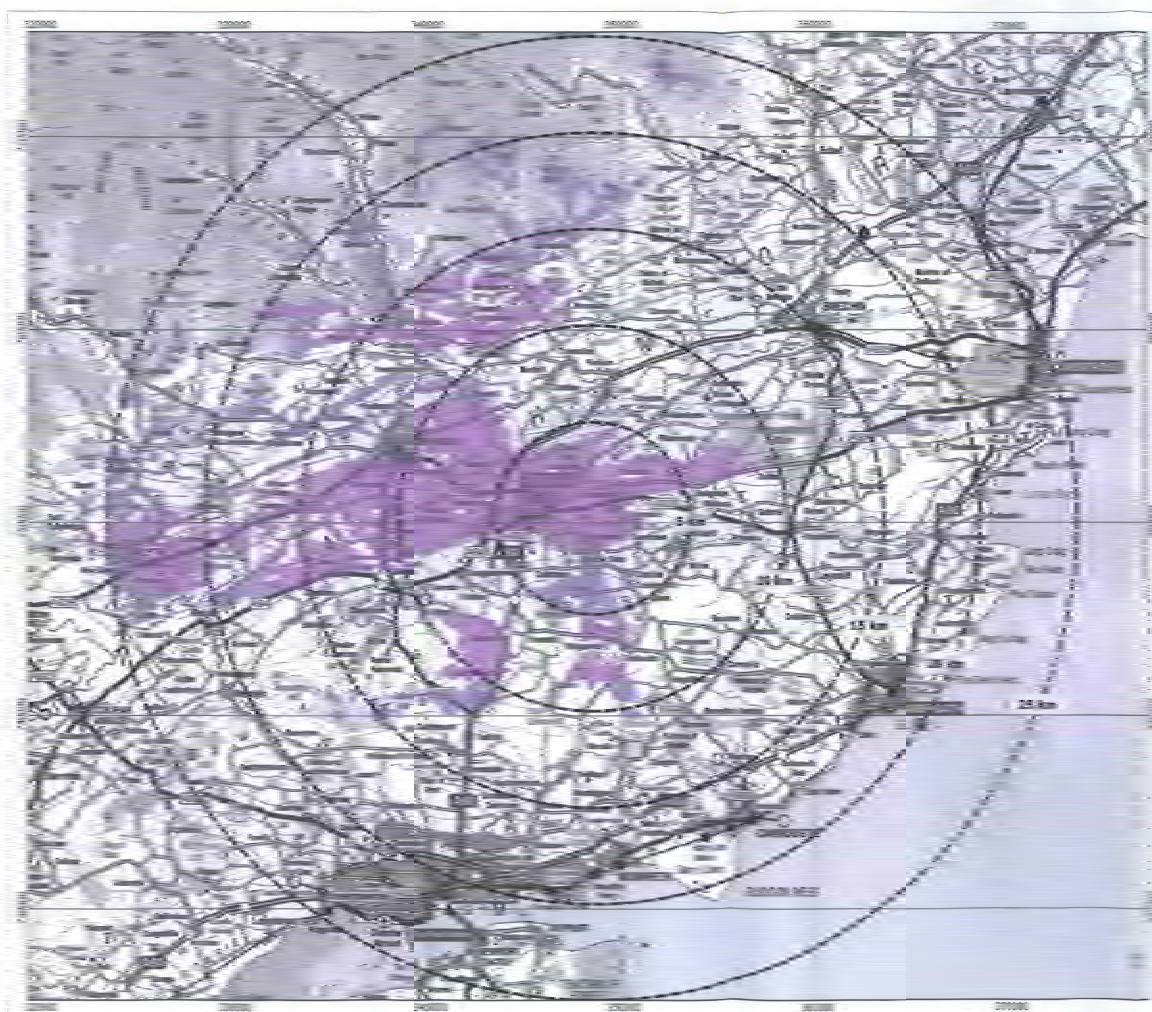


SECTION 4



FORFAR GOLF COURSE

Zones of Theoretical visibility

- Legend**
- Turbine location
 - Turbine distance of 10 km (circles)
 - Turbine distance of 15 km (circles)
 - Turbine distance of 20 km (circles)
 - Turbine distance of 25 km (circles)
 - Turbine theoretically visible

NOTE:
The TVZ is based on a SWT 500kW turbine with the following dimensions:

