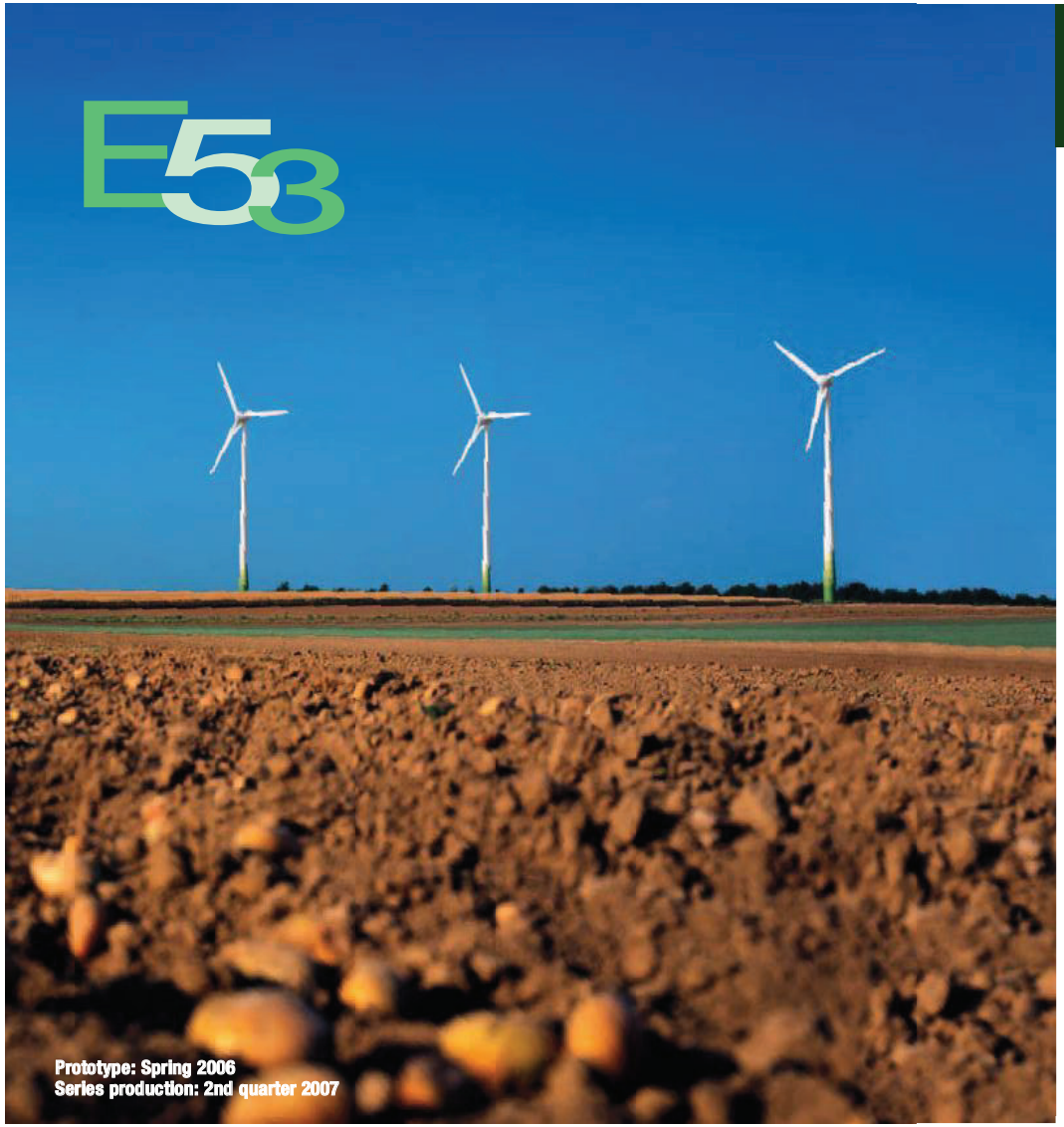


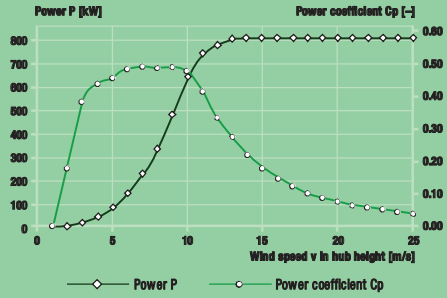
Developed for sites with medium wind speeds, the ENERCON E-53 wind turbine's expanded rotor diameter and newly designed rotor blades guarantee maximum yield even at low wind speeds.

TECHNICAL DATA

Rated power:	800 kW
Rotor diameter:	52.9 m
Hub height:	73 m
Wind class (IEC):	IEC/NVN S (v_{av} = 7.5 m/s, v_{ext} = 57 m/s)
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:	2,198 m²
Blade material:	Fibreglass (epoxy resin); integrated lightning protection
Rotational speed:	Variable, 12 – 29 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

Details – ENERCON Storm Control – (see last page)

CALCULATED POWER CURVE



Wind [m/s]	Power P [kW]	Power coefficient Cp [-]
1	0.0	0.00
2	2.0	0.19
3	14.0	0.39
4	38.0	0.44
5	77.0	0.46
6	141.0	0.48
7	228.0	0.49
8	336.0	0.49
9	480.0	0.49
10	645.0	0.48
11	744.0	0.42
12	780.0	0.34
13	810.0	0.27
14	810.0	0.22
15	810.0	0.18
16	810.0	0.15
17	810.0	0.12
18	810.0	0.10
19	810.0	0.09
20	810.0	0.08
21	810.0	0.06
22	810.0	0.06
23	810.0	0.05
24	810.0	0.04
25	810.0	0.04

ρ = 1.225 kg/m³

Details – ENERCON power curve – (see last page)