Congressional Testimony

INTERNATIONAL CLIMATE CHANGE POLICY

Taiya Smith
Senior Associate, Energy and Climate Program
Carnegie Endowment for International Peace

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Statement

Mr. Chairman and Members of the Energy and Natural Resources Committee. Thank you for giving me the opportunity to comment on the global dynamics of climate change. I am going to focus my remarks on China and its role in managing climate change. The Climate and Energy program at Carnegie has focused much of its work on China and especially U.S.-China cooperation. Carnegie also has a significant China program, including an office in Beijing.

On August 12, 2009, Chinese Premier Wen Jiabao announced that the State Council had decided to incorporate climate change into its economic and social planning process. "Controlling greenhouse gas emissions and adapting to climate change," he said, would become "an important basis for setting the medium and long-term development strategies and plans of government at every level." This decision by the State Council was the result of years of internal debate, study, and discussions with international and domestic climate change and economic experts. It was followed shortly after by China's top legislative chamber adopting a resolution calling for active engagement in global climate negotiations, and by new domestic initiatives to "make carbon reduction a new source of economic growth."

In order to achieve these objectives, in September this year at the United Nations General Assembly, President Hu announced to the world China's climate change goals, notably:

- Reducing energy intensity by 20% between 2005 and 2010.[i] China has reduced its energy used per unit of GDP by 1.8% in 2006, 4% in 2007, and 4.6% in 2008. In the first half of 2009, China reduced energy intensity by 3.35%. Analysts predict that if China is able to continue at this pace, it will reach its 2010 goal.

- Obtaining 15% of the nation's energy supply from non-fossil fuels by 2020. China's internal goal is to have 15% of its energy from renewable sources by 2020.[ii] Expectations are that it will reach the internal goal. For example, by 2008, China had 12 GW of installed wind capacity and anticipates having 20 GW by the end of 2009. In addition, China has the largest surface area for solar water heating in the world and the most nuclear power capacity under construction.

- Increasing forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic meters by 2020 from 2005 levels (which is a 20% increase). China's reforestation effort is one if its most successful programs, and the State Forestry Administration believes that they are on target to reach this goal.

China's stated targets and objectives are impressive and, according to official data, it appears to be on target to reach them. To an American audience, two questions logically follow. First, how can we validate the carbon emissions data coming from China, and, second, what impact will China's addressing climate change have on us?

Validating China's Data

The question of how to evaluate the data provided by the Chinese government especially in light of the Chinese climate change negotiators clearly stating that China will not accept a carbon cap (which they see as limiting their economic growth potential) and instead will focus on carbon intensity targets. Carbon intensity refers to the amount of carbon used to produce a unit of gross domestic product. The key difference between a carbon cap and carbon intensity targets is that under the latter, carbon emissions would likely continue to grow as the economy continues to expand. However, given accurate predictions of economic growth, an intensity target can be translated into an escalating carbon cap which meets both the Chinese need to continue growing and the U.S. requirement that China not be allowed unlimited green house gas emissions.

On its face, China has made remarkable progress towards its energy intensity goals. Under the current Five-Year Plan, China pledged to reduce its energy intensity by 20% between 2006 and 2010. According to Chinese authorities, by 2008, China had reduced its carbon intensity by 10%. If the Five-Year Plan is fully implemented, addressing carbon intensity alone will reduce China's carbon dioxide emissions by 1.5 billion tons, which is larger than that pledged in total by all of the other countries who ratified the Kyoto Protocol.

To understand how serious China is about its climate change, we first need to understand its internal motivations. National stability is paramount in China. After decades of strife, China has now enjoyed relative peace for the last 30 years. But nearly all Chinese over the age of 50 still remember what it was like before the current era. Since 1978, China has achieved near double digit GDP growth for over two decades and brought more than 300 million rural Chinese out of poverty. Much of the current stability rests on the promise that economic growth will continue and all citizens will achieve prosperity. Yet, as Beijing is aware, the prospects of this are tenuous. First, the miraculous growth that achieved the first round of growth has become harder and harder to achieve as China both moves up the industrialization scale and deals with the legacy of previous growth. Among the challenges it must face are a myriad of environmental degradation and public health hazards. In addition to the daily realities and domestic unrest brought by contamination, polluted air, and rivers that can no longer support fish (there are approximately 25 protests a day in China due to environmental issues), the government recognizes that environmental degradation is sapping GDP growth.

