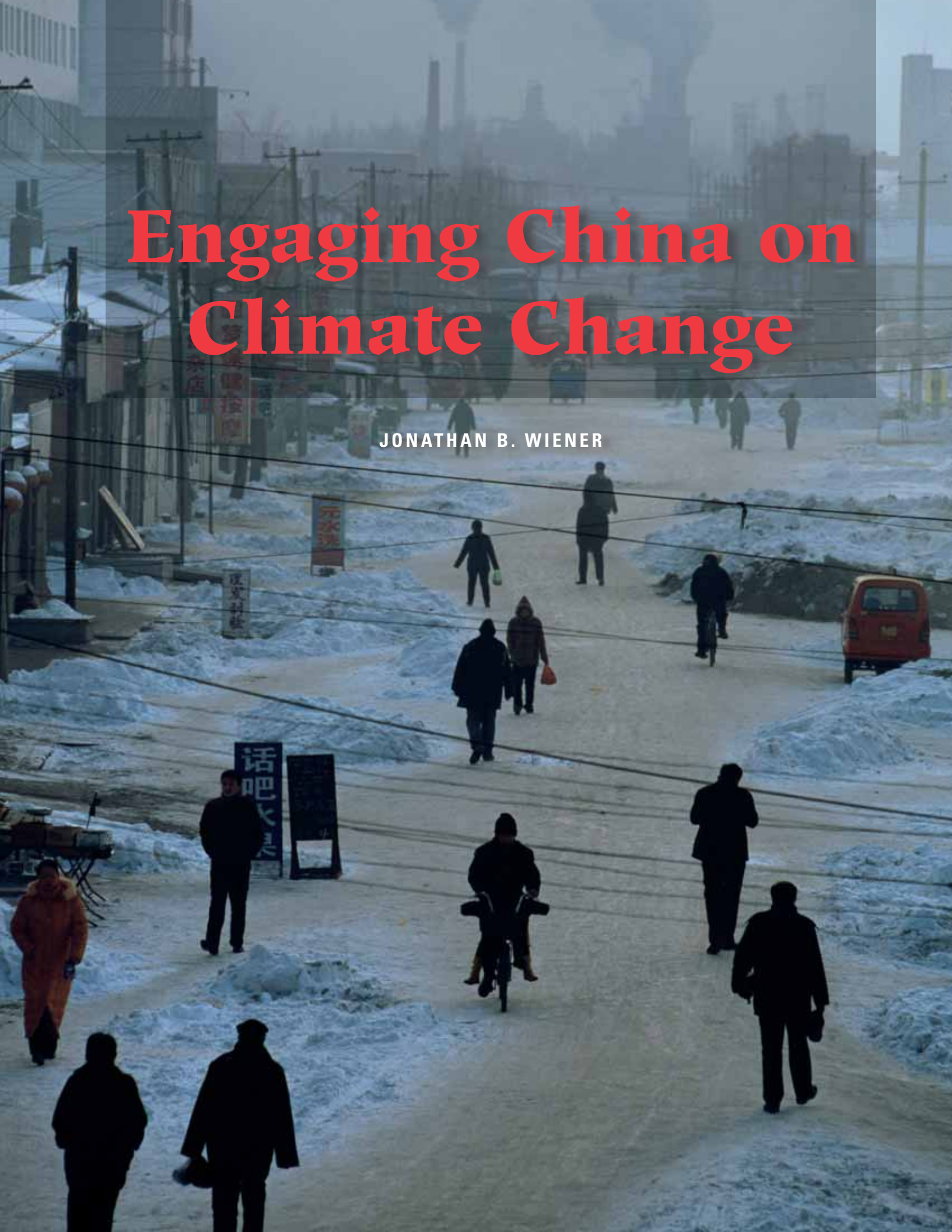
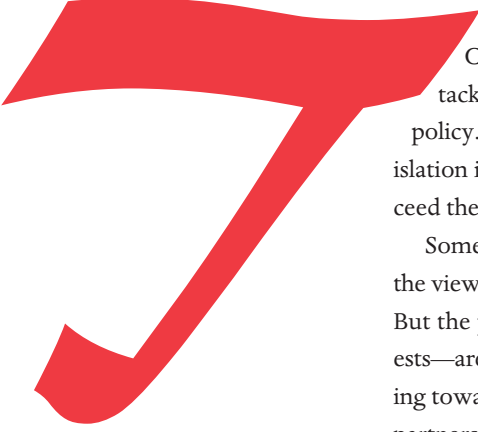