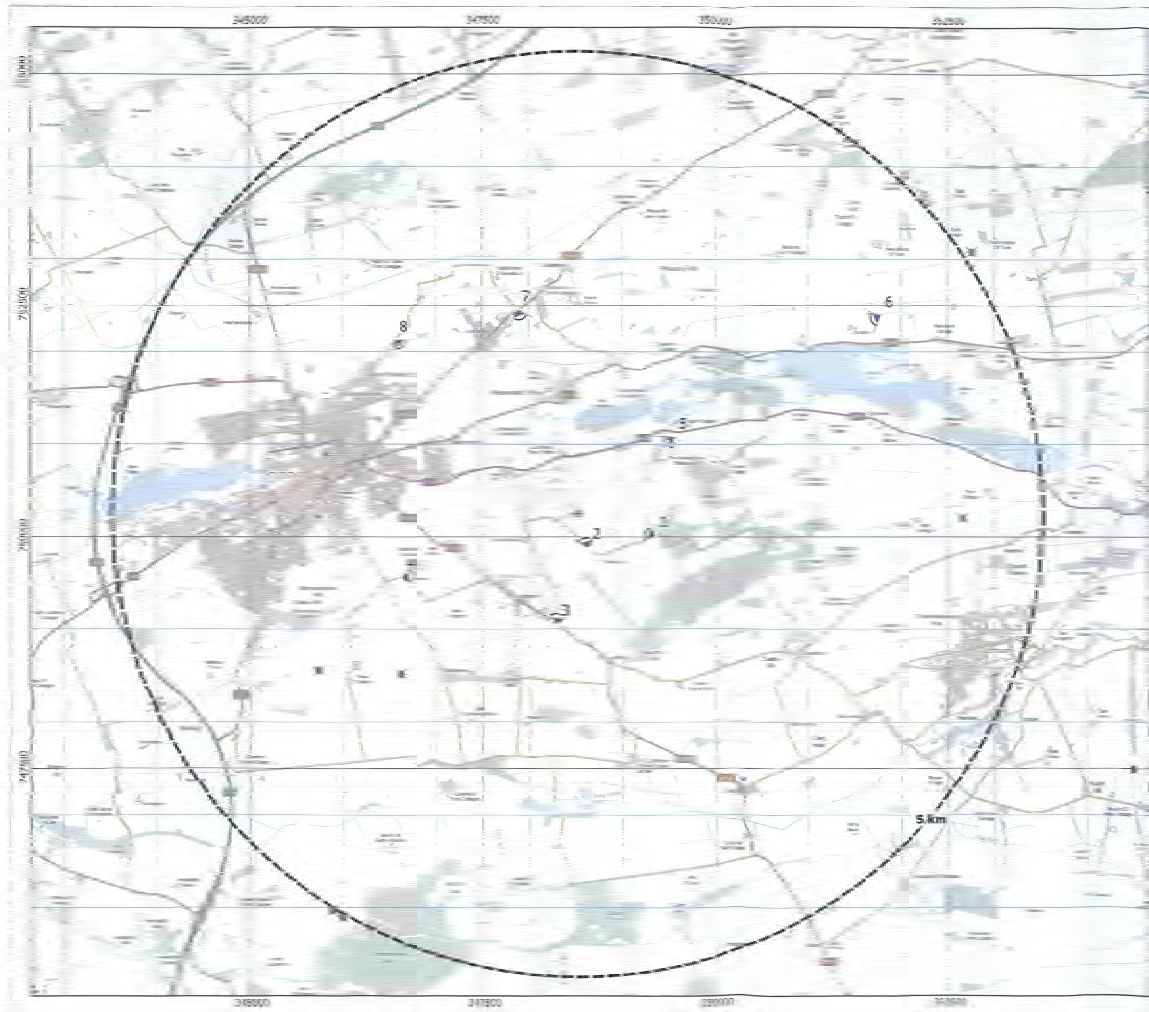
- Hub height: 10m
- Rotor diameter: 100m
- Tip height: 110m

The TVZ has been calculated to 250m in accordance with the following formula for the height of turbine structure for the diameter of 100m:

$$H = 1.5 \times D + 10$$

Where H is the height of the turbine structure in meters and D is the diameter of the turbine in meters.