At the same time, Beijing has been studying climate change and the potential effects it could have on China. The results of this study are worrying. China is in the part of the world that will be hardest hit by climate change, and will be managing rising sea levels, increasingly intense storms and desertification simultaneously. Severe winter storms two winters ago brought home the reality that dependence on foreign supplies of oil and coal for energy production is not viable long term for logistical as well as political reasons. China had long ago come to the conclusion that reliance on foreign oil creates difficulties politically and has focused efforts on trying to lock in oil and gas supplies (often from controversial countries like Sudan, Iraq, and Iran) to ensure supply.

The impact of all these factors is that China has come firmly to the conclusion that it has to deal with climate change, in addition to energy security and environmental degradation, in order to maintain economic growth and thereby national stability. After years of research, top Chinese officials have come to the conclusion that there simply are not enough resources in the world to support another billion people living the energy-intensive lifestyle of the West. As a result, they are

looking for a new, uniquely Chinese model of sustainable economic growth that will allow their population to achieve long term prosperity. With the State Council supporting the President and Premier, we are seeing the Chinese government taking an increasingly large role in international climate change activities. In the last six weeks, China has signed a climate change agreement with India, offered assistance with adaptation to Africa, and further strengthened its agreements with Japan on climate change and technology transfer.

While the power of the central government in Beijing is essential to catalyze change in China, it is not necessarily enough to ensure that change does occur throughout the country. A popular saying in China explains that "the mountains are high and Beijing is far away" and therefore it is hard for the central government to ensure that policies and actions are taken in the manner prescribed. The Chinese government battles daily to enforce national policy and incentivize local governments, enterprises and individuals to support its goal of a sustainable model of economic growth. Along with the U.S. EPA, the U.S. Department of Energy, and U.S. state government officials, many American companies and NGOs are working closely with the Chinese government to improve China's oversight policies and processes. While there are still stories of power plant scrubbers sitting idle, there are an increasing number of positive stories.

China has launched a series of programs to reach the goal of reducing energy intensity by 20%. Two of the most noteworthy programs are the "Program of Large Substituting for Small," which shuts down small, inefficient coal fired powers plants, and the "Top 1000 Energy-Consuming Enterprises" program, which set energy-saving targets for China's 1000 highest energy-consuming enterprises (themselves responsible for a staggering one-third of China's energy consumption). Since 2006, China has shut down 54 GW worth of small, inefficient coal plants and plans to close a further 31 GW in the next three years. As a result, many of the world's cleanest and most efficient coal-fired power plants are now located in China: the Chinese coal-fired power plant fleet is now more efficient on average than the U.S. fleet.[iii] The Top 1000 program began in 2006. That year, the program alone accounted for two-thirds of China's efficiency improvements and by 2007, when the country was making improvements, the Top 1000 still represented half of all the efficiency improvements in the country. If the trend continues, by 2010 it could prevent 450 million tons of carbon dioxide from being released into the atmosphere from a business as usual scenario.[iv]

While we have ways to monitor and evaluate actions on a project basis, we still have to rely on the central government for national statistics. For example, the metric by which the energy intensity target is measured is energy intensity of GDP. President Hu announced in September that China would decrease its energy intensity per dollar of GDP by a "notable margin". Looking past the withholding of an exact number (certainly done for negotiating purposes as this and monitoring and evaluation mechanisms are the two most significant issues China has to trade with developing countries in the COP negotiations), China has an established process for evaluating each province's energy intensity. Two ministries, the National Development and Reform Commission (NDRC) and the National Bureau of Statistics (NBS) jointly set standards and implement a comprehensive system reviewing progress made on the goals defined through the Five-Year Plan. While some have questioned the exact figures produced (some of which is explained by differing assessments of China's economic growth each year), the process is rigorous and has produced interesting results. We must continue to support the work being done through U.S. agencies to help China develop its internal monitoring and verification regime.

The alternatives to depending on China's internal processes are limited. Many in China will resist allowing international inspectors into China to verify its emissions, in much the same way as many in the United States will resist allowing foreign inspectors to check heavy industry and power plants. Reciprocity, however, is a powerful tool. If the U.S. and the other key powers were to allow international inspectors, China would have a harder time holding out against them. Additionally, China is very sensitive to its international reputation. Establishing an international body that would allow countries to monitor each other through a dispute reconciliation mechanism, such as the way the WTO operates, could turn out to be one of the most effective ways to ensure both that China develops a strong internal system and that the international community has the ability to engage with China on the data that it issues. For such a system to work, China would have to be willing to report all its data to the management organization, not just those figures associated with internationally funded projects.