Engaging China on Climate Change

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o reduce global emissions of greenhouse gases, the United States must act, and it must engage China in serious action. But can this be done? The challenge is great, yet too important not to tackle. Indeed, we need to address it promptly. The year 2009 may be pivotal for climate change policy. The Obama administration has taken office and must face this question head on. Climate legislation is pending in Congress. And the Bali Action Plan calls for negotiations on a new treaty, to succeed the Kyoto Protocol, to be completed by the end of this year.

Some have argued that China cannot be persuaded to limit its greenhouse gas emissions, based on the view that China's leaders see such action as harmful to China's national interest in economic growth. But the prospects for engaging China in climate policy—by appealing to China's own national interests—are brighter than this view implies. China's domestic and international interests appear to be shifting toward support for limiting its emissions, provided the United States engages China in a respectful partnership through an effective international climate regime. Here I examine six key factors driving this shift: rising climate impacts, public health co-benefits, distributional impacts and extreme events linked to political instability, falling costs of abatement, China's rise to great power status, and the design of the international climate policy regime itself.

Global Emissions and China

Though the United States had long been the world's top emitter of greenhouse gases (GHGs), China's emissions have been growing rapidly. A decade ago, around the time of the Kyoto Protocol negotiations, China and other developing countries were predicted to surpass the United States and other industrialized countries in carbon dioxide (CO₂) emissions by about 2030. But by late 2006, experts at the International Energy Agency forecast that date advancing to 2009; just a few months later, in early 2007, they updated the timing to 2007 itself. (Although America's cumulative contributions since 1800 still exceed China's, that gap is narrowing quickly.) China is now the world's largest CO₂ emitter, and its emissions continue to grow faster than those of other major countries. A recent Electric Power Research Institute study projects that GHG emissions from China and other developing countries are growing so fast that they would push global atmospheric GHG concentrations beyond 450 parts per million (ppm) by the year 2070 (up from a level of 275 ppm about two centuries ago, and 380 ppm nowadays), even if all emissions from industrialized countries such as the United States and those in Europe were reduced to zero today.

Moreover, there is a further reason to engage China: the phenomenon of international emissions "leakage." Emissions limits adopted by the United States alone (or even in concert with Europe) would not only fail to restrain China's rapidly growing emissions, but worse: in a dynamic global economy, such partial regulatory coverage would induce transnational leakage of emissions-intensive activities from more-regulated to less-regulated countries. Changes in world prices for resources such as fossil fuels and timber, spurred by partial GHG limits, can also yield increased emissions in less regulated countries. Studies at MIT and elsewhere suggest that such leakage could be quite significant. There is even anecdotal evidence that leakage from Europe to China (such as in steel manufacturing) may have contributed to part of China's faster-than-expected emissions growth over the last few years.

Leakage shapes politics as well. The fear of emissions leakage draining international competitiveness and jobs can sap the political will needed to adopt emissions limits. This fear was a key factor in the U.S. Senate's unanimous rejection of the Kyoto Protocol in 1997. Although Congress is more supportive of climate legislation today, it is still less likely to act without at least some corresponding action by China and other major emitters. Meanwhile, leakage makes China's economy more emissions-intensive, raising the cost of persuading China to adopt emissions limits.

Persuading China

Our challenge is to achieve the global public good of climate protection—averting a tragedy of the global commons—through consensual action by heterogeneous national actors. How can the United States act and engage China on climate change, as well as on other major issues, based on our common interests and despite our significant differences?

As with many other social problems, there are at least two basic approaches one might take to influence behavior: accept people as they are and try to change the incentives and institutions that guide their behavior; or try to change the people, their preferences, values, and internal norms, so that they think differently. That is, one can design external incentives or inculcate internal norms (or both): change the rules or change the players.

