

Rooftop harvesters

Wind turbine could generate power for homes

BY ERIC MCGUINNESS

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McMaster University engineering experts will spend the next three years testing an innovative wind turbine whose Canadian developers say it is small and quiet enough to generate electricity on the roof of your home or business.

But Tony Verrelli, president of Mississauga-based Cleanfield Energy Corp., admits not everyone is ready to put a three-metre tall, steel-and-Fiberglas, spinning carousel atop their home in an urban subdivision.

His plans are to sell them first to commercial users and people with larger properties, especially in parts of the United States where generous financial incentives are available to buyers of clean-energy products.

Hamilton lawyer Jay Rosenblatt, a member of the board of the Golden Horseshoe Venture Forum, said yesterday: "I've been a believer for a couple of years in this project. I think this is a great initiative and a great partnership with McMaster. Positive things are happening in Hamilton and will continue."

Verrelli expects the largest, 2.5-kilowatt model to go on sale in June at \$11,000 US or \$14,000 Cdn.

"In New Jersey, there is a \$3-per-watt rebate, so it will really cost \$3,500, offering a quick payback.

"And both California and New York offer 50 per cent rebates, so our market is in the U.S. We don't have any incentives here."

The 2.5-kilowatt system is expected to generate 5,000- to 9,000-kilowatt hours of power a year. An average North American house uses about 9,500-kilowatt hours annually.

An ocean-blue prototype was displayed yesterday at the McMaster Manufacturing Research Institute in Ancaster, where professors and students will study the unit indoors for six months before installing it on the roof of the former Camco office building on Longwood Road in the new McMaster Innovation Park overlooking Highway 403.

Samir Zaida, professor and chair of Mac's mechanical engineering department, said Cleanfield and the Ontario Centres of Excellence Centre for Earth and Environmental Technologies will split the \$630,000 cost.



GARY YOKOYAMA, THE HAMILTON SPECTATOR

Cleanfield Energy's wind turbine prototype has joined forces with McMaster engineering experts to test the turbine for 'noise, vibration and the power curve.'

"McMaster recognizes this is a critical time for energy in Canada and particularly in Ontario. We hope soon to see many wind turbines on roofs around the area."

Lawson Hunter of Burlington, publisher of an alternate renewable energy newsletter, said Cleanfield's vertical-axis design has advantages over the more common propeller-style turbines such as the one at Exhibition Place in Toronto.

Cleanfield's turbine consists of three airplane-wing-shaped blades that stand on end as they revolve around a centre post.

Hunter said it should make less noise than a horizontal-axis turbine and work no matter which way the wind is blowing.

Propeller-type turbines need motors to face them into the wind, are subject to ice buildup, generally need to be installed on a tower and take more wind to make them spin.

"These will work virtually anywhere," Hunter said. "You don't need big wind farms in strategic locations."

Professor Stephen Tullis said Cleanfield is turning to Mac for expertise in aerodynamics, noise and vibration.

"It has to be fully tested for noise, vibration and the power curve," Verrelli said. "We don't want to have it on a house and it falls off."

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