



*The first product in the  
market to break the barrier  
of 10c/kW energy  
production*

Efficient, Economical Small Wind Power



# ZECWP 75 KW WIND TURBINE

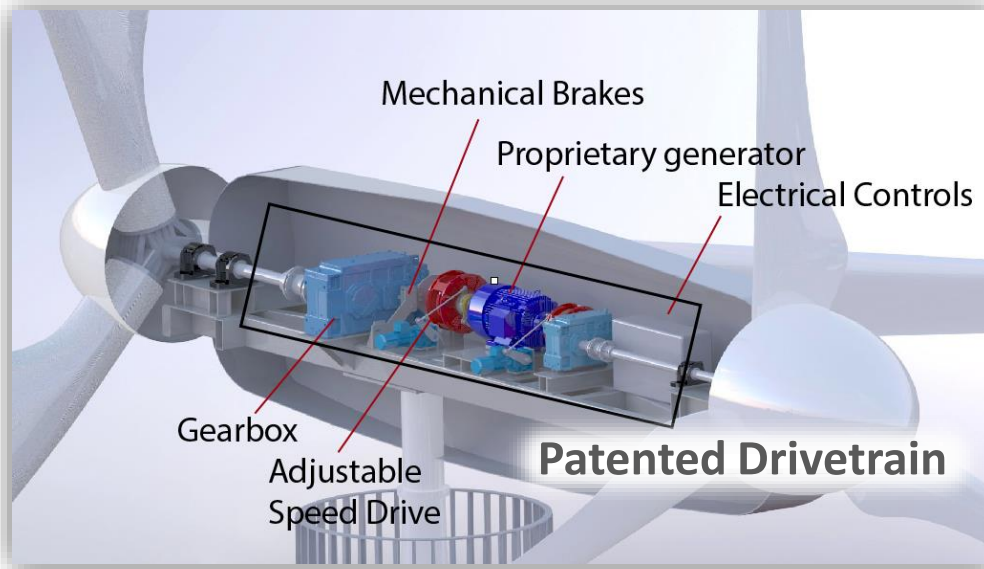
## Benefits

- Lowest Cost of Energy Production (\$/kW)
- Significantly Greater Return on Investment (ROI)
- Shorter Payback Period
- Lowest Maintenance Costs
- Eligible for renewable energy credits
- Provides energy independence
- Broader market with more opportunities

[www.zecwindpower.com](http://www.zecwindpower.com)

**342,000 kWh/year @ 7.5 m/s**

*Improved AEP, lower maintenance costs and higher expected lifespan*



*Our innovative drivetrain design is optimized for maximum energy production at all frequent wind speeds. System safety and reliability is our top priority.*

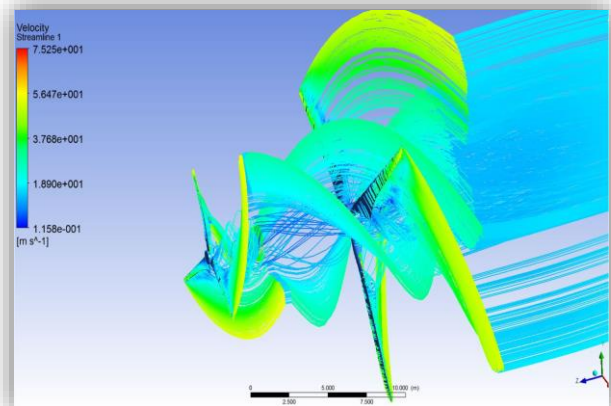
## Maximum Production Efficiency

Most customer sites have less than ideal wind conditions. Our 75kW wind turbine ensures maximum utilization of wind energy and produces more power while extending the life cycle of the turbine components.

**Conta-Rotating Blades** Contra-rotating blades generate more power than single blade design. The rotors are optimized for maximum energy production at the most frequently occurring wind speeds.

**Drivetrain** The overall drivetrain design is part of a patent filed by ZEC Wind Power. The gearboxes and bearings are further protected by a **proprietary breakthrough technology lubricant** which extends equipment lifespan.

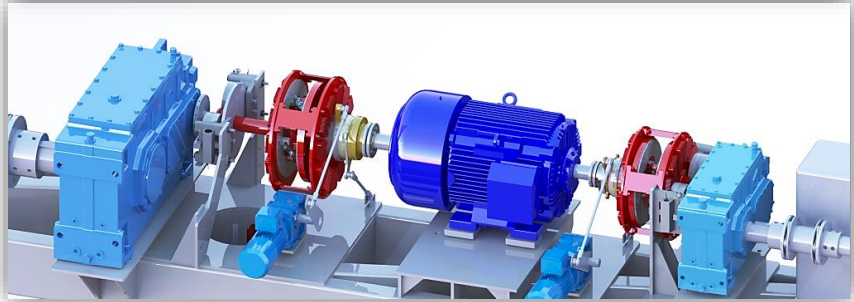
**Generator** Developed for over 15 years and based on the most robust type of generator, the induction generator, ZECWP's proprietary generator provides clean power and maintains nameplate efficiency under real-world power conditions. The proprietary generator has been proven for over 10 years at the roughest of applications.



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**Magnetic Drives** The use of the magnetic couplings significantly reduces maintenance of equipment and improves system behavior at all wind speeds.

- ✓ **Energy efficiency** - Increase power management options at all wind speeds by optimizing system performance
- ✓ **Soft generator start/stop** – Reduce power demands by smoothly bringing the blades out of stall without having an inrush on the generator/motor, increasing gearbox and generator life and reducing maintenance.
- ✓ **No-contact power transfer:** Reduce vibration on gearbox and generator, act as a shock absorber during sudden wind gusts
- ✓ **Frictionless Brakes** – Different configuration settings allow the drives to be used as energy dumping and braking devices.
- ✓ **Allow for Greater Component Misalignment** – Eliminate the difficulties caused by frame flexing by allowing greater component misalignment of up to a ¼" without having any effect on component operation and wear



**Motoring** In the ZECWP 75 kW wind turbine, motoring can be used for bringing the wind turbine out of stall mode without electrical inrush, reducing the stress on all turbine components.

