

# Success Story



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**CENTRE OF EXCELLENCE FOR EARTH AND  
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## Cleanfield Energy Inc. | Ancaster

# OCE helps Cleanfield blow away urban barriers for wind

### Compact wind turbine designed for city buildings will propel renewable energy option

“OCE helped to accelerate our product from conception to commercialization much quicker than we had anticipated. Through the collaboration with McMaster, we were able to create a product that utilizes and produces a cleaner form of energy, which is in such high demand these days.”

**Tony Verrelli**  
*Chief Executive Officer*  
Cleanfield Energy Inc.

Cleanfield Energy Inc. believes that no matter where you live, you should be able to take advantage of the enormous potential of wind energy.

However, though wind energy is Canada’s fastest growing renewable energy source, several obstacles have limited the use of wind turbines in dense urban areas.

Finding the necessary space for wind turbines amid buildings, factories and towers can be difficult. Installing turbines directly on rooftops is also challenging. Vibrations caused by a turbine in the building it powers has also been a common complaint. And urban turbines must be able to contend with smog-filled air, littered with debris.

Working with McMaster University and the Ontario Centres of Excellence (OCE), Cleanfield has overcome each of these challenges and developed a vertical axis wind turbine (VAWT) for peak performance in urban settings.

The 3.5 kW VAWT model stands 10 feet tall with three vertical blades, and looks more like an egg-beater than a windmill. Under favorable conditions a single unit can provide 9,000 kW over a year, with an average Ontario home using approximately 9,600 kW annually – 86% of a home’s energy needs.

It can be mounted to any facility, from a two-storey factory to a 35-storey high-rise and can be modified for either tower or rooftop installations. It can handle gale-force winds,

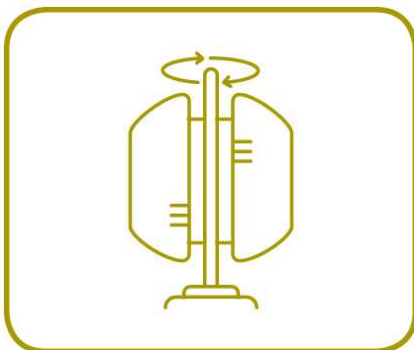
smog-filled air and can catch any wind without having to face it.

OCE recognized the potential of Cleanfield’s original prototype and invested \$250,000 through its Collaborative Research Program to advance its testing. That investment also allowed Cleanfield to partner with McMaster’s Mechanical Engineering Department to enhance the design.

Through extensive research and field tests, McMaster and Cleanfield improved the original design by increasing its strength, power and efficiency. The company was then ready to make the crucial leap into the marketplace. Since taking that step, Cleanfield has installed a dozen systems, with another 78 on order and created a whirlwind of interest from around the world.

Cleanfield also showcased its technology at well-attended events like OCE’s Discovery Conferences, giving the company unmatched exposure to leading researchers, investors and entrepreneurs.

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