

THE GLOBE AND MAIL

A green idea cool enough for Canada

A U.S. company has developed an environmentally friendly method for cooling buildings during peak summer hours using chunks of ice

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You'd be hard pressed to find anyone in this country who believes Canada needs more ice. But the distributors of a new green energy technology are trying to show consumers that's exactly what we do need.

Behind a fence in the back of the Mountain Equipment Co-Op store parking lot in Burlington, Ont., six large blocks of ice, each the size of a playpen, sit in steel boxes melting slowly in the afternoon heat.

It's the first Canadian installation of Ice Bear, the air conditioner's answer to the hybrid car. It uses 95 per cent less electricity in peak hours than a conventional air conditioning unit.

"We see Canada as a terrific market," said Greg Tropsa, Executive Vice President of [Ice Energy](#), the company that developed and manufactures the Ice Bear. "We've got great prospects, especially now with the legislation that's trying to get more green energy in the market."

Toronto-based Transformative Technologies Inc. is partnering with Ice Energy to market and distribute the Ice Bear in Canada.

"I think of all the effort it takes to build new natural-gas-fired facilities or fossil fuel power," said James Alden, TTI's president. "It's clear Ice Bear is a great solution."

And it's getting attention. Gathered in the noonday sun in Burlington's MEC parking lot are reps from Hydro One, London Hydro and Hydro Ottawa, among others. As the sweating lid is unscrewed from one of the 5-tonne units to reveal the melting ice inside, one of them quips, "Where's the beer?"

Unlike your standard brew cooler, however, the big block of ice inside the Ice Bear is not what cools the building's air. Not directly, at least.

During off-peak hours when electricity rates are at their lowest, the Ice Bear acts like a normal air conditioner and uses its compressor to cool refrigerant that in turn cools the air blowing into a building. What also happens overnight is the unit re-freezes water that had melted off the huge 200 kilograms cubes of ice. During the day when electricity rates are at their highest, the Ice Bear turns off its compressor and uses the ice to cool the refrigerant.

The result is an air conditioning system that uses about 300 watts – the equivalent of five or six light bulbs – rather than a traditional system that uses 6,000 watts.

For a store the size of this MEC, that could mean savings of roughly \$400 a year, according to Ice Energy's figures. Businesses also earn the goodwill of customers who like the use of green technologies in their stores.

"We've been getting a lot of feedback," said Alicia Cairns, the manager of the Burlington MEC location. "The biggest things we hear about, are the solar panels and the Ice Bear system."

But at a price tag of \$8,500, businesses may ask themselves just how much a green image is worth.

"Our biggest problem here is the summer with air conditioning. It's a very focused approach to solving that problem. It attacks peak energy, which helps us lower costs." — Hans Schreff, Conservation Program Manager for London Hydro

While Ice Energy has done a few commercial installations, the company's target market is utility providers. The technology allows utilities to reduce emissions and lower transmission costs. And in the hottest months when demand for energy goes into overload, instead of spending millions to rewire their distribution systems utilities can shift that demand to off-peak periods, Mr. Tropsa said. In the U.S., more than 20 utilities have already had trials of the Ice Bear units.

Canadians may not be far behind. London Hydro is "very seriously" considering investing in the technology, said its Conservation Program Manager, Hans Schreff.

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With the Green Energy Act passed by the Ontario government in May, which is designed to increase the province's dedication to renewable energy, utilities are being asked to consider more green technologies, said Tom Semler, Manager of Conservation and Demand at Hydro One.

"We're going to get bigger targets for conservation," he said. "These units could have a big impact for us."

Ice Energy has yet to be profitable, but with the interest in the units Mr. Tropsa expects that could change within the next two years.

"You're looking for [energy] storage, and what could be cheaper than water?" Mr. Tropsa said. "It's a feel-good business, but it's a potential money-maker too."

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