FORFAR GOLF COURSE

Viewpoint locations

Legend

- Turbine location
- Turbine distance buffers (5km increments)
- viewpoints
- Neighbouring turbines (agreed)
- Neighbouring turbine applications (pending)

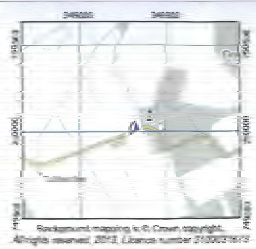
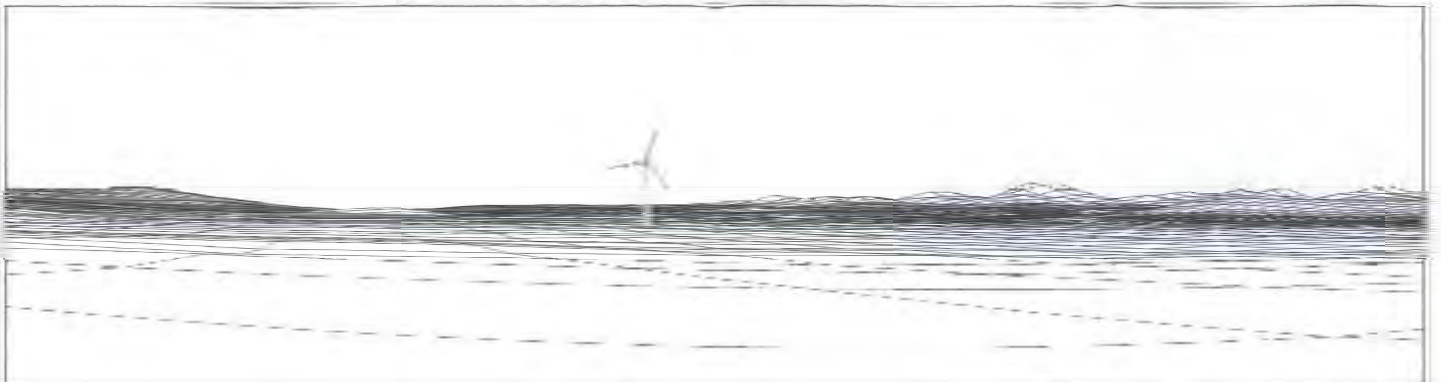
Viewpoint details:

Viewpoint Name	Grid Ref	Easting	Northing
1. Riverside Farm	345	34520	71500
2. West of Mill Dam	344	34520	71500
3. Junction of Millburn	347	34600	71500
4. Riverside Farmhouse	345	34600	71500
5. Riverside Crown Park	347	34600	71500
6. Track leading to Turf Hill	347	34700	71500
7. Road leading to Carletons	348	34700	71500
8. Riverside	344	34600	71500




Drawing Ref: ForfarGolfCourse_v04_20100728
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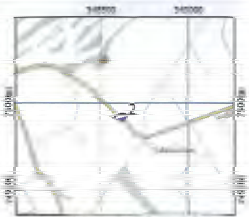
VIEWPOINT DETAILS	
Title	Demerle Farm
Viewpoint naming	342262
Viewpoint numbering	151012
Viewpoint height	0
Included angle	72
Elevation	225.4
Pitch angle	2.2
Distance to turbine	562 m
Viewing distance @ 30°	315 m



FORFAR GOLF COURSE

 Viewpoint 1





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VIEWPOINT DETAILS	
Title :	West of Mid Duff
Viewpoint coating :	348636
Viewpoint northings :	749884
Viewpoint height :	2
Included angle :	77
Direction :	344.1
Pitch angle :	3.11
Distance to turbine :	382
Viewing distance @ A2 :	22.6



FORFAR GOLF COURSE

Viewpoint 2





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VIEWPOINT DETAILS:

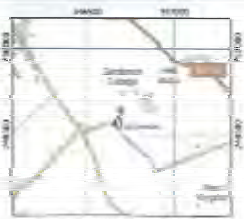
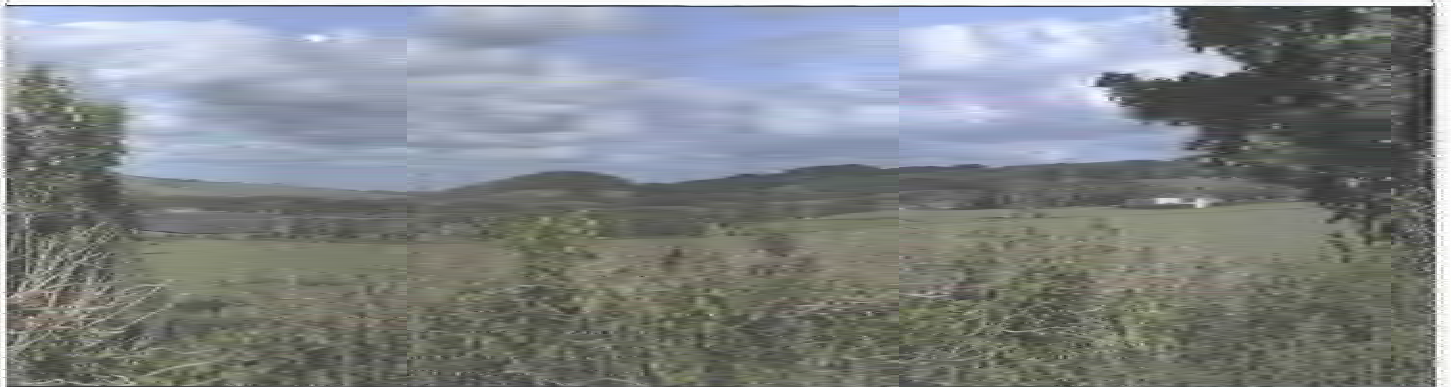
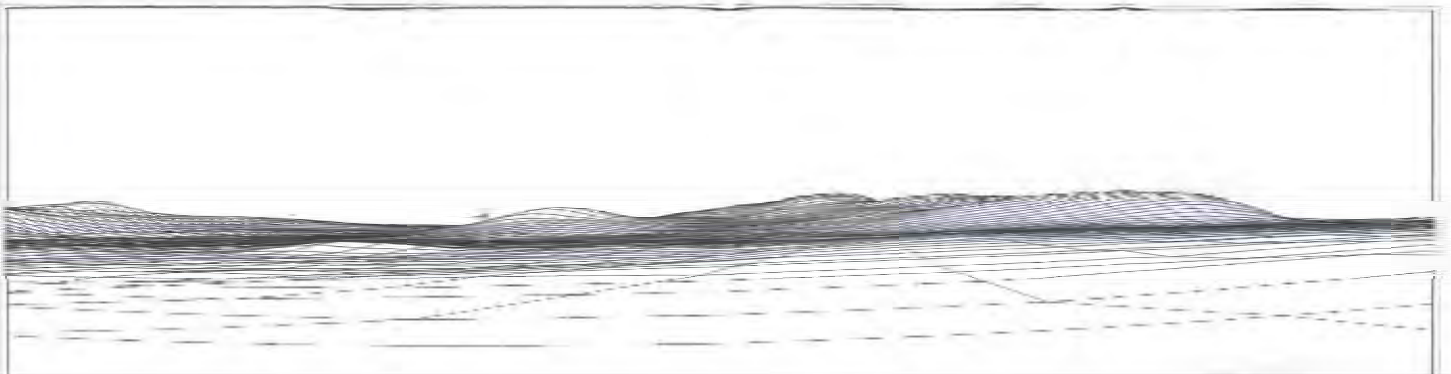
Title:	Auction of Knapton
Viewpoint easting:	548298
Viewpoint northing:	109602
Viewpoint height:	9
Included angle:	75
Elevation:	19.12
Pitch angle:	1.02
Distance to horizon:	1213 m
Viewing distance @ A0:	32.5 cm



FORFAR GOLF COURSE

Viewpoint 3





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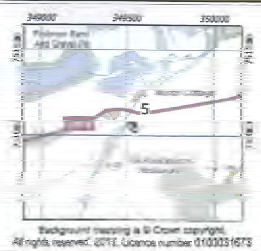
VIEWPOINT DETAIL 5:

Title	Site/area 1 (containing)
Viewpoint easting	546640
Viewpoint northing	97000
Viewpoint height	7
Included angle	75
Direction	80
Pitch angle	4.2
Distance to feature	2000 m
Viewing distance @ A2	24.5 cm



FORFAR GOLF COURSE
Viewpoint 4



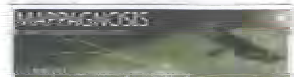


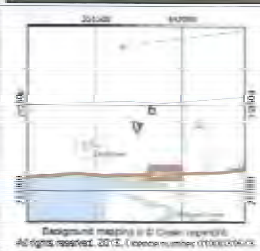
VIEWPOINT DETAIL 5:	
Title:	Investment Orange Park
Viewpoint easting:	349537
Viewpoint northing:	751876
Viewpoint height:	17
Included angle:	75
Distance:	227.5
Pitch angle:	8.2
Distance to horizon:	1324 m
Viewing distance @ 45°:	36.5 km



