E-33

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ENERCON's E-33 wind turbine makes it economically feasible to realise wind energy projects even at sites difficult to access. Their modular design allows for convenient container transport by ship and truck as well as efficient installation using one regular-sized lifting crane.

Rated power:	330 kW
Rotor diameter:	33.4 m
Hub height:	37 - 50 m
Wind class (IEC):	IEC/NVN I and IEC/NVN II (depending on hub height)
Turbine concept:	Gearless, variable speed, variable pitch control
Rotor	
Type:	Upwind rotor with active pitch control
Direction of rotation:	Clockwise
Number of blades:	3
Swept area:	876 m^2
Blade material:	Fibreglass (epoxy resin); integrated lightning protection
Rotational speed:	Variable, 18 - 45 rpm
Pitch control:	ENERCON blade pitch system, one independent pitching system per rotor blade with allocated emergency supply
Drive train with generator	
Hub:	Rigid
Main bearings:	Single-row cylindrical roller bearings
Generator:	ENERCON direct-drive synchronous annular generator
Grid feeding:	ENERCON converter
Braking systems:	- 3 independent blade pitch systems with emergency supply - Rotor brake - Rotor lock
Yaw control:	Active via adjustment gears, load-dependent damping
Cut-out wind speed:	28 - 34 m/s (with ENERCON storm control)
Remote monitoring:	ENERCON SCADA