

# Are you investing in a clean future?

## Cleanfield Energy now has the way.

"Cleanfield's 3.5kW modular Vertical-Axis Wind Turbine (VAWT) can produce clean reliable energy for residential and commercial markets. The system can be installed on virtually any existing home or business without the need to change any wiring or appliances."

### PRESS RELEASE

**W**ind power is the world's fastest growing energy resource in the world. Wind energy is especially good choice when buying green power because it is the least expensive and cleanest renewable energy source available, photovoltaic (solar panels) range from two to five times the cost of wind energy.

The wind turbine industry consists of four sectors; micro system (100 watts or less), mini system (100 watts to 10 kilowatts), small system (10 kilowatts to 50 kilowatts) and large system (50 kilowatts and greater). Technically Cleanfield's wind turbine is a mini system; however, in reality the company is creating an entirely new wind system category (Rooftop System).

A wind turbine system transforms the kinetic energy of the wind into electrical energy that is compatible with residential or commercial electrical systems. There are two basic designs of wind turbines; vertical-axis, or "egg-beater" style and horizontal-axis (propeller-style).

Internationally, the measurement of electricity generation is in watts or kilowatt (kW = 1000 watts) and electricity consumption is measured in kilowatt per hours (kW/h). A kilowatt per hour means one kilowatt (1,000 watts) of electricity produced or consumed for one hour. A 50 watt light bulb left on for 20 hours consumes one kilowatt per hour of electricity.

**50 watts x 20 hours = 1,000 watt per hour = 1 kilowatt per hour**

Small wind turbine market includes many applications, both on-grid or grid-tie (connected to a utility system) and off-grid (stand-alone). Small wind turbines produce electricity for immediate consumption or to transfer to the grid.

The U.S is the world leader in small wind system sales experiencing annual growth of over 40 per cent for the past four years. The growth can be attributed to government subsidy and net metering programs introduced by several U.S States. In Canada, there is currently between 2,200 and 2,500 small wind systems installed 90% of which fall into the mini-wind turbine category.

Cleanfield's 3.5 kW modular Vertical-Axis Wind Turbine (VAWT) can produce clean reliable energy for residential and commercial markets. The system can be installed on virtually any existing home or business without the need to change any wiring or appliances. However, if a home or business is completely sheltered from



the wind or the dwelling in located in a very low wind area (annual wind speeds under 10 km/h), it would be virtually impossible to generate wind energy. Furthermore, Cleanfield's wind system was designed in a modular manner (2.5 kW, 3.0 kW & 3.5 kW), which provides the Company with three individual wind systems. Each system will have an identical generator, shaft and blades, but will differ with the lengths of the spokes (arms).

#### Product Specifications:

- Vertical Axis Wind Turbine (VAWT)
- Rated Power – 3500W (3.5 kW), 3000W (3.0 kW) & 2500 W (2.5 kW)
- Weight—about 160 kilograms
- Height—3 meters tall
- Diameter—2.75 meters wide (3.5 kW), 2.5 meters (3.0 kW) & 2.0 meters (2.5 kW)
- Annual production 5000 to 9000 kW/h annually (3.5 kW per system)
- Estimated life 20–30 years

- Low Maintenance
- 5 year Warranty
- Primarily made of fiberglass & steel
- Designed for Grid, Off-Grid or Grid Inertie
- Designed for both Rooftop & Tower Installation

#### Three main components of our VAWT are:

1. Wind turbine vertical blades (three blades)
2. Generator—produce electricity from the rotation of the turbine
3. Power Electronics (Design Phase)

#### Our proprietary technology has several specific competitive strengths over current small-scale wind technology:

1. Rapid starting clutch system
2. Controlled electro-mechanical brake
3. Designed for rooftop or tower installation



4. Modular wind turbine assembly
5. Micro-vibrations of the blades used for de-icing effect
6. Fewer moving components compared to horizontal-axis

Cleanfield Energy Corp. is a Canadian company established in 2002 to develop, manufacture, market and distribute leading-edge wind energy systems and other proprietary renewable energy products. Cleanfield's co-founders, Michael Stern, Alexander Trica and Tony Verrelli, vision is to create rooftop Vertical-Axis Wind Turbine (VAWT) systems, capable of producing clean renewable energy for both residential and commercial markets. Cleanfield will be selling wind energy systems through authorized renewable energy dealers. **RE**

For more information please visit [www.cleanfieldenergy.com](http://www.cleanfieldenergy.com)

