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China Takes a New Interest in Energy Efficiency

By [KEITH BRADSHER](#)



Workers rest near solar panels on the roof of the Nanjing South Railway Station in China. The central government has begun steps to subsidize the installation of rooftop solar panels.

SHANGHAI — The Chinese government is considering plans to subsidize the use of energy-efficient materials and renewable energy technologies in new buildings and is encouraging provincial and municipal governments to impose stricter efficiency standards than the national minimums, Chinese officials said Wednesday.

[China](#)'s heightened interest in saving energy, a response to electricity shortages and blackouts this year as well as longer-term security worries about dependence on energy imports, comes as the country's construction industry continues to barrel ahead at a breathtaking pace. Last year, China consumed eight times as much cement as the world's second-largest consumer, India, and it now leads the world in consumption of steel and other industrial materials by wide margins.

With 13 to 21 million rural people in China migrating to cities each year — a number comparable to the 18.9 million people in metropolitan New York — the real estate industry has been putting up

office towers and apartment buildings at a brisk pace but often with little regard for energy efficiency.

Chinese estimates show that the country's commercial office buildings use 10 percent to 20 percent less electricity per square meter than comparable Western buildings. But the savings tend to come not from better designs but from thermostats set as high as 26 degrees Celsius (79 Fahrenheit) in summer and as low as 18 degrees (64 Fahrenheit) in winter.

Senior executives in the glass manufacturing and other material industries said that Chinese construction companies had long chosen low-cost, less-insulated materials because buildings in China tended to change hands so frequently that owners seldom looked at long-term paybacks from electricity savings.

The construction boom is a central reason why China passed the United States last year as the world's largest consumer of electricity. China has also passed the United States as the world's largest emitter of [global warming](#) gases, although it lags far behind in emissions and electricity consumption per person, because it has four times as many people as the United States.

Hao Bin, the building energy efficiency director at the Chinese Ministry of Housing and Urban-Rural Development, said Wednesday that the ministry had already adopted an energy labeling system for new commercial and government buildings but wanted to create fiscal incentives for developers to use more efficient materials and adopt renewable energy. The most effective course seems to lie in subsidies for materials, as government studies have suggested that tax credits would be less effective, he said.

Some Chinese cities and provinces, from Beijing in the northeast to Yunnan in the southwest, already have limited subsidies for construction supplies, including insulation and rooftop solar water heaters. The heaters have water-filled steel tubes that zigzag in front of a reflective surface, which concentrates the sun's rays on the tubes.

The Chinese central government has begun taking preliminary steps to subsidize the installation of rooftop photovoltaic solar panels, but the Finance Ministry has moved slowly because of concerns about the potential cost. China already manufactures more than half the world's solar panels, but exports almost all of them.

Mr. Hao declined to provide a date for the introduction of a national incentive policy for energy-efficient construction materials and did not specify what materials would qualify. But he said that it was a focus of policy planners.

The question that policy makers are asking themselves, he said, is, "How can we have a carrot policy which is supplemented by our labeling system?"

Provincial governments have already begun subsidizing the construction of factories that produce energy-efficient products like triple-layer insulated glass.

Hongda Vacuum, a manufacturer of glass-coating equipment for solar panels and insulated windows, bought valuable land next to a large road six years ago on the outskirts of Changsha in Hunan Province for a third of the cost at the time for industrial land, said Huang Le, a marketing executive for the company. Surging land prices since then meant that the property soon became worth 10 times as much on the market as the price the company had paid for it, with a discount, in 2005, he said in an interview last year.

“We got the discount because we are a good project, something the government really wants to promote,” Mr. Huang said, adding that the company could borrow against the value of the land to finance expansion.

The central government has already renovated nearly 5,000 of its own buildings in northern China to install more insulation. It has subsidized similar renovations for buildings owned by provincial, municipal and village governments.

A complication for China is that the latest five-year plan, starting this year, calls for a sharp increase in the construction of low-income housing — traditionally an industry with low profit margins and a bias toward inexpensive materials — together with further curbs on the construction of high-end housing.

But Zhou Jiang, a policy researcher for the housing ministry, said Wednesday that energy-efficient materials added only 5 percent to 10 percent to the cost of a building.

“It is possible we build our low-income housing as green buildings,” Mr. Zhou said.

He and Mr. Hao were speaking at the opening of the Global Green Building China Focus 2011 conference in Shanghai.

One point that they did not address was how long it might take for energy-saving materials to pay for themselves in electricity savings. The Chinese government has been holding down electricity prices as an anti-inflation measure even as spot prices for [coal](#), the country’s dominant fuel for power generation, have doubled in the past eight years.

Chinese electricity companies have responded by limiting the operating hours of coal-fired plants in the past two years and slowing construction of new power plants, causing blackouts that have focused more public attention on the energy efficiency of buildings.

Residential electricity rates in China are half to two-thirds of rates in the United States. Industrial electricity rates in China are officially higher than those in the United States, but large or politically connected users frequently receive discounts.