In international relations theory, as strategies to persuade national governments to act, these two approaches are termed “realism” with “thin persuasion” through incentives, information, and bargaining; and “constructivism” with “thick persuasion” through changing deeper preferences, norms, and identities. (Realist persuasion can include appeals to domestic institutions and interest groups. The state is not a monolith; successful international strategies often must look beyond national aggregate net benefits to address key elements of the domestic distribution of interests.)

A constructivist strategy to reshape norms may accomplish some results over time in the United States, but trying to push China (or other countries) to adopt new norms may achieve little, or could even prove counterproductive. Humility in a world of cultural pluralism counsels caution. Inculcating norms could backfire if it were seen in China as patronizing or an “eco-imperialist” throwback to colonial hubris. A culture clash might mean more coal combustion in China, not less. Past zeal for a cultural transformation in China, such as China’s “cultural revolution” and its “great leap forward,” driven by appeals to ideological orthodoxy, are hardly inspiring precedents. The real advances in recent Chinese development have come from liberal economic policies—specifically from reformed incentives.

Even in U.S. environmental policy, championing virtue over incentives has led, at least at times, to absolutist approaches that neglected pragmatic incentives and trade-offs. The old notion that pollution is a sin to be expiated by costly absolutist controls is now progressively being succeeded by the use of economic incentive instruments (such as cap-and-trade systems) that internalize harms and reconstitute markets to prevent pollution, achieving more environmental protection at less cost. For climate policy, these cost savings are highly significant, roughly on the order of 75 to 90 percent less to limit GHG emissions through a comprehensive cap-and-trade approach than to adopt narrow inflexible policies. And lower cost also means more likely adoption and enforcement by governments worried about their struggling economies.

Climate policy should not be about ideology, but about what works—how to design and aim incentives. Constructivist cultural change may be too slow. Decisions about long-term investments in energy generation are being made now. Changing incentives now can affect those choices; inculcating a mass cultural transformation may take too long. The last three decades of Chinese leadership—from Deng to Jiang to Hu—show that the Chinese economy can respond rapidly and creatively to changes in rules and incentives.

Aligning National Interests and International Incentives

China’s national interest in climate policy is no longer as negative as had been supposed. China’s perceived benefits of climate policy appear to be rising and its perceived costs appear to be falling. The United States can seize this opportunity by designing a cost-effective international climate policy regime that engages cooperation by China.

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The aggregate impacts of climate change on China now look more serious. In the 1990s, some studies found that some changes, including longer growing seasons in northern China, could be benign. These studies could well have influenced the Chinese government's perception of the payoffs from a climate treaty regime and militated against its joining. But more recent studies, some conducted by Chinese experts, have started to show more negative impacts from climate change in China, including drought in northern China, flooding along southern rivers as glaciers melt, and sea level rise along the coast.

Second, climate policy could yield co-benefits in control of local conventional pollution, which has become severe, estimated by a World Bank study to kill perhaps 400,000 to 750,000 people per year and to cost about six percent of Chinese gross domestic product. If it also reduces emissions of conventional air pollutants from fossil fuel combustion, climate policy to reduce GHG emissions could simultaneously deliver important improvements in public health. (Some GHGs themselves, such as black carbon soot, appear to be culprits in both climate change and local public health effects.)

The Chinese leadership has put a high priority on reducing pollution, under the rubric of President Hu Jintao's official principles of "harmonious society" and the "scientific concept of development." In February 2008, the leadership reorganized the Chinese government into five "superministries," one of which is devoted to the environment. China has also set targets for greater energy efficiency, renewables, and for reducing pollution.

Third, China is concerned not only about aggregate impacts but especially about the distribution of adverse environmental impacts across the country, and about their influence on political stability. In every country, national net benefits are not monolithic, but interact with domestic political institutions and structures, which may help account for national action. Within China, the stunning rate of economic growth has brought with it widening income inequality and a huge wave of internal migration, with some 300 to 400 million people trying to move from rural areas to cities. China is especially worried about water availability (drought in the north, flooding in the south), water pollution, and air pollution. The Chinese leadership may plausibly fear that health and pollution problems amidst rising expectations may yield unrest.

