



Ontario Centres of Excellence

Cleaner Energy with Ontario-Grown Turbine

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With the summer pall of smog over parts of Ontario becoming an increasing health concern, with Canada's commitment to reducing greenhouse gas emissions that lead to climate change, and with ever-growing costs for heating and cooling homes and industries, the push is on for cleaner forms of energy.

A partnership involving Cleanfield Energy Corporation, McMaster University and Ontario Centres of Excellence's (OCE) Centre for Earth and Environmental Technologies is developing another energy alternative: a new wind turbine for residential and commercial use.

Cleanfield develops, manufactures, markets

and distributes proprietary, renewable energy products. Its Vertical-Axis Wind Turbine (known also as VAWT), features three narrow, three-metre long vertical blades that rotate around a central axis. Designed for both tower and rooftop installation, the wind turbine can provide homeowners and businesses with clean, reliable electricity and savings on their utility bills.

The Department of Mechanical Engineering at McMaster is studying the performance of the turbine in urban wind conditions with research at its Manufacturing Research Institute in Ancaster followed by field trials at the newly established McMaster Innovation Park in Hamilton.

“Cleanfield is delighted with the research collaboration that is taking place with the Ontario Centres of Excellence and McMaster University,” says Tony Verrelli, President & CEO of Cleanfield Energy Corporation. “The testing by McMaster of our VAWT is crucial to our overall product development process and corporate objective of becoming a global leader in the residential and commercial wind

turbine industry.”

Verrelli believes in wind turbines, especially now with rising costs of electricity and the increasing demands for power generation. The technology is proven – it just needed someone to see the opportunity for adaptation so it could be used by more people.

McMaster is pleased to be part of the innovation, as well. Dr. Mo Elbestawi, Dean of the Faculty of Engineering, says “Providing the university's expertise through collaborative initiatives such as this will help these companies bring their products to market faster while broadening our practical knowledge of the field.”

Funding for this research project came from OCE's Centre for Earth and Environmental Technologies and private investors. OCE feels the project contains two of its key hallmarks: a clear commercial opportunity, combined with an academic/industry partnership that is willing and able to take the innovation outcome to the marketplace.