China's Road to Destruction:

Following the West on Global Warming

By Paul G. Harris

As China's economy continues to grow apace, the environmental costs to the region and the world are becoming increasingly apparent, writes Hong Kong academic Paul G. Harris. The great challenge, and opportunity, China faces is to chart a development path that doesn't imitate the destructive example of developed Western countries.

SINCE CHINA'S OPENING began three decades ago, it has become intimately connected to the world, and Chinese society has been transformed. This has brought many benefits to China and its people — not least, because it has lifted millions out of dire poverty — but it has come at a dreadful price. The country has rapidly become the global epicenter of environmental disaster, with most of its waterways polluted, its cities choked in smog and its people suffering the effects of severe ecological degradation of all kinds. It would be bad enough if the environmental effects of China's rise were restricted to its own borders. Alas, this is not the case. Increasingly, Asia and the wider world are suffering collateral damage from China's rapid economic growth as more of its people join the global consumer culture. Indeed, as China's economy and changing lifestyles demand huge quantities of raw materials and commodities and its manufacturers release massive amounts of pollution, it has surpassed the United States in its negative impact on the health of the earth.

The most profound environmental consequence of these developments is China's contribution to climate change.

ENERGY CONSUMPTION AND GREENHOUSE GASES

China's energy use has doubled since the 1980s and will likely double again by about 2025, with its consumption very inefficient by international standards. Its ratio of energy consumption to gross domestic product is twice that of India and the United States and five times that of Japan. With two-thirds of China's energy coming from coal, the dirtiest fossil fuel and the primary source of anthropogenic carbon emissions, no other country is as reliant on coal to fuel its economy. China is the world's largest consumer and producer of coal — it consumes twice as much as the US, for example — with coal use increasing 13 percent per year on average.[1]

China is now the largest source of greenhouse gas (GHG) emissions, particularly carbon dioxide, making it the No. 1 source of the pollution that causes global warming and climate change.[2] However, the country's per capita emissions remain well below those of developed countries. By way of comparison, carbon emissions per person in 2004 were 0.8 tons in China, 0.3 tons in India, 2.5 tons in Europe, and 5.5 tons in the US.[3] From 1990 to 2004, total carbon emissions from China increased by 67 percent to 1.021 billion tons per year, by 88 percent in India to 301 million tons, by 6 percent in Europe to 955 million tons, and by 19 percent in the US to 1.616 billion tons.[4] Although China's per capita GHG emissions re-

1 International Energy Agency, *World Energy Outlook 2006* (Washington: International Energy Agency, 2006).

2 Netherlands Environmental Assessment Agency, "China Now No. 1 in CO2 Emissions; USA in Second Position" (The Hague: Netherlands Environmental Assessment Agency, 2008).

3 Christopher Flavin and Gary Gardner, "China, India and the New World Order," in Linda Starke, ed., *State of the World 2006* (New York: W.W. Norton, 2006).

4 Ibid.

5 Maximilian Auffhammer and Richard T. Carson, "Forecasting the Path of China's CO2 Emissions Using Province-Level Information," *Journal of Environmental Economics and Management* 55, 3 (May 2008): 229-247.

6 Organization for Economic Cooperation and Development, *Environmental Compliance and Enforcement in China* (Paris: OECD, 2006).

7 David Wilson, "Designs on Sustainable Development," *South China Morning Post*, 14 February 2006.

8 Jonathan Garner, *The Rise of the Chinese Consumer* (Chichester: John Wiley, 2006).

9 Ibid.

10 "Cars in China: Dream Machines," *Economist*, 2 June 2005.

In major cities, once-ubiquitous bicycles have been banned on major roads to make way for private cars. With these changes have come waste and pollution.

main low relative to industrialized countries, its overall emissions will inevitably increase. Recent estimates, characterized as "conservative," predict that China's carbon emissions will increase by 600 million metric tons in 2010, dwarfing the 116 million metric ton cut pledged (but unlikely to be realized) by developed countries under the Kyoto Protocol.[5] Worryingly, China's carbon dioxide emissions over the coming quarter century will likely be twice that of all developed countries put together. This prospect becomes clear when one considers the frenzied construction of new coal-fired power plants, which will continue to pollute for half a century, and the burgeoning middle class in China, whose lifestyle choices are leading to dramatic increases in per capita energy use.

