



Climate Progress in China

A Primer on Recent Developments

Julian Wong and Andrew Light | June 2009

It is time to retire the tired cliché that the United States cannot move forward on meaningful domestic legislation to protect our planet from the ravages of climate change unless China commits to do the same. Though they are not there yet, China today is beginning the transition to a clean-energy economy through a wide range of actions. These efforts should be encouraged and expanded upon. Here are the current numbers.

Energy intensity targets. China is already planning to reduce the amount of energy consumed per unit of gross domestic product by 20 percent below 2005 levels by 2010.

Total spending for renewable energy. China invested \$12 billion in renewable energy in 2007, placing second in the world in absolute dollars spent, just behind Germany. China is expected to unveil an extensive and unprecedented stimulus package (reported to be in the range of \$440 billion to \$660 billion) dedicated *entirely* to new energy development over the next decade. Overall, China's goal is to generate 10 percent of its electricity with renewable sources of energy by 2010, and 15 percent by 2020.

Renewable energy targets by sector. By 2020, China plans to tap **wind power** for 100 gigawatts of electricity, which is triple the original target; **solar power** for 10 gigawatts—a fivefold increase; and **hydroelectric power** by 300 gigawatts, twice its current capacity. In addition, China moved 40 million solar-water heaters into Chinese homes in 2007, accounting for two-thirds of the global market demand, with a target of 30 percent of households by 2020. To encourage the use of renewable energy China distributed \$435 million in subsidies between 2006 and 2008, primarily to support wind and biomass production.

Efficiency benchmarks. China is on target to achieve carbon-emission reductions of between 300 million and 450 million tons by 2010 from the top 1,000 energy-consuming enterprises, covering 43 percent of China's carbon dioxide emissions.

Demand-side management. China boasts a pilot program to reduce electricity demand that has eliminated the need to build 300 megawatts of electricity capacity, thus eliminating the equivalent of 1.84 million tons of carbon dioxide. If properly scaled, China's demand-side management could eliminate the need to build more than 100 gigawatts of electricity capacity by 2020.

Coal plant modernization. Between 2006 and 2008 China shut down 34 gigawatts of small, inefficient coal-fired power plants, with plans to close another 31 gigawatts of capacity over the next three years.

Fuel economy standards. China already has a fuel economy standard of 36.7 miles per gallon and is considering raising it to 42.2 mpg by 2015.

Transportation reforms. China increased its automobile tax by 20 percent to 40 percent on vehicles with engines above four liters, and by 15 percent to 25 percent on engines between three liters and four liters. For cars with engines under one liter, taxes were reduced to 1 percent from 3 percent. China's energy price policies indirectly link transportation fuel prices to global crude prices.

Hybrid automobiles. China will increase its production capacity of hybrid, all-electric cars and buses to 500,000 by the end of 2011, up from 2,100 in 2008. China has produced the world's first commercially available plug-in hybrid automobile, and has a pilot program up and running to deploy charging stations for new energy vehicles around the country.

Railway expansion. China is undertaking the largest railway expansion in history, with plans to spend more than \$1 trillion to expand its railway network by 2020 to 120,000 kilometers, up from 78,000 km today. About 26,000 km of China's rail network today is *electrified*, the second-highest in the world.

Building codes. China enacted new regulations in 2006 that require the halving of energy consumption levels in new buildings compared to the current average.

Home appliance standards. China in 2005 enacted mandatory energy-efficiency standards for most home appliances coupled with green procurement policies for government offices and state-owned enterprises—standards that will enable the country to avoid emitting 100 million tons of carbon dioxide per year.

Land use patterns and planning. China is experimenting with development plans to cope with its unprecedented wave of rural-to-urban migration. Over 40 different eco-city projects are proposed or under development, and the country plans to increase forest area coverage to 20 percent by 2010, spending \$9 billion a year to hit that target. China is also developing low-carbon manufacturing zones in select cities as engines of growth for clean energy.

The Center for American Progress [argues that](#) Congress must assess China's efforts to pull its own weight on climate change—steps that will result in significant reductions in carbon emissions from the business-as-usual scenarios even as China's economy continues to grow.

Looking forward to the U.N. climate change negotiations in Copenhagen at the end of this year, Congress must acknowledge that these efforts by China and complementary efforts by other countries, including the United States, will improve our chances of forging an agreement to solve the problem of global warming.

Julian Wong is a Senior Policy Analyst and Andrew Light is a Senior Fellow at the Center for American Progress. A more detailed version of this primer with analysis and links to all sources is currently in production and will be posted on our website soon.