

General Information