FORFAR GOLF COURSE

Viewpoint 5





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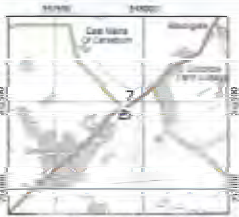
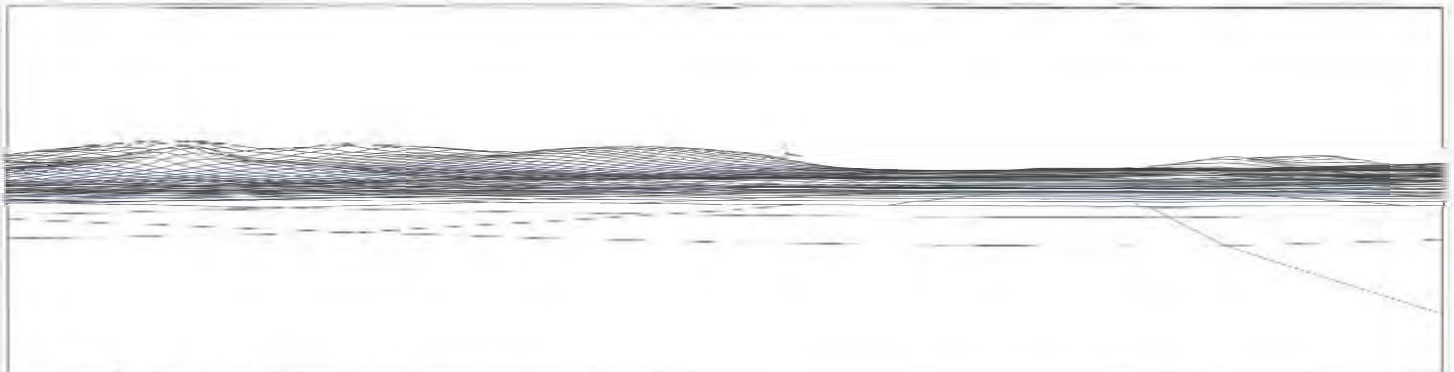
VIEWPOINT INFORMATION	
Title	Track to View 06
Viewpoint easting	361777
Viewpoint northing	736281
Viewpoint height	7
Included angle	13
Direction	287.75
Pitch angle	-2.3
Distance to horizon	0885 m
Viewing direction	30.5 deg



FORFAR GOLF COURSE

Viewpoint 6





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VIEWPOINT DETAILS	
Title	Road to Carleton
Viewpoint easting	347880
Viewpoint northing	752454
Viewpoint height	2
Included angle	73
Direction	160.6
Pitch angle	0.75
Distance to horizon	2026 m
Viewing distance	30.7 km



FORFAR GOLF COURSE

Viewpoint 7



FORFAR GOLF CLUB TURBINE

Neighbouring Turbines Approved/Pending

5km radius of Forfar Golf Club Turbine

Address	Grid Ref	Height	Capacity	No of Turbines	Status
Craignathro Farm 11/00424/Full	345745(E) 748557(N)	33m	80kw	2	Approved
470m East of Craignathro Farm 12/00082/Full	346629(E) 748513	35m	80kw	1	Approved
North Mains of Turin	352761(E) 753082	40.5m	100kw	1	Pending
Wester Meathie Farm 11/00122/Full	NO458 459	46.5m	225kw	2	Approved
Newton of Idvies 11/00621/Full	354493 747489	47m	100kw	1	Approved
Newmill of Balgavies 13/00060/Full	352661 750204	66.5m	225kw	1	Pending

Figure 3.4 : Geographic Areas



1 Highland

2 Lowland and Hills

3 Coast

TLCA Designation

- 1a Upper Highland Glens
- 1b Mid Highland Glens
- 3 Highland Summits & Plateaux
- 5 Highland Foothills

TLCA Designation

- 8 Igneous Hills
- 10 Broad Valley Lowland
- 12 Low Moorland Hills
- 13 Dipslope Farmland