China's central government has for some time pushed industry to become more energy efficient, but despite improvements in recent years, economic growth is more than outpacing it. Given the country's growing reliance on imported energy, and the horrendous air pollution that has come from the burning of coal and the use of petroleum-derived fuels for transport, the government has passed new legislation to improve energy efficiency. It has also enacted new taxes on transport fuels, and its 11th five-year plan, set forth in 2006, defined new limits on energy use. Its automobile fuel-efficiency standards, at least as stipulated in government regulations, are now ahead of those in most countries, most notably the US. However, environmental and energy-efficiency regulations are routinely violated due to systemic corruption and constraints on local environmental bureaus that result in limited enforcement outside Beijing.[6]

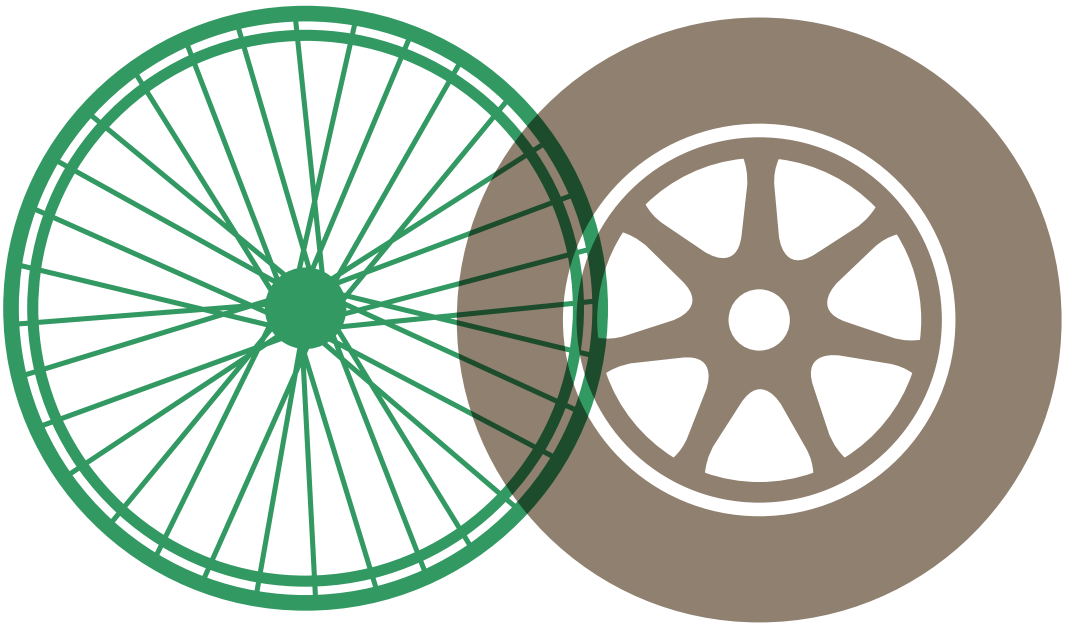
THE NEW CONSUMER CULTURE

Already many tens of millions of Chinese are adopting modern, Western consumer lifestyles as quickly as they can, focusing on getting rich and satisfying their personal aspirations. Especially in urban areas, conspicuous consumption is manifest. China is now the largest market for automobiles and appliances, and energy use and consumption will grow further as the country's 100-million-plus middle class doubles during the next half-decade.[7] Between 2004 and 2013, the number of urban households in China with the ability to make discretionary purchases — those that go beyond meeting basic needs — will increase to 212 million from 31 million, rising from 17.4 percent of urban households to 90.6 percent.[8] The number of Chinese households earning more than $10,000 per year will also increase from 3.8 million in 2003 to 151 million in 2013.[9] An estimated 450 million Chinese in the eastern provinces alone already have per capita purchasing power in excess of $7,000 per year — $6,000 is considered the point at which purchases of private automobiles start to increase rapidly.[10] As early as 2010, China may have 600 million "new consumers" who, while not able to consume at the level of Americans and Australians, will live an affluent lifestyle characterized by purchases of household appliances, consumer electronics, air conditioners and even private cars.[11] The number of passenger cars in China doubled every 30 months during the 1990s, and official estimates predict that the total number will reach 140 million by 2020.[12] In major cities, once-ubiquitous bicycles have been banned on major roads to make way for private cars. With these changes have come waste and pollution.