## Reliability

All ZEC Wind Power turbines use dependable components which have been proven and tested individually in real life conditions. The turbines have a five year warranty.

*Improved AEP, lower maintenance costs and higher expected lifespan*

## Safe Operation

During high wind speeds or grid loss, the electrical controls of the wind turbine stop the blades and the drivetrain from spinning.

**Passive Stall Rotor Design** Fixed speed contra-rotating blades are protected by aerodynamic stall during high wind speeds. Our drivetrain is able to push the limits of stall control by making small changes to the rotor speed and dumping excess energy when required.

**Fail-Safe Braking** During braking, magnetic drives slow down the blades, thereby reducing the wear on the mechanical brakes and allowing for gradual, smooth stops. The braking system is very precise and has a fast response in emergency stops.

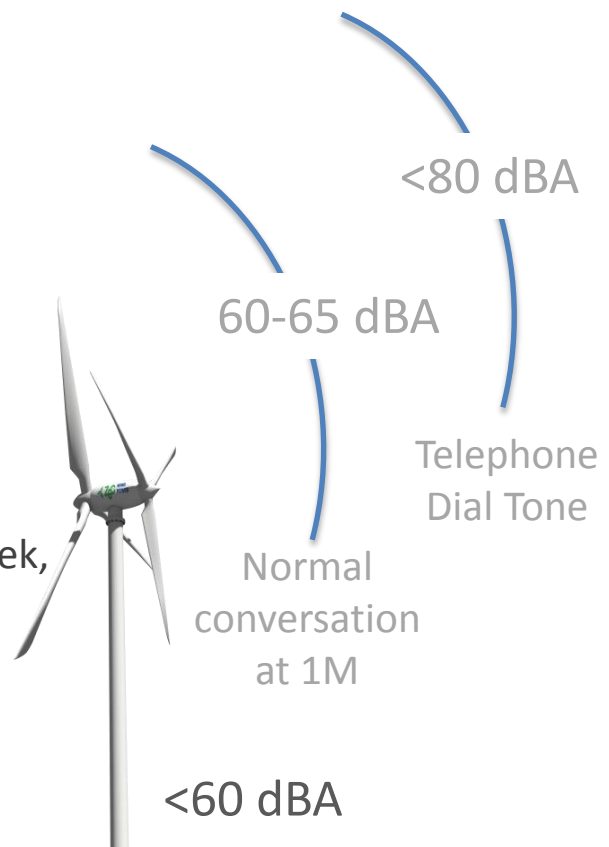
**Electrical Control System** The turbine's state-of-the-art controls manage the behavior of the entire system during all wind conditions. It is backed up by an extensive condition monitoring system and is scalable to all customer needs.

## Quiet Operation

Our wind turbine has the lowest tip speed ratio corresponding to the blade size of all units available in the market, resulting in quiet operation <60dBA. Small sound footprint reduces impact on the surrounding area.

## Clean Aesthetics

Our 75 kW model has smooth lines with sleek, clean aesthetics, adding a visual appeal to landscapes and communities.



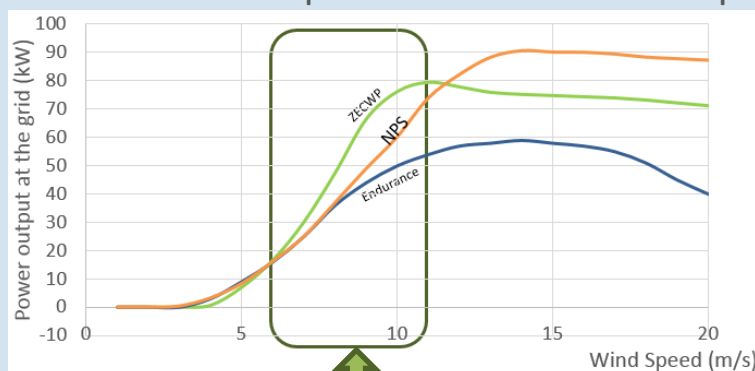


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## Technical Specifications

Spec	Description
Configuration	Horizontal axis, Dual Rotor Contra-Rotating, downwind
Power Rating @ 7.5 m/s	75 kW
Annual Energy Production (AEP)	342,400 kWh @ 7.5 m/s average wind speed
Small Rotor Diameter	10 m
Large Rotor Diameter	22 m
Rotor Speed	42 rpm, 119 rpm
Grid Connection	Single or Three Phase, with option for off-grid applications
Tip Speed	< 60 m/s
Cut-in wind speed	3 m/s
Cut-out wind speed	25 m/s
Power Regulation	Stall control (constant speed)
Overall Weight	4350 kg
Tower Height	36 m
Tower Type	Free-standing monopole or free-standing lattice

## Power Curves Comparison with Main Competitors



The most "effective" wind speeds that occur **most frequently** are 6 - 11 m/s. ZECWP 75kW turbine has the **highest energy production** at these wind speeds.

**AEP**  
**342,400 kWh**  
 @ 7.5 m/s average wind speed

# Innovative solutions for your power needs

- Highest Return on Investment (ROI) available in the market
- Breakthrough innovative technology
- Significant increase in Annual Energy Production (AEP)
- Lower power generating costs – below 10c/kW!
- Higher lifespan of components
- Extremely reliable system with additional safety features
- Easy to operate and maintain

## Contact Us

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