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A Green City Rises Up in Sydney

By MATT SIEGEL

SYDNEY — The most famous Central Park is in New York, but Sydney is planning its own version that is less like a park in the city and more like a city in the park, with the urban parts aspiring to be as green as their surroundings.

When finished, Sydney's Central Park, a $2 billion mixed-use site on 6,500 square meters, or 70,000 square feet, of park land, will have 11 buildings that will be so energy efficient they will be able to export electricity to neighboring areas, according to the developer, Frasers Property Australia. The rooftops will be designed to turn rain into drinking water. When the toilets flush, the sewage will be recycled into usable water.

The project, situated on 5.8 hectares, or 14.3 acres, surrounding a defunct Foster's brewery on the edge of the city's financial district, is simple in its rationale, but not its aesthetic. Verdant vertical gardens designed by the French botanist Patrick Blanc will cover the walls of the residential towers, dangling in suspended animation from a cantilevered park.

Frasers said it eschewed the bells and whistles common to many "green" developments in favor of a combination of best practices and proven technology that could be upgraded. Frasers avoided some better-known technologies it said it thought were superfluous.

"There's not going to be wind turbines on the roof or even necessarily photovoltaics," for example, said Stuart White, a professor at the Institute for Sustainable Futures at the University of Technology in Sydney, who is an adviser on the project.

The development, which was designed by Foster and Partners of Britain, is part of Sustainable Sydney 2030, the city government's plan to cut greenhouse gas emissions by 50 percent, increase renewable energy supplies and add 48,000 dwellings to the city within the next 20 years.

The Central Park project will have 1,800 residential units housing about 2,500 people in a pair of buildings designed by the renowned French architectural firm Ateliers Jean Nouvel, with an additional 5,400 people working in the 70,000 square meters of commercial space.

Construction on the park's 11 new buildings, which range in height from 3 to 33 floors, began earlier this year, with the first apartments set to open in 2013.

Central Park uses a "precinct" approach for energy: Energy use peaks at different times of the day — commercial usage rises during the workday while residential use spikes in the evening — and a precinct approach allows the site to increase efficiency by shifting the energy where it is most needed at the time.

The site will get its electricity from trigeneration generators, a system where heat, mechanical energy and cooling are created from a single source, harnessing "waste heat" to significantly raise overall output. This is more efficient than the more common co-generation, which generates only electricity and heat.

Ultimately, the developers said, by coordinating between the peak consumption hours on the various buildings, their trigeneration generators could allow them to export surplus electricity into the grid for sale to neighboring areas.

Central Park will also have blackwater recycling, which uses all waste water, including sewage. A plant in the basement of the old brewery building draws water from the sewer mains to filter and treat the sludge, which is then fed back into the site's water system.

The recycled sewage will be used things like watering the gardens and washing clothes. People are not allowed to drink the recycled blackwater for legal reasons, but it is safe for human consumption, Frasers said.

It is not that the technologies are new, said Nicholas Wolff, the chief operating officer of Frasers. They are, however, exceedingly expensive, so Sydney's Central Park seeks to make the technologies cost-efficient by distributing the output, and cost, over different buildings at different times.

Past projects were too small in terms of area to absorb the cost, he said, but that will not be a problem in a project of this scale.

Sydney, however, is a low-rise city, and a shift toward high-density development has exposed a divide familiar to city planners everywhere. Many residents fear that the city's character is being buried by Central Park and other Sustainable Sydney 2030 projects like the towering urban renewal project under construction a few blocks away at the Barangaroo waterfront.

"Sydney feels like an aging celebrity that's had a series of botched facelifts. It's just a little too tight and clean," said Michelle Retford, 27, who started a Facebook page to save her favorite music venue, the Abercrombie Hotel, a heritage building that sits at the corner of the brewery

lot and was shuttered for renovations as part of the development. Frasers said the closure was temporary.

Glenn Murcutt, a recipient of the 2002 Pritzker Prize for architecture and Australia's most famous architect, said he was disturbed by the prevailing attitude among developers of high-rises.

"Office buildings don't sponsor loitering, spending time, thinking," he said. "They discharge people and they're out. High-density housing tends to do the same thing."

Mr. Murcutt, 75, said he was deeply skeptical of "utopian" projects, a feeling the British-born architect traced back to Britain's experiments with public housing in the 1950s and '60s. The towering residential blocks in the Roehampton neighborhood in London left a deep mark, he said. "I lived in England when Roehampton was touted as the future," Mr. Murcutt said. "And it had mixed development. It had point blocks and low-scale development. The low-scale worked."

But families could not live in the high-rises, he said, because the children wanted to play outside, where the parents were not able to watch them from inside their apartments.

"And so families had to move out of Roehampton. Is this going to be different?" Mr. Murcutt said.

The debate over whether high-density building is the best model for sustainable development is far from settled, says Randal O'Toole, a fellow at the libertarian Cato Institute in Washington.

"We can make single-family homes as energy efficient as we want," he said. "We can make cars more energy efficient. And we can do these things for a lot less money than building higher densities and mass transit to try to substitute for the single-family homes that people seem to prefer and automobiles that provide much better transportation at a lower cost than mass transit."

Frasers and the designers of Central Park disagree. The science is on their side, they say, and they hope to use Central Park as an example of what is possible.

"In most parts of the world people are really disconnected from nature," said Mr. Blanc, the French botanist. "The most important is to show that it's not totally in opposition, the way of life of the human beings and the way of life of the plants."