

ECO 100 Platform

ECO 100 & ECO 110 Wind Turbines

Alstom, one of the most trusted names in power generation, offers a platform of large wind turbines that increase the electricity produced by each wind turbine.

For **higher** energy yield

The ECO 100 platform: With rotor diameters breaking the 100-metre barrier, the ECO 100 range of wind turbines sets a new milestone. The electricity generated by one ECO 100 wind turbine meets the needs of 2000 households and avoids the production of 7000 tonnes of CO₂ per year.*

Ideal for less remote locations: The turbines from Alstom's ECO 100 platform are suitable for all types of wind sites. The higher yield and the lower noise emissions make it the ideal choice in less remote locations opening up new opportunities for wind farm development across Europe.

**Source: European Wind Energy Association*

Proven technology

30 years of development have gone into the technology that has been proven in the highly successful ECO 80 platform and now taken a step further on this bigger and more powerful platform. The main benefits include:



ALSTOM PURE TORQUE™

Now in the 3rd generation of Alstom's wind turbines, the ALSTOM PURE TORQUE™ design separates deflection forces arising from wind buffeting from the pure rotor torque required for power generation. It protects the drive train, ensuring higher reliability of the turbine.



NEW NACELLE CONCEPT

The nacelle is made up of three independent elements: the central nacelle, two lateral housings and the hub. Increased dimensions allow technicians full internal access and ensure easier and safer maintenance without cranes.



ELECTRICAL YAW AND PITCH CONTROL

Responsive yaw and pitch controls are the key to stable power generation in a wider range of winds. The electrical pitch system launched in the first ECO 80 keeps rotor speeds stable and allows a smooth cut-off in excessive winds.



ALSTOM SCADA SYSTEMS – SUPERVISORY CONTROL AND DATA ACQUISITION

Based on 30 years of turbine maintenance experience, coupled with the latest developments in industrial communications, SCADA provides local and remote access to all the necessary wind turbine data for optimised operation and maintenance.



GRID COMPATIBILITY

Alstom turbines are compatible with the most demanding grid codes and provide advanced features such as line-fault ride-through and reactive power injection.

Specifications

ECO 100

ECO 110

OPERATING DATA

Wind turbine class IEC/EN-61400-1	I - A	II - A
Rated power	3.0 MW	
Cut-in wind speed	3 m/s	
Cut-out wind speed (avg. 10 min)	25 m/s	
Instant cut-out wind speed	34 m/s	

ROTOR

Rotor diameter	100 m	110 m
Swept area	7980 m ²	9469 m ²
Rotor yaw	up wind	
Number of blades	3	
Speed range	7.94 - 14.3 r.p.m.	7.8 - 13.7 r.p.m.

GEARBOX

Cooling system	active, cooler with forced ventilation	
Lubrication system	forced oil lubrication	

GENERATOR

Stator rated voltage	1000 V	
Protection class	IP54	

TOWER

Standard hub heights	75 m, 90 m, 100 m	
Color	RAL 7035	

POWER CONTROL SYSTEM

Variable speed, independent pitch control per blade	✓
Power control by wound rotor & power electronics	✓

ENVIRONMENTAL SPECIFICATIONS

Ambient operational temperature	-10°C to + 40°C
Standstill temperature range	-20°C to + 50°C
Lightning protection IEC-61024	Level 1

OPTIONS

Monitoring	SCADA-type system with remote access
Dynamic power regulation	Active and reactive power
Noise reduction (in development)	Configurable by date, time & wind speed/direction
Cold climate kit	Operating to -30 °C, Standstill to -40 °C
Hot desert kit	Operating up to +45°C

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