11 Norman Myers and Jennifer Kent, *The New Consumers* (London: Island Press, 2004); Paul G. Harris, "Environmental Perspectives and Behavior in China," *Environment and Behavior* 38, 1 (2006): 5-21.

12 Kelly Sims Gallagher, *China Shifts Gears* (Cambridge: MIT Press, 2006).

13 Cf. Paul G. Harris, "Environment Politics and Foreign Policy in East Asia," in Paul G. Harris, ed., *Confronting Environmental Change in East and Southeast Asia* (London: Earthscan/United Nations University Press, 2005).



The bulk of China's people remain very poor, to be sure, and they cannot have a lifestyle marked by high levels of consumption. But the middle class is growing fast and wants to live like Americans, placing a growing burden on the environment.

ENVIRONMENTAL POLICY

As early as the 1950s, the Chinese government recognized the significance of environmental pollution and began addressing it, but into the 1970s, at least publicly, it argued that as a socialist state, China did not experience environmental problems.[13] However, increasingly obvious damage to the country's natural environment and the associated impact on economic development caused the government to take a greater interest in the issue during the 1980s. In 1982, the Chinese Constitution was rewritten to include pledges to control pollution while also protecting natural resources and rare animal species. The following year environmental preservation was declared one of China's basic national policies, and by the end of the decade, the country started its first major campaign to combat pollution. Also during the 1980s, the government instituted new environmental protection laws on solid waste, noise, air and water pollution. In 1989, it strengthened those laws, at least on paper.

By the mid-1990s, the government was becoming more serious about environmental issues, even closing some polluting factories. In 1994, the Chinese State Council adopted *China's Agenda for the 21st Century*, which ranked economic development first and environmental protection second, but the growing importance of the environment was evident in pronouncements by national leaders and the elevation of the State Environmental Protection Administration to ministerial status. By the late 1990s, the central government was allocating substantial — if still grossly inadequate — funds to environmental and resource protection. It also instituted emissions fees and advocated clean technologies.

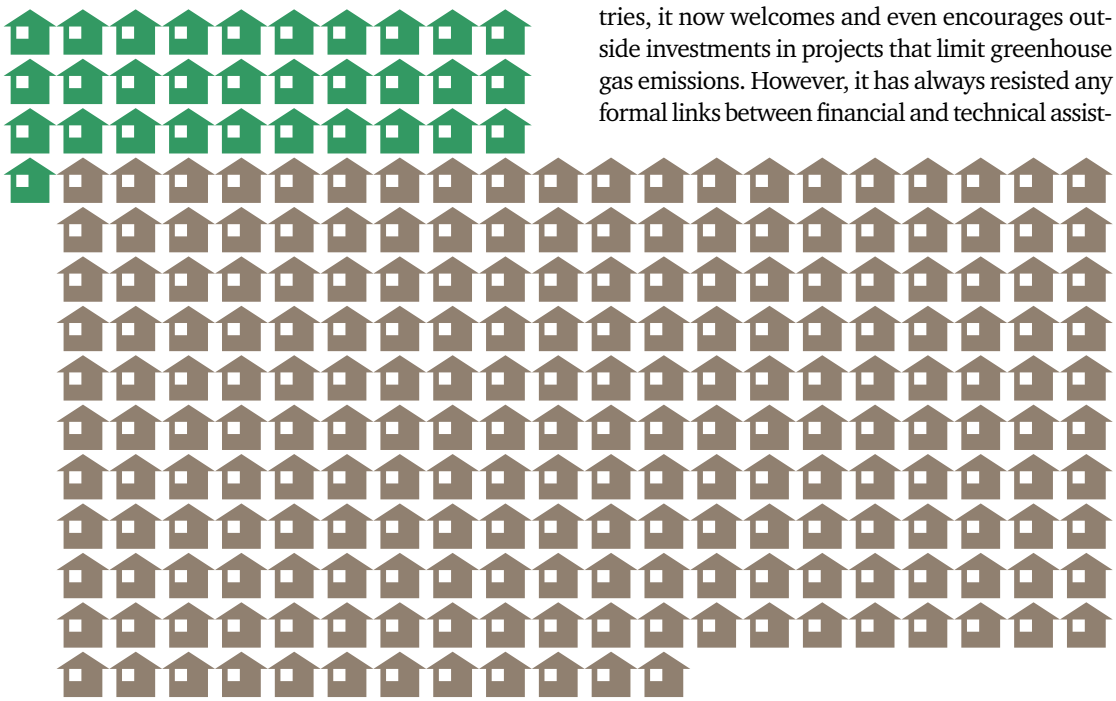
Unfortunately, the environmental benefits of these policies have often been limited. Implementation is hindered by lack of money, corruption, the refusal of local authorities to take the laws seriously and the inability or unwillingness of higher officials to force them to do so. The central government has limited control over

14 Paul G. Harris, "'Getting Rich is Glorious': Environmental Values in the People's Republic of China," *Environmental Values* 13, 2 (2004): 145-165.

15 Xinhua, "Hu Calls on Major Economies to Combat Climate Change," *China Daily*, 9 July 2008.

16 WWF, *The Value of Carbon in China* (Hong Kong: WWF, 2008).

the vast bureaucracy outside Beijing, and the institutional structure of China's environmental management system is extraordinarily complex. Underlying the inability to implement environmental protections is a strong nationwide fixation on economic growth. Wealth creation in the short term routinely trumps environmental protection.[14] Consequently, despite concern at the highest level, and despite many private-sector initiatives such as commercial wind farms and widespread domestic use in some areas of solar hot water heaters, the trend toward increasing greenhouse gas emissions has been mitigated only minimally.



INTERNATIONAL RELATIONS

China has been actively involved in two decades of international negotiations on climate change. Nevertheless, it has consistently sought to protect its sovereignty by opposing any legal requirements limiting its greenhouse gas emissions, asserting its freedom to pursue economic growth. Indeed, it has opposed every effort to require developing countries to limit their emissions, even those calling for *voluntary* commitments to restrict future emissions *increases*. It has also consistently demanded that developed countries provide assistance to China and other developing countries to help them cope with climate change. China endorsed the 1997 Kyoto Protocol after it exempted developing countries from adopting obligatory pollution-reduction commitments. Although the Chinese government originally rejected many of the market-based international mechanisms for emissions reductions advocated by developed countries and their industries, it now welcomes and even encourages outside investments in projects that limit greenhouse gas emissions. However, it has always resisted any formal links between financial and technical assistance from developed countries and its own emissions limitations. Instead, it has demanded transfers of funds on non-commercial and preferential terms, as President Hu Jintao did in mid-2008.[15] China also has benefited more than any other country from investment via the Kyoto Protocol's Clean Development Mechanism (CDM). In 2006 alone, the CDM brought investment valued at nearly $3 billion into China, exceeding predictions, and for 2008, it is expected to have received about $2.5 billion.[16]

Internal politics and bureaucratic bargaining among many government agencies have influenced

China's diplomatic position on climate change. In early climate change negotiations, the Ministry of Foreign Affairs and the then State Development Planning Commission took control of policy, although not without other agencies occasionally getting involved. Eventually, it became clear to senior policymakers that joining the Kyoto Protocol could be in China's economic, environmental and diplomatic interest. The CDM would provide new funds to aid economic development, domestic pollution would be mitigated by the resulting new technologies and accession to the treaty might show the world that China was leading developing countries in addressing an important global issue. China's climate change policies are now established at a very high level within the government, with the powerful National Development Reform Commission acting as coordinator.

China's sometimes contradictory positions on climate change have been revealed during international negotiations. For example, during the 2006 working group meetings of the United Nations Intergovernmental Panel on Climate Change, Chinese diplomats tried to push through language that would play down scientific certainty about the causes and consequences of climate change, and they sought to dilute wording that would set stringent global standards for limiting concentrations of carbon dioxide in the atmosphere. Chinese diplomats also advocated wording that would increase the amount of global warming that the world could accept. These efforts, albeit mostly rebuffed by other delegations, appear to have been attempts to delay the date when China itself would be called upon to accept binding limitations, and ultimately cuts, in its own greenhouse gas emissions. At the crucial meeting on the Kyoto Protocol in Bali in December 2007, China's official position remained largely unchanged, although unofficially it expressed some willingness to consider non-binding emissions limits in the future — but only on the condition that developed countries provide substantial aid for dealing with the effects of climate change.

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INTERNATIONAL JUSTICE

Developed countries are responsible for the bulk of the historical greenhouse gas emissions that are causing global warming and climate change. However, developing countries will suffer the most due to their poverty and limited ability to adapt to the impacts of climate change, such as droughts, floods, more intense storms, sea-level rises and declines in agricultural and fisheries production. It seems only fair that developed countries act first and aid developing countries, as China has consistently demanded. It would not be fair if China and other less developed countries were required to take on the same obligations to combat global warming as the US, Japan and other affluent countries. The climate change convention and associated agreements like the Kyoto Protocol have affirmed this argument.

Having said this, it is also not fair, nor is it environmentally prudent, for the growing number of affluent Chinese, soon to number in the hun-

dreds of millions, to be allowed to pollute the atmosphere freely. Indeed, affluent Chinese may have a greater obligation to limit greenhouse gas emissions than do many or most affluent Australians and Canadians, for example, because people in these and other developed countries are saddled with infrastructure and longstanding habits that were created *before* they knew that climate change was a problem. Because scientific knowledge about climate change, and associated high-profile international diplomacy, began *after* China's economic rise, educated Chinese and their government have been aware that adopting Western ways of living and consuming would contribute to climate change. But instead of rejecting the Western model, China and its affluent people have chosen to go down an energy-hungry and pollution-intensive economic development path.

In many respects, China is really two countries: one is still very poor, with low per capita income and purchasing power, the other has purchasing power ranging from more than adequate to ostentatious. In this second nation, "luxury emissions" from conspicuous consumption, notably among new wealthy elites, are multiples of Chinese and global averages, and indeed well above the averages of the major polluting states of the developed world. China's burgeoning middle and upper classes are hiding behind their country's relatively low per capita emissions of greenhouse gases, a statistic the government repeatedly cites as evidence that China should not be required to formally accept limits on these emissions. As spending on luxury goods and travel explodes in China, this practice of hiding behind the country's relative poverty will bring China and its affluent classes under increasing scrutiny by the outside world, especially by the developing countries in Asia and beyond that are most vulnerable to the adverse effects of climate change. It is possible that history will judge affluent Chinese even more harshly than it already does people in the West because the Chinese have had, and still have, a choice about whether to jump on the consumption bandwagon, despite the environmental impacts, or to attempt an alternative route to development that is less carbon intensive.

CONCLUSION

Whether the severe effects of climate change, and possibly even climate disaster, are averted in the long term will in very large part be determined by whether China and its people are willing and able to find a more climate-friendly future. While the wealthy countries of the world and their citizens deserve most of the blame for current climate change, as a practical matter the future depends in large measure on China. One thing is evident: without China's full participation, global efforts to mitigate and reverse climate change will fail. The developed world must give China all the help and encouragement it can, and there is much that China can do on its own. Sadly, China is now headed down the same environmentally unsustainable development path that the West traveled. The temptations of modernity are very powerful, and the desire for affluence is extraordinarily powerful in China. Unless the Chinese are much better at resisting these temptations than people in the developed world have been, the future looks bleak indeed.

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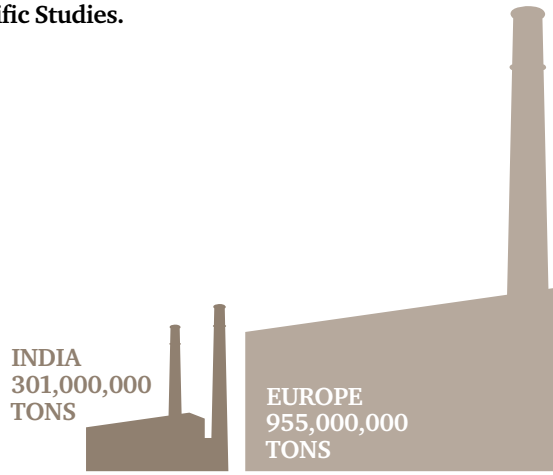

Because scientific knowledge about climate change began after China's economic rise, educated Chinese and their government have been aware that adopting Western ways of living and consuming would contribute to climate change. But instead of rejecting the Western model, China and its affluent people have chosen to go down an energy-hungry and pollution-intensive economic development path that emphasizes material consumption.