Impact on the United States

Knowing that China has the strong domestic motivation to address climate change and has now taken the political decision to make climate change part of its planning process, we can plan on there being a market in China for new and existing products and services oriented to cleaning up China's energy sector and addressing climate change, as well as other environmental impacts such as dirty water. The biggest impact for the U.S., outside of the climate change negotiations and global carbon emissions, is that the market for clean technology has expanded exponentially. The decisiveness of Chinese decision makers has made its market attractive to businesses searching for certainty. For example:

- China's total installed wind capacity doubled for the 4th year in a row in 2008. At 12.2 GW capacity, China has the fourth largest installed capacity in the world behind the U.S., Germany, and Spain and plans to expand to 100GW by 2020. By the end of 2008, 61.8% of China's market share came from domestic and Sino-foreign joint venture turbine makers. In 2004, foreign-made equipment accounted for 75%.[v]

- China has recently announced increased spending on research and development and new subsidies to foster a stronger domestic market in the solar field as well. The "Golden Sun" program announced in July 2009 offers up to 70% of the cost of installing PV generation and transmission systems for projects selected by provincial governments.[vi]

In the last five years, Chinese renewable energy firms have capitalized on domestic incentives and binding renewable energy targets to grow the wind industry in China. At first it appeared that the government incentives were not available to foreign participants. However, following the meeting of the U.S.-China Joint Commission on Commerce and Trade (JCCT) in which China agreed to drop its "Buy Chinese" policy that required local governments to source more than 70% of products and technologies from domestic sources, we may see a resurgence of foreign companies investing in this sector.

We will need to keep the pressure on China to keeps its markets open. The most powerful tool that we have to drive the development and deployment of technology is the combined U.S.-China market. Bringing together a single, standard U.S. and China market for these goods and services provides market-based incentives that no policy or government funding source could ever supply.

Conversely, if we do not engage with them on developing this standard marketplace, it is our economy, and our industry, which will likely lose out. The Chinese are going to move forward to develop these goods and services; only through cooperative development of common standards will we also be able to benefit from their growing market. Several steps can help us reach that goal, including to:

- Work with China to create policies that encourage competition in clean technology.

- Emphasize the importance of dropping barriers, from policy to political, to market access and investment in each other's country. As in the discussion on monitoring and verification, reciprocity is a strong tool. "Buy American" clauses are often met with "Buy Chinese" clauses. At the same time, we need to educate Chinese investors that developing American jobs is part of the cost of investing in the U.S.

- Press China hard to jointly develop new standards with us. A single standard for new technology, such as electric vehicle batteries, will ensure that American companies are able to compete in the Chinese markets.

Summary

In summary, China is making many of the right steps towards managing climate change. Its policies and actions are aligned to achieve substantial cuts in the country's carbon emissions in the short, medium and long term. China needs to find a new model of sustainable economic growth in order to ensure stability, energy independence, and environmental health. Managing climate change is a critical part of that mix. The U.S. can have confidence that China is going to do what it says it is going to do because its motivations are internal. And, China is continually improving its ability to enforce its own policies. Improving the process by which Beijing monitors how well it reaches its national goals requires continued technical support. While it is unlikely that China will allow international inspectors, a process that puts its reputation at stake could be helpful. Most important is the recognition of reciprocity. China will push back hard against any policy or initiative that appears to set it in a special category.

Finally, for the United States, China represents a critical market. Access to the joint American-Chinese market will be a critical motivator for the development and dissemination of clean technology. We need to work with the Chinese to ensure that we keep our markets open to each other. Specifically, we need to develop shared standards, drop barriers to access and investment in each other's markets, and implement the right set of incentives to encourage competition in this rapidly expanding sector.

Thank you for this opportunity to appear before you. I look forward to your questions. Thank you.

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[iii] "Cleaner Coal in China." 2009. International Energy Agency/OPEC report

[iv] Price, L., Wang. X, and Jiang, Y. (2008). "China's Top-1000 Energy-Consuming Enterprises Program: Reducing Energy Consumption of the 1000 Largest Industrial Enterprises in China." Lawrence Berkeley National Laboratory Report (LBNL-519E)

[v] Global Wind Energy Council (2008). "GWEC: China." Retrieved at: http://www.gwec.net/

[vi] China People's Daily. (July 22, 2009) Retrieve at: http://english.people.com.cn/90001/90778/90857/90860/6707179.html