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The energy builds

Vast construction site reshaping Toronto's waterfront lands will create an eco-friendly environment for workers and residents alike



The Cherry Street gateway crossing looking south from an LRT platform over Keating Channel. Check out the various modes of getting around the area.

Waterfront Toronto

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It may take another decade, but if all goes as planned, Toronto could very well hold bragging rights to the world's most enviable waterfront. Not only that, but those residing a hop, skip and a jump from the water's edge will be able to boast that they're truly living green.

Take the Aqualina and Aquavista at Bayside condominium buildings in Waterfront Toronto's East Bayfront neighbourhood as an example. Tridel has two NETZED (net zero energy dwelling) suites up for grabs there that promise the ultimate in green living. The penthouses – at 1,182 and 696 sq. ft. respectively – get their hot water and electricity from the roof's solar panels during the day and use the building's energy come nighttime.

It's all about creating the smallest carbon footprint possible, and Tridel senior vice-president Jim Ritchie couldn't be more excited.

“The theory is to take it off the grid,” Mr. Ritchie says of the units. “We're designing it in a way that your electricity, your heating, your cooling and your hot water are all going to be supplied by renewable systems ... During the daytime, with a lot of solar gain, [the suite is] going to have more energy than it can use so the energy consumption is mirrored. We actually put that additional energy into the condominium building system. Then at night, when there's no solar heat, the NETZED's meter can pull that energy back away from the condo's grid. So it's a very interesting concept.”

It's that kind of thinking that has the folks at Waterfront Toronto smiling. Ever since three levels of government banded together in 2001 to revitalize the lacklustre waterfront, Waterfront Toronto has stuck to its 25-year mandate to transform 800 hectares (2,000 acres) of brownfield lands — roughly the size of the city's downtown core — into sustainable mixed-use communities comprising one million square metres of employment space and 300 hectares of parks and public spaces.

With 40,000 residential units planned, developers were charged with abiding by a host of rules including energy efficient systems, renewable energy generation on-site, water conservation, in-suite energy and water meters, green roofs, and sufficient parking for bicycles and electric vehicles.

“Early on, developers were concerned that green building techniques and our Minimum Green Building Requirements would be expensive,” recalls Waterfront Toronto's Director of Environment and Innovation Lisa Prime. “But they soon realized that good design minimizes, or can eliminate, added costs. ... In addition, the market is increasingly finding buyers who are looking for green features, which translates into sales and positive project reviews.”

Currently, Tridel, Great Gulf, Dream Unlimited (formerly Dundee Kilmer) and Urban Capital are the only private developers with projects on the go or in the works in the East Bayfront and West Don Lands areas. And fortunately for residents wanting in, building green is nothing new to these builders. All have long been committed to building homes,

condos and offices that are up to Leadership in Energy and Environmental Design (LEED) standards so buyers can reduce energy, water and waste, improve indoor air quality and temperature and, ultimately, save money.

But if they wanted to be a major player in one the largest infrastructure projects in North America, they had to commit to the process for the long haul. And they have.

“A more sustainable building is, arguably, emotionally a better building to live in,” says Christopher Wein, president of Great Gulf Residential, behind the 44-storey, LEED Gold, Moshe Safdie-designed Monde condominium tower adjacent to Sherbourne Common Park in East Bayfront. “It’s like driving a green car. You have an emotional connection to the environment.”



This aerial view of the Aquavista development illustrates the number of green roofs that will exist after full build-out.

Tridel

Mr. Wein says there are two aspects to building green. First there’s the construction, which involves using certain building materials and doing on-site recycling and waste management to minimize the environmental impact. The other side is the finished product, with low-flow water fixtures, energy-efficient lighting, glazing with high energy ratings, and the like. At Monde, large cantilevered and flush balconies to maximize lake views give each unit a generous amount of light, while the parking garage is fitted with 540 bike storage spots and rough-ins for 12 electric car plug-ins (in comparison, Great

Gulf's 33-storey Yonge & Rich tower in Toronto's financial district doesn't accommodate electric cars).

Urban Capital is psyched to offer a hybrid car-share program at its three-phase LEED Gold River City project in the West Don Lands, reducing the need for individual cars. The company has committed to offsetting approximately 15,000 tonnes of carbon created as a result of construction and first-year operation of the development's first two phases, and is contributing more than \$40,000 to support the New Laos Stove Project in Cambodia.

Green roofs, too, feature prominently in these buildings to reduce the heat island effect, provide effective stormwater management, and provide new habitat for birds and insects. At Monde they're called "sky gardens" featuring gardens, plantings and trees on roof surfaces that Mr. Wein says "are better for the atmosphere, better for the building, better for the residents." At Dream's LEED Gold Canary District project in the West Don Lands — incorporating 805 condos at the Toronto 2015 PanAm Games Athletes' Village and another three residential buildings once the games are over — the planted materials on roofs do environmental duty but also mean residents who look out onto the roof of an adjacent building will have much more appealing views than looking onto asphalt.

"The long-term costs will be less, no question, regardless of what the budget says when they actually acquire [the property]," says Jason Lester, Dream's chief operating officer. "They can compare from one building to another over the long term because we have green roofs, because we've spent more on the glazing. The long-term maintenance and utility costs will be lower in these buildings than in others in the city."

All this is great news to Sean Dyke, who travels the world to entice green manufacturers to Ontario.

"Waterfront Toronto is doing a lot of marketing about their project and one of the things that does is it raises awareness for green technology in Ontario," says the chair of the Ontario Clean Technology Alliance in St. Thomas, Ont. "It lets people know you can have it on the residential side, that you can go green. It's incredible what they're doing."

There's a significant amount of work going on there that hasn't happened anywhere else in Ontario. We'd hope that other places within Ontario, in Canada and, hopefully, in the U.S. will look to Waterfront Toronto as an example and take some of the ideas from it and apply it to other developments."