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Little green in Asian construction boom

TAIPEI

Government incentives bring few buildings with environmental features

BY RALPH JENNINGS
REUTERS

Powered by solar energy generated on its roof, Taipei 101, the world's tallest completed building, is not only a leader for its breathtaking height but also for its eco-friendly features. Finished in 2004, the skyscraper is a rare example of green design in Asia, a region with the world's busiest construction sector yet one of the poorest records for environment-friendly construction.

China is said to be building half of the world's new floor space, but the vast majority of these new projects will be energy guzzlers. Environmentalists say they worry that these buildings will produce high carbon emissions for decades to come.

Beijing and other governments in the region are trying to encourage green construction, but Asia lags behind Europe, which has a 2019 deadline for all new buildings to produce the same amount of energy they consume.

Office buildings use at least 30 percent of an average country's total energy consumption and produce a similar proportion of their greenhouse gas emis-

"Developers are holding back on green buildings."

sions. Turning buildings green could reduce carbon emissions by 1.8 billion tons per year worldwide, according to the United Nations Environment Program.

"Asia is the latecomer," said Peter Halliday, vice president of Siemens Taiwan. "It's true that the developers are holding back on green buildings, though over the life of a building you get your money back."

Price-sensitive builders in Asia balk at the steeper materials and construction costs for green buildings, about 5 percent higher, for features ranging from alternative energy systems to fixtures like low-energy lights and reinforced glass that cuts down on heating and air conditioning costs.

Despite the initial higher cost of environmentally friendly construction, architects say that it pays for itself after 5 or 10 years because of lower energy and water bills. Also, developers usually get higher rent yields if their buildings are considered green.

Pressure from some Western companies for office space that includes features like low-energy lights and waste recycling could change developers' minds in the coming years.

"There are an increasing number of multinationals and large overseas corporations that require green-rated buildings," said Tan Loke Man, head of the Malaysian Architects Association. "This will be the case as more and more companies become more environmentally concerned."

In China, 80 percent of the nearly one billion square meters, or 10.7 billion square feet, of buildings constructed every year are high-energy buildings

that consume two to three times as much energy per unit of floor-space as buildings in developed countries, according to a report by the Asia Business Council, which monitors green construction.

China aims to reduce energy use by 60 percent in new buildings, offering tax rebates as incentives.

"China needs to do more," Janet Pau of the Asia Business Council. "They need a more coordinated building policy."

"Buildings last for decades and just by being there, they will slowly be damaging to the environment."

The government's efforts, as well as demand from foreign companies for green office space, has spurred several high-profile projects that may kindle interest in low-energy buildings across the region.

The Shanghai Tower, in the mainland's commercial capital, will minimize wind resistance and energy consumption when it is completed in 2014 at a cost of \$2.2 billion. The building will house 54 wind turbines to power heating and air conditioning, along with a rain-water collection system.

China has 166 projects registered by the Leadership in Energy and Environmental Design, or LEED. By contrast, India has LEED certificates for 56 building projects and South Korea has 49.

LEED criteria include bike storage, low-water landscaping, recycled construction materials and waste reduction.

Other energy efficiency measures include improvements like window insulation. Windows are the greatest sources of heat loss and air leakage, accounting for 11 percent of total losses of energy in buildings.

The message is seeping in, helped by corporate responsibility programs and government aid.

Chinatrust Bank of Taiwan broke ground this year on an environmentally friendly headquarters in Taipei that will cost 15 billion Taiwan dollar, or \$450 million. Of that, 852 million dollars is going to eco-friendly features.

The complex, due to open in 2012, will include low-power air conditioning, site selection designed to reduce car trips and a layout that is 52 percent open space with a public park, said Thomas Chen, Chinatrust's secretary general.

Chinatrust will offset the costs of making the complex green in three to four years and rent out a third of the space, likely to multinationals.

