

ECOLOGY

HOW GREEN IS CHINA?

IT'S CERTAINLY NOT BLACK OR WHITE

by Steven Schwankert



“CHINA IS GENUINELY TRYING TO MAKE THE TRANSITION TOWARDS A GREEN ECONOMY, BUT FOR THE MOMENT THE PROSPECTS ARE AS GRAY AS THE VIEW OUTSIDE THE WINDOW ON A HAZY BEIJING DAY”



Over the last 30 years, when it comes to China's interactions with the rest of the world, the country has been like the elephant being examined by six blind men in the folk tale. Some observers “feel” its cities and declare it to be a modern, urban society; others touch its vast countryside and say it is rural and agrarian; some experience its karst hills and proclaim it to be like a timeless landscape painting; still others see its industrial, capitalist south and state that it is a Dickensian novel gone wrong. All are correct and all are incorrect at the same time.

The argument over the emergence of a new, “green” China is no less contentious, with ample evidence to support both sides but neither sufficient to emerge supreme. Some people compulsively tweet Beijing air quality readings in some attempt at clearing the skies while cars choke the ring roads, but signs of a more green economy are all around. In any public place, recyclable materials like glass, aluminum and plastic drink containers are whisked away, joining piles of cardboard and newsprint slated to be reused. Venture into the countryside outside Beijing and you'll see that solar water heaters are practically de rigueur on the roof of any home.

Perhaps it's the grand claims that put the discussion about China's “greenness” out of balance. “What the US doesn't realize,” the founder and chairwoman of the Joint US-China Collaboration on Clean Energy told the *New York Times*, is that China “is going from manufacturing hub to the clean-tech laboratory of the world.” All this because China had installed its first offshore wind farm before the US did.

China made a commitment that by 2020 it would produce 15 percent of its energy using non-fossil fuel means (up from the current 7.8 percent). However, non-fossil fuel doesn't mean all wind farms and solar power. China, which already has the largest number of dams in the world, plans to double its hydroelectric capacity by 2020, which means a lot more dams.

“To match the installed hydropower capacity of 200 million kilowatts, thermal power plants would

have to burn 288 million tons of coal equivalent, emit 855 million tons of carbon dioxide and 5.4 million tons of carbon sulfur dioxide every year” – these are the estimates of the China Electricity Council.

Speaking of burning coal, for all its claims of green energy, the country still looks pretty sooty: 83 percent of China's electricity is produced by coal-burning power plants.

Jonathan Watts, Asia environment correspond-





ent for *the Guardian* and author of the recently published *When a Billion Chinese Jump*, said, "China is genuinely trying to make the transition towards a green economy, but for the moment the prospects are as gray as the view outside the window on a hazy Beijing day."

First, the superlatives. "The investment in renewables is more than just talk. China's wind-generating capacity has just about doubled

"ENERGY INEFFICIENCY IS THE REASON IT TAKES MORE ENERGY TO POWER A CHINESE ECONOMY THAT IS ONLY ONE-THIRD THE SIZE OF THE UNITED STATES"

every year since 2005 and last year became world number one. It is also the biggest solar panel manufacturer, the biggest user of solar water heaters and a leading player in solar thermal power generation," Watts said. "In almost every energy field – hydro, nuclear, biomass, geothermal – the story is the same: China is either installing the most new capacity and/or already leads the world."

Performance on paper and actual implementation are, of course, two different things. "In this regard, it has done exceptionally well compared to most other nations, but that alone does not mean it is green," Watts said. "Because demand for power is surging along with the economy, China also has to ramp up coal production and coal imports, which means more CO₂ and – in many places – more soot and other particulate matter in the air. It is trying to use coal in a cleaner, more efficient way by investing in state-of-the-art ultra supercritical thermal power plants and by developing gasification technology, but for some time to come, greenhouse gas emissions will continue to rise."

For the short-term, it will be difficult for China to make relatively easy gains, Watts predicts. "Much of the low-hanging fruit has been picked, but one area that has not been fully explored is school and public education on conservation is-



sues and lower-impact consumption. Better urban planning and architectural design could make a difference. Giving stronger powers to local environmental departments is likely to help. A more efficient metered heating system would be good, as would a smarter electricity grid. A carbon-trading system – likely to be included in the next five-year plan – would also be a step forward. Longer term, a better effort to conserve and respect biodiversity will be necessary for the country's ecological and economic well being."

Jack Perkowski, author of *Managing the Dragon* and a blog of the same name, sees potential in China's green sector, but for the moment believes it's mostly just that: potential. "China's continued economic growth is one reason why it is now a larger energy consumer than the United States. Another, though, is the fact that the country has a long way to go in terms of energy efficiency. Energy inefficiency is the reason it takes more energy to power a Chinese economy that is only one-third the size of the United States."

"China's emergence as the world's largest energy consumer underscores the fact that there are now real limits to how fast its economy can grow if energy efficiency can't be improved," Perkowski said.

Having worked in and around China's auto industry for most of the last two decades, Perkowski sees great progress, but also opportunity in improving energy and fuel efficiency. The biggest issue? Cost.

"China moved to implement Euro III emission standards for trucks in 2008, which will add to the cost of transportation and increase inflationary pressures. While the technology already exists for diesel engines to meet Euro V and even Euro VI standards, adopting these technologies would increase the purchase price of trucks and the cost of transportation well beyond amounts that the China market can afford," he said.

"In other words, the technology for clean diesel exists, but it is too expensive for China at this point. Modifying these existing technologies in a way that enables them to fit within the framework of affordability in the China market represents one of the biggest commercial opportunities of the 21st century," Perkowski said.

For now, China's future will continue to be a mixture of green and gray. We're rooting for the former.

Jonathan Watts' When a Billion Chinese Jump and Jack Perkowski's Managing the Dragon are available at The Bookworm.

ECO STATS

10 Number of days truck drivers spent stuck in a traffic jam in Hebei province in late August, caused by road construction and an overload of coal trucks.

The Independent

3,759 Number of meters a Chinese submarine dove to plant a flag on the bottom of the South China Sea and lay claim to its vast mineral wealth.

7,000,000 The number of naked carp added to Qinghai Lake this year to boost local stocks.

Xinhua

1/5 Proportion of Chinese crop harvests threatened by climate change under the worst case scenarios.

Nature

2,087 Number of steel, cement and other mills in China ordered to close in the first half of 2010 due to poor environmental controls.

2,000,000 Tons of steel produced by a blast furnace in Zhejiang province that was shut down for excessive energy use.

1% Improvement in energy efficiency that Zhejiang province failed to achieve in the first half of 2010.

Associated Press

1.18 billion Amount lost, in Hong Kong dollars, in healthcare bills and lost productivity due to high pollution levels in Hong Kong.

3.8 million Number of doctor visits generated by said high pollution levels in Hong Kong – more than one out of every two HK residents.

Reuters



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