TLCA Designation

- 14a Coast with sand
- 14b Coast with cliffs
- 15 Lowland Basin

SECTION 5

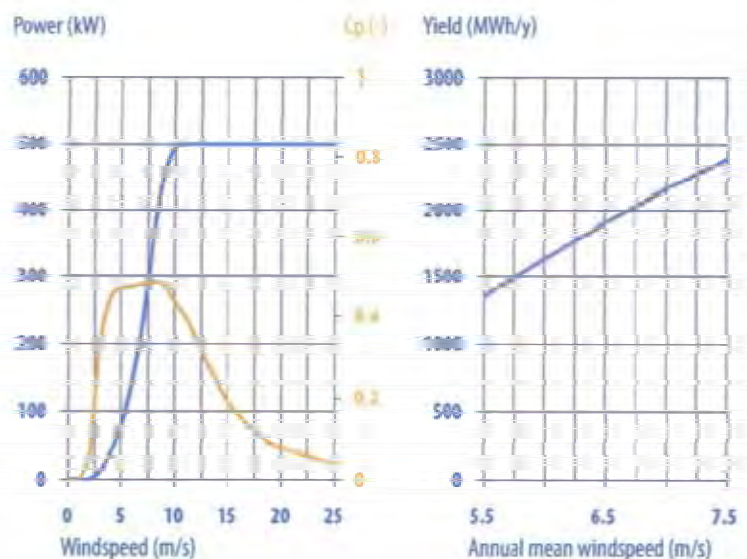


High Yield **500kW** Direct Drive wind turbine

The *DIRECTWIND 52/54-500kW* was developed in response to market demand and designed according to EWT's proven Direct Drive technology. This turbine is specifically designed for operating in low/moderate wind speed areas. Streamlined production and cost efficiency make EWT turn-key project solutions highly attractive, delivering an excellent energy yield which ensures an optimal return on investment.

Specifications

Rotor diameter	52 or 54m
IEC Wind Class	III A & III B
Rotor speed	Variable, 12 - 28 rpm
Nominal power output	500 kW
Hub heights	35, 40, 50 and 75 m
Cut-in wind speed	2.5 m/s
Rated wind speed	10 m/s
Cut-out wind speed	25 m/s, 10 min. avg.
Survival wind speed	59.5 m/s
Power output control	Pitch controlled variable speed
Generator	Synchronous multi-pole wound-rotor
Power converter	IGBT-controlled





Direct Drive Wind Technology

In EWT turbines the rotor directly drives the synchronous generator, without the use of a gearbox. This is important because various studies have concluded that the dominant cause of downtime is malfunctioning of gearboxes. The generated energy is fed into the grid via a modern back-to-back full-power converter which controls the output, so grid requirements can be met. This makes the DIRECTWIND turbine suitable to operate in weak grids.

Advantages of EWT's Direct Drive Technology:

- Superior availability levels
- No need to replace gearboxes
- Higher yields / return on investment
- Lower maintenance costs
- Reduced noise levels
- Lower cost of ownership

Power quality & Site conditions

The DIRECTWIND turbine feeds generator power into the grid by means of a modern 'back-to-back' type full-converter system. This converter contains a number of programmable functions like a capability to limit output during night hours and a noise reduction measure. Built-in grid-fault-ride-through technology is available on demand.

All the advanced grid-connection features combined make the DIRECTWIND the perfect choice for solitary applications, weak grids, high-turbulence sites, and demanding locations where specific environmental demands have to be met.

The combination of advanced control features and proven wind technology makes the DIRECTWIND also a first-class choice with regard to energy yield. Fewer components, high reliability, reduced maintenance and excellent energy yield ensure an optimal return on investment. We are looking forward to showing you what our DIRECTWIND systems can offer.

DSP - DIRECTWIND Service Program

EWT stands for high-quality direct drive turbines characterized by reliability and cost efficiency. To ensure optimal performance and trouble-free operation of our DIRECTWIND turbines, we have an extensive service and maintenance program in place. The DIRECTWIND Service Program offers:

- Preventive maintenance
- Availability guarantee
- Extended product warranty
- Corrective maintenance
- Power curve guarantee
- Business Interruption compensation

The company

EWT is a global designer and manufacturer of direct drive wind turbines active in Europe, North America and Asia. EWT was established in 2004 and is based in the Netherlands. The company has an extensive product line, an engineering department covering all relevant disciplines and a dedicated service and maintenance organisation.



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