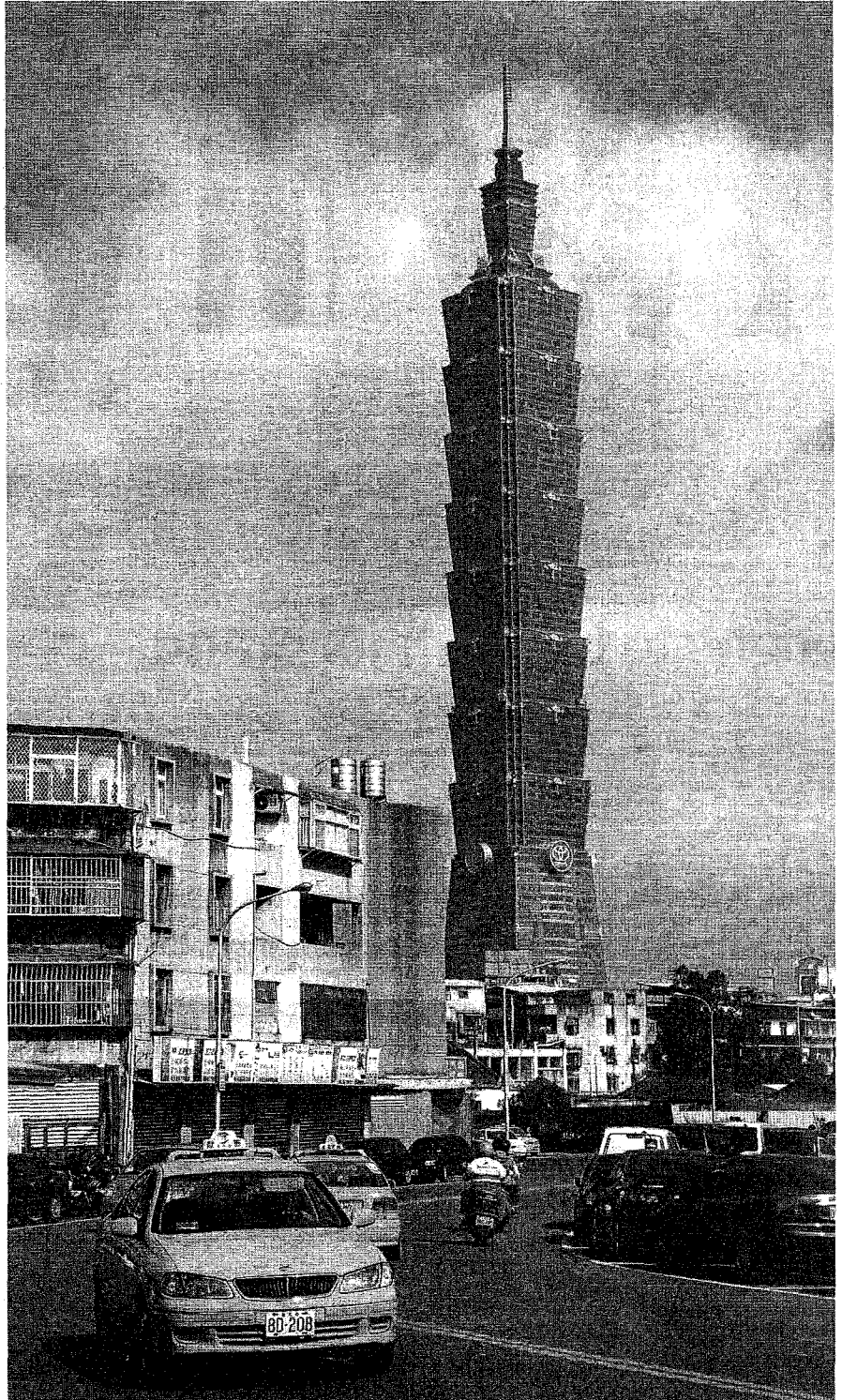
"As far as I know, no space in Taiwan is as green as this one will be," Mr. Chen said.

The Southeast Asian city-state of Singapore offers incentives of up to about \$4 per square meter for new energy-efficient buildings. It, too, hopes to win multinational tenants.

"Once a government gives more incentives, things get done," said Kendrew Leung, a managing director with Savills Property Management in Hong Kong. "Now, green building is a trend but not a must. It takes time to make it a habit."

ONLINE: THE GREEN INC. BLOG

Tom Zeller Jr., Kate Galbraith and James Kanter report daily on energy, the environment and the bottom line. greeninc.blogs.nytimes.com



Traffic in front of the Taipei 101 building, which incorporates environmental features like solar panels that power the entire building.

DAVID CHANG/EUROPEAN PRESSPHOTO AGENCY