Research in climate history has begun to suggest that rapid climate changes in China in past millennia have been associated with wars and the ends of ruling dynasties. Along similar lines, traditional Chinese beliefs (expounded by the ancient philosopher Dong Zhongshu) linked extreme environmental events to impending political upheaval. Although modernization may have reduced the intensity of these beliefs in China, gradual political liberalization may have allowed these ideas to become more prevalent, or at least more openly acknowledged. One recent example is public mention of the Tangshan earthquake that killed 250,000 people just before Mao Zedong died in 1976. And during the Lunar New Year in February 2008, strong snowstorms blocked railroad transportation, stranding millions of workers trying to head home from cities to rural areas for the holiday. Prime Minister Wen Jiabao personally appeared at a train station to apologize for the government's failure to handle the problem—evidently the first such personal apology in decades.

These historical records and traditional views coincide with the recent rise of environmental advocacy groups in China. Although far more limited than in the United States, pressure groups in China are increasingly seeking redress for environmental injury through protest and litigation (though limits on litigation can yield more protest). Frustration with government decisions is a common factor behind recent protests, including the outcry over the recent chemical facility project in Xiamen and the collapse of schools in the Sichuan earthquake.

The tensions within China—between urban and rural, rich and poor, wenbao versus huanbao (jobs versus environment), and explosive economic growth partly offset by costs of pollution—all illustrate the deep internal and distributional problems confronting China's leaders in the environmental arena. Climate change adds the potential for even more acute distributional tensions and upheaval.

Fourth, at the same time that the benefits of climate protection are rising, marginal emissions abatement costs may be declining. Technological change is improving the availability of options such as wind



energy and carbon capture and storage (ccs), and China is beginning to set aside space for ccs systems at its coal-fired power plants. The international climate treaties to date appear to assume that technological innovation occurs in the United States, Europe, and Japan, and must be transferred to developing countries. But China itself, like Korea and Taiwan, is becoming a more active arena of technological innovation (such as solar photovoltaic cells and batteries). And emissions abatement costs may also fall due to institutional innovation, such as the use of market-based cap-and-trade systems, which are now (with assistance from RFF, Environmental Defense, and others) being applied in China to control local air pollution.

Fifth, the net benefits to China from forestalling climate change are not limited to the physical impacts occurring within its borders. China's peaceful rise to great power status and hence its greater economic and political interdependence with other countries makes those external relations impacts all the more salient. For example, flooding, coastal dislocations, or food shortages in South Asia could pose problems for China in the form of refugee migrations, lost commerce, and even national security. The mid-1990s famine in North Korea drove hundreds of thousands of refugees into China. And if India and Africa suffer serious losses from climate change, then China, the world's largest emitter and a leader of the group of developing countries, might prefer to be part of the solution rather than part of the problem.

China's leaders may envision their role involving greater global responsibility and initiative. During the 1997–1998 Asian financial crisis, China acted to help pull other Asian countries out of their downward spiral, suggesting that China might undertake some economic sacrifice to build its role as a world leader. More recently, China's agreement on the phase-out of hydrochlorofluorocarbons (HCFCs) in September 2007, its cooperation with the United States on the Asia-Pacific Partnership for Climate Change and Development and climate-friendly technology, and its agreement to “measurable, verifiable and reportable” emissions reductions in the Bali Action Plan provide continuing evidence of its growing interest in taking a leadership role on global environmental issues.

Lastly, the design of the international climate change treaty itself can be crucial in engaging China. Treaties bind only countries that consent. Treaty designs that impose net costs on a country are unlikely to attract consent. An international comprehensive cap-and-trade system with equitable allowance allocations can both reduce costs to the United States (compared to a unilateral U.S. policy or a treaty with no trading), and offer net gains to China (even compared to no emissions limitation obligations), while helping to protect the planet from dangerous climate change. Such an incentive-based treaty could be developed through a new and mutually respectful partnership between these two global powers. ■

This feature is adapted from a longer article by the author, “Climate Change Policy and Policy Change in China.” *UCLA Law Review* 55: 1805–1826 (2008).

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