

[World](#) > [Asia Pacific](#)

from the April 03, 2006 edition



ENERGETIC: Rob Watson, who helped pioneer the LEED certification, stands atop the new ministry of science.

KATHARINA HESSE

A 'green' building rises amid Beijing smog

The new structure is China's first to pass the stringent, globally recognized LEED certification.

By Robert Marquand | Staff writer of The Christian Science Monitor

BEIJING – The gray eight-story squeezed into a row of sedate official buildings seems innocuous. But from its radically efficient basement generator to the light volcanic ash soil on the garden roof deck, this is one of the cleanest and most energy efficient structures in China.

In a country both energy-starved and cash-conscious, the new ministry of science building is a small wonder. It uses 70 percent less energy than similar federal buildings, and saves 10,000 tons of water a year through rainwater collection. Wise use of quality materials inside a simple, plain design also make it far cheaper to build and maintain than comparable Beijing buildings.

Last week, this building became the first in China to pass the stringent, internationally recognized Leadership in Energy and Environmental Design (LEED) certification.

"This is a 'living building,' that uses the flows of sun and rain," says the spiritual godfather of the LEED certification, Robert Watson of the New York-based National Resources Defense Council. "It uses 40 percent less water, and passed a variety of tough tests."

Since China began seeking the Olympics and foreign investment in the 1990s, its leaders and city planners have talked a great "green" game that has left many foreign-based environmentalists swooning. On March 7, as part of the newest five-year plan, the construction ministry issued a new edict requiring that by June all new construction be 50 percent more energy efficient.

But the actual record on energy- and resource-friendly construction in China remains mixed at best. The green visions of ecology-minded policymakers vie with the realities of a nation rebuilding its urban centers day and night, with aggressive developers, impatient construction firms, quick money, and a floating population of as many as 400 million workers needing housing in coming decades. Few Chinese developers or experts feel the nation will match the March 7 edict for energy efficiency. "We can't enforce it," explains a knowledgeable government source in Beijing.

China has 11 "green city" projects under construction and 140 building projects. But few foreign experts feel those projects could pass a genuine international green test - involving low energy use, low cost, recycling water systems, and "intelligent" integrated design and materials.

"For China to have passed the LEED test with this new building is an achievement for China; LEEDS is a proper standard," says Neville Mars, chairman of the Beijing-based Dynamic City Foundation, a Dutch design NGO. "In China, we hear a lot about green standards, but actually the local standards are very flexible and don't mean much."

Moreover, green concepts, quite unknown outside elite circles, and not broadly promoted in the rough and tumble world of Chinese builders, must compete against the kind of eye-catching and unorthodox signature projects now under construction downtown, like the new Central Chinese Television [CCTV] tower. The tower will anchor a central business district loaded with dazzling but decidedly un-green designs.

"The government knows that buildings like the CCTV tower are part of the high cost economic model from a few years ago," says one leading Tsinghua University professor. "But local governments just want fancy post-modern designs that you can brag about."

Still, Chinese leaders at the top of the Hu Jintao government do want change. The new March 7 standards for construction are part of a massive new "sustainable development" policy in China aimed at rethinking agriculture, industry, construction, education, and the social good.

The city-first policy of former president Jiang Zemin, that focused on the infrastructure of China's manufacturing-based east coast is undergoing adjustment. In the area of real estate development and construction, the new five-year plan's goal "is to build an energy-saving, environmentally friendly, and sustainable society."

But untold layers of inertia must be faced in the daily decision process, experts say. Despite good intentions, there is a lack of follow through.

"There isn't much pressure for us to promote the green concept," said science ministry official Yang Guoxiong at last week's green inauguration.

"The national government has incredible intentions for a green future," says Mr. Mars. "Really mind-boggling. But we are in an interesting paradox, and I am asking, 'Is it better to have high ambitions, or to be realistic?'"

The new ministry of science building offers a checklist of green dreams: Roof-top solar panels provide 5 percent of the building's energy. Nine percent of the energy used is recyclable. Lighting is "intelligent," adjusting the level of artificial lighting to take into account the amount of natural light. Some 70 percent of rain that falls on the building is stored and used for watering and cooling. The building uses the energy needed for more than 200 people under the current Beijing standard, yet more than 400 work there.

Also, while federal buildings in Beijing cost \$850 to \$1,000 a square meter, the green building

came in at \$700 per square meter, largely by avoiding expensive marble.

Yet changing ingrained behavior is always slow. China doesn't yet have the green supply chain of parts, materials, and knowledge needed. The science ministry underwent three computer simulations for energy efficiency. But when the actual building went up, numerous assumptions didn't pan out. Some equipment didn't fit. Construction firms and subcontractors didn't always know how to work together.

"You can't just pick up the phone and call someone and say, 'Hey, do you have a green- standard piece of equipment,'" says one Chinese builder. "People are used to just doing their one job, and for this work people need to know how to cooperate."

Special Offer: Subscribe to the Monitor and get 32 issues FREE**Special Offer: Subscribe to the Monitor for just 43 cents an issue****Special Offer: Subscribe to the Monitor and get 32 issues FREE**