



## Ecotecnia E20 150Kw Reconditioned Wind Turbine

**Turbine Complete: Nacelle, Blades, Controllers & Tower**

**Delivery: From Green Energy Wind to Client site:**

### System Specification:

#### Tower

- Height: 24m
- Hub Height: 24m
- Material: Hot dip-galvanized steel, painted.
- Safety: Nacelle reached by inside tower ladder; lockable door

#### Generator

- Rate generator power; 150 kW at 14 m/s
- Rotor Speed 45rpm
- Type: Double wound Asynchronous 415 V; 3-phase; 50Hz

#### Component Weight

- Nacelle: 6,000 kg
- Blades: 2,300 kg
- Tower: 11,000 kg

#### Operational Data

- Cut-in wind speed: 4 m/s
- Cut-off wind speed: 25 m/s,
- Max operating Wind Speed: 50 m/s

#### Rotor

- 3 pitch blades
- 20m diameter
- Upwind Orientation, Clockwise

#### Blades

- Fiberglass reinforced polyester
- 314 m<sup>2</sup> swept area

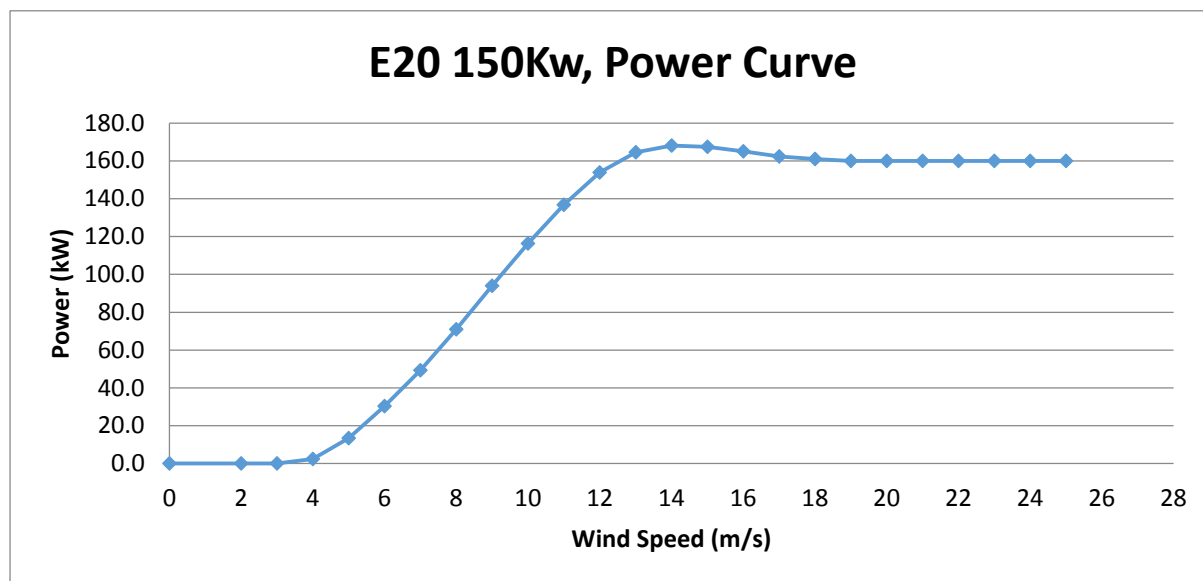
#### Miscellaneous

- Control panel mounted safely inside tower.
- Remote system monitoring and controls via internet connection. (Available on request)
- For more information on this turbine, contact us. E: [info@greenenergywind.co.uk](mailto:info@greenenergywind.co.uk)

#### Safety

- All turbines purchased include the following approved safety equipment, which is packed within the turbine load at the time of shipment.
  - Safety climbing harness with shock absorber strap
  - Climbing lanyards
  - Slip grips & Safety instructions manual

# Output and Production



Wind Speed (m/s)	Power Output (kW)
0	0.0
2	0.0
3	0.0
4	2.4
5	13.4
6	30.4
7	49.3
8	70.9
9	93.9
10	116.3
11	136.7
12	153.9
13	164.5
14	168.0
15	167.4
16	165.1
17	162.4
18	160.9
19	160.0
20	160.0
21	160.0
22	160.0
23	160.0
24	160.0
25	160.0



## Estimated Return on Investment over a 1 year period

### High Estimate

Turbine	7.0m/s	NIROC Income	100 % Export	Total
Ecotecnia E20 150kW	39,4200	£70,956	£21,681	£92,637

### Expected

Turbine	6.5m/s	NIROC Income	100 % Export	Total
Ecotecnia E20 150kW	34,1640	£61,492.20	£18,790.20	£80,282.40

### Low Estimate

Turbine	6.0m/s	NIROC Income	100 % Export	Total
Ecotecnia E20 150kW	29,5650	£53,217	£16,260.75	£69,477.75

### Reconditioning Process

- **Turbine Nacelle:** stripped down to main chassis. Refinished
- **Gearbox:** Inspect gearbox, check endplay, replace all seals, Bearings & gear oil.
- **Brake unit:** Test magnetic brake unit & Meg electric motor.
- **Yaw System:** Meg yaw motor. Inspect yaw bearing & adjust yaw pinion gear to yaw ring.
- **Generator:** Meg Large generator. Replace bearings and seals. Varnish and bake
- **Main Shaft:** Replace main shaft bearing & seals
- **Anemometer:** Test RPM sensor, anemometer & wind vane.
- **Controller:** Check & test controller & set parameters by manufacturer guidelines.
- **Blades:** Refinish blades, balance & match set.

## Cost

Dependent on availability, order date location and purchase price of second hand machine

## Shipping

- All our prices include shipping from Europe and delivery to Green Energy Wind Workshop. Delivery to client site and all lifting and handling

## Warranty

- Turbines are warranted for a period of two years. Parts, plant and labour
- Replacement parts are available.
- O & M Package available

## Installation

- Manuals and blueprints provided.
- Foundation drawings available.
- 2 yr. dial up tech support included.

## Design Advantages

- Low visual impact tubular towers.
- Easy access to controller and nacelle via internal tower ladder with dual lockable doors.
- Ease of service and maintenance during inclement conditions.

## Notes

1. **Prices and delivery dates are subject to availability and change. We do offer price discounts for multiple system purchases. Contact us for additional information and a price quote.**
2. **Please confirm with us: email: [info@greenenergywind.co.uk](mailto:info@greenenergywind.co.uk)**
3. **Annual electrical production in kilowatt-hours will vary dependent upon your wind speed averages. We would be glad to assist you in calculating your annual production upon request.**