is substantial in all political systems. Both America and China need to reform processes of policy implementation to ensure that all components and levels of government work together to fulfill climate goals. In America, where the federal government has relied largely on the Environmental Protection Agency to implement environmental policies, a key challenge is to ensure that all government agencies join forces to address the problem of climate change. In addition to working with the EPA to finalize and implement regulations regarding emissions from power plants, for example, President Obama should use his executive authority to require all federal agencies to produce concrete plans for contributing to reductions in GHG emissions. In China, where implementation is largely delegated to provincial and local governments, innovations are required to ensure that resources are available to fulfill directives emanating from Beijing, demonstrate how reducing GHG emissions can produce co-benefits that enhance the well-being of local residents (e.g. improvements in air quality), and reorient the behavior of provincial and local officials who have long assumed that their performance evaluations depend mainly on measures of economic growth.

There is progress to report in both cases. The Obama Administration has taken steps to quantify the social costs of atmospheric carbon and to coordinate climate initiatives across federal agencies as well as to advance EPA's regulatory efforts. The president could assign to the Council on Environmental Quality the task of monitoring these efforts. Led by California, which has passed climate change legislation and launched a cap-and-trade system of its own, numerous state and local governments are experimenting with innovative approaches to implementation. An especially promising initiative is the new alliance joining California, Oregon, and Washington along with the Canadian Province of British Columbia in a coordinated effort to combat climate change. China is using pilot projects to test new policy instruments (including carbon trading arrangements) and applying the *Target Responsibility System* to the pursuit of environmental goals, shifting to a *block* system in which all government agencies bear responsibility for implementation in contrast to a *line* system in which implementation is the responsibility of environmental agencies (Qi and Wu, 2013). Linking environmental and economic goals and mandating the conduct of social risk assessments in conjunction with major industrial projects, this shift has the potential to put officials on notice that they cannot leave the pursuit of environmental goals to local Environmental Protection Bureaus (Liu et al., 2012a). The announcement that Shenzhen Province and the State of California will share their experiences in developing incentive-based systems for reducing carbon emissions is welcome news in this context.

The two countries can also learn from each other's experiences regarding approaches to policy implementation that maximize effectiveness. The law and the plan, for example, can function as complementary mechanisms for guiding the behavior of human actors (Guttman and Song, 2007). Although issues of scale are clearly important, the case of Portland, Oregon where per capita emissions have fallen by 25% shows that there are opportunities to make progress by emphasizing planning procedures that rely on the setting of common targets, without undermining the American commitment to the rule of law. China is supplementing planning by adjusting laws to allow non-state actors (e.g. environmental NGOs) to use legal procedures to enhance compliance with environmental regulations; social networks (e.g. the microblog *Sina Weibo*) are becoming significant forces in mobilizing public pressure on officials, and large public protests triggered by environmental problems (e.g. extreme air pollution events like the October 2013 "airpocalypse" in Harbin) are now regular occurrences (Liu et al., 2012b).

Important as they are, these institutional innovations are not substitutes for the efforts of leaders to inspire people to think about alternatives to the current practice of focusing on GDP growth, regardless of the consequences for planetary life support systems (e.g. the Earth's climate system) and the maintenance of essential ecosystem services. Studies of environmental governance systems consistently point to the engagement of visionary and persistent leaders as a necessary condition for success (Young and Osherenko, 1993). The mark of effective leadership is not a capacity to master the intricacies of technical procedures. Rather, it is the ability to define the broad outlines of new political narratives, communicate the essential features of these new visions in a persuasive way to the general public, exercise the political skills needed to form winning coalitions, and assemble teams of talented and motivated individuals who are able and willing to work together to move agreed upon innovations from paper to practice.

This is a tall order under the circumstances prevailing in America where many people today are struggling to avoid the stigma of downward social mobility and in China where many people are struggling to achieve a standard of living that

resembles that available to the citizens of advanced industrial countries. In this setting, issues like climate change that are global in scope, focused on future developments, and afflicted by severe uncertainties seldom gain political traction. Particularly troublesome in this case is the fact that the dangers associated with climate change are intangible; it is relatively easy for people to convince themselves that the threat of climate change is not real or that any adverse impacts will occur far enough into the future to be of little concern. But crises provide rare opportunities for the rise of exceptional leaders who are able to articulate compelling visions that make it possible to break the grip of path dependence that rules out transformative changes in most societies most of the time.

In the case of climate change, the key to success will be the development of a common understanding of the problem in both America and China that allows these two essential countries to chart a common course on climate change, while strengthening the capacity of their own governance systems to implement mutual commitments domestically. Specific initiatives focusing on issues like short-lived climate pollutants (e.g. HFCs and black carbon) and integrating the efforts of subnational governments and the business community will help. But there is no substitute for confronting the problem of CO_2 emissions directly and launching the socioeconomic transformation needed to solve this problem.

This may seem utopian in the current political environment. But, in reality, it is business as usual that is the utopian fantasy. The agreement between Presidents Obama and Xi on HFCs, the announcement of President Obama's Climate Action Plan, and action on the part of China's State Council to launch a National Action Plan of Air Pollution Control provide clear evidence that climate change and atmospheric issues more generally have risen to the top of the policy agenda in both countries. Whatever their differences on other issues, both presidents have acknowledged the need to prioritize the climate problem. The climate problem is global in scope. But resolute and coordinated action on the part of America and China could turn the tide, replacing a vicious circle replete with mutual recriminations and weak excuses for failure with a virtuous circle energizing the transformative processes needed to safeguard the climate system. Not only would this make a difference regarding climate change; it would also point the way toward addressing other problems of global environmental change that are profoundly important but difficult to solve because we have not found ways to disaggregate them into politically digestible components.

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