

# ChinaFAQs

## The Network for Climate and Energy Information



# China's New Emissions Inventory

## Key Points

- China is expected to release its second national inventory of greenhouse gas emissions in 2012.
- In the 2009 Copenhagen Accord, China pledged to start reporting its emissions every two years going forward.
- Although producing the inventory poses a significant challenge, a recent study concludes that China is developing a reporting system that should make the inventory reliable enough for outsiders to assess whether China is making progress toward meeting its Copenhagen pledge to curb emissions.
- Both China and the United States have developed special expertise in various aspects of emissions reporting. Collaboration on this issue could bring mutual benefits and help deepen trust between the two nations.

If all goes according to plan, in 2012 China will release the second national inventory of its greenhouse gas (GHG) emissions. Although producing the landmark tally is proving a challenge, a September 2010 report by the World Wildlife Fund (WWF)\* concludes that it should enable outside observers to reliably assess China's progress toward meeting the pledges it made at the 2009 Copenhagen Climate Summit.

The majority of GHG emissions in countries without major forestry sectors arise from fuel combustion; knowing the quantities and types of fuel that are burned can provide a good foundation for estimates of emissions. "The accuracy and completeness of China's energy data has improved markedly in the last decade," and that trend is likely to continue, energy and climate change expert Irving Mintzer and colleagues report in *Counting the Gigatonnes*, which examines how China and the United States – the world's two largest GHG emitters – develop their inventories and report the results in their national communications to the UNFCCC.<sup>i</sup> The study concludes that each nation has developed special expertise in tracking energy use and emissions, and suggests that enhanced collaboration would have extensive mutual benefits.

## BACKGROUND

China's new inventory is one outcome of longstanding discussions within the international community over how and when developing countries should report their emissions. Under the 1992

Framework Convention on Climate Change, many industrialized nations, including the United States, agreed to provide comprehensive annual emissions reports to the United Nations (UN). Although the U.S. only recently required large emitters to start reporting their annual emissions, it has submitted more than a dozen annual reports to the UN, using estimated data to report on emissions through 2008.<sup>ii</sup>

The 1992 agreement required China, as a developing nation, to compile a less detailed inventory, which it published in 2004 in its First National Communication. This initial inventory was based on China's 1994 GHG emissions. China is now preparing its second official inventory, begun several years ago, which will be based on 2005 emissions data.<sup>iii</sup> In the 2009 Copenhagen Accord, China and other developing nations pledged to start providing emissions inventories every two years, with assistance from developed countries.

The task represents "an immense challenge," write Mintzer and his colleagues. "As a developing country with a huge population and relatively little experience in reporting GHG emissions, China's statistical challenges are enormous." But recent moves to bolster its system for collecting energy-use information are helping pave the way. "The government has increased its efforts at data collection and reporting, dramatically improving its energy statistics," they note. "This should facilitate upcoming emissions inventories and reduce uncertainty."<sup>iv</sup>

## FOCUS ON ACCOUNTABILITY

To produce the new inventory, China is developing a multi-step, bottom-up reporting process that uses periodic audits and reviews to cross-check and correct energy use and emissions data. One strength of the system, the authors say, is a focus on “personal and institutional accountability.” Local and provincial officials are held responsible for meeting efficiency and energy intensity targets, and career-advancement can hinge on their performance. Large state-owned companies, meanwhile, are under pressure from senior officials to file timely reports as well.<sup>v</sup>

Although the experts interviewed for the study agreed that there are “gaps and uncertainties” in the system that could produce errors, “the clear consensus among the interviewed experts was that the error would be found and corrected quickly.”<sup>vi</sup> As a result, “there is good reason to believe that, looking at multi-year periods,” China’s inventory will portray trends “with reasonable accuracy.”<sup>vii</sup> The report also discusses the potential to verify any nation’s inventory independently through atmospheric measurements, satellite observations and models, though all these techniques require further work to develop.<sup>viii, ix</sup>

A reliable inventory will let outsiders see if China is meeting its Copenhagen pledge to reduce its carbon intensity (carbon dioxide emissions per unit of Gross Domestic Product) by about 40% to 45% percent below 2005 levels by 2020.<sup>x</sup> The inventory effort also creates opportunities for China and the U.S. to collaborate in ways that could benefit both nations, the authors say. The U.S., for instance, “could usefully learn some practical lessons from China’s experience with direct measuring, auditing and spot-checking of energy and greenhouse gas emissions data.” And China could gain from U.S. expertise “on

the development of statistical surveys of energy use and GHG emissions, which would be a practical complement to its current procedures.”<sup>xi</sup>

The two nations are already collaborating on some of these issues; the U.S. Environmental Protection Agency, for instance, is working with Chinese agencies on improved systems for collecting emissions data.<sup>xii</sup> The authors recommend expanding these programs, and developing new ones, to “deepen trust between the two countries and reinforce shared efforts to mitigate climate change.”<sup>xiii</sup>

*\* This fact sheet is based on: Mintzer, Irving, J. Amber Leonard, and Iván Darío Valencia. Counting the Gigatonnes: Building trust in greenhouse gas inventories from the United States and China. World Wildlife Fund, Washington D.C., September 2010.*

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## Notes

<sup>i</sup> Mintzer, Irving, J. Amber Leonard and Iván Darío Valencia. Counting the Gigatonnes: Building trust in greenhouse gas inventories from the United States and China. World Wildlife Fund, Washington D.C., September 2010. Page 25.

<sup>ii</sup> Mintzer et al., page 5.

<sup>iii</sup> Mintzer et al., page 3.

<sup>iv</sup> Mintzer et al., page 32.

<sup>v</sup> Mintzer et al., page 25.

<sup>vi</sup> Mintzer et al., page 25.

<sup>vii</sup> Mintzer et al., page vi.

<sup>viii</sup> Mintzer et al., page 28.

<sup>ix</sup> For further discussion on the development of atmospheric measurement, see ChinaFAQs: Atmospheric Changes Reveal China’s Energy Trends, (<http://www.chinafaqs.org/library/atmospheric-changes-reveal-chinas-energy-trends>).

<sup>x</sup> Mintzer et al., page 1.

<sup>xi</sup> Mintzer et al., page vi.

<sup>xii</sup> Mintzer et al., page 18.

<sup>xiii</sup> Mintzer et al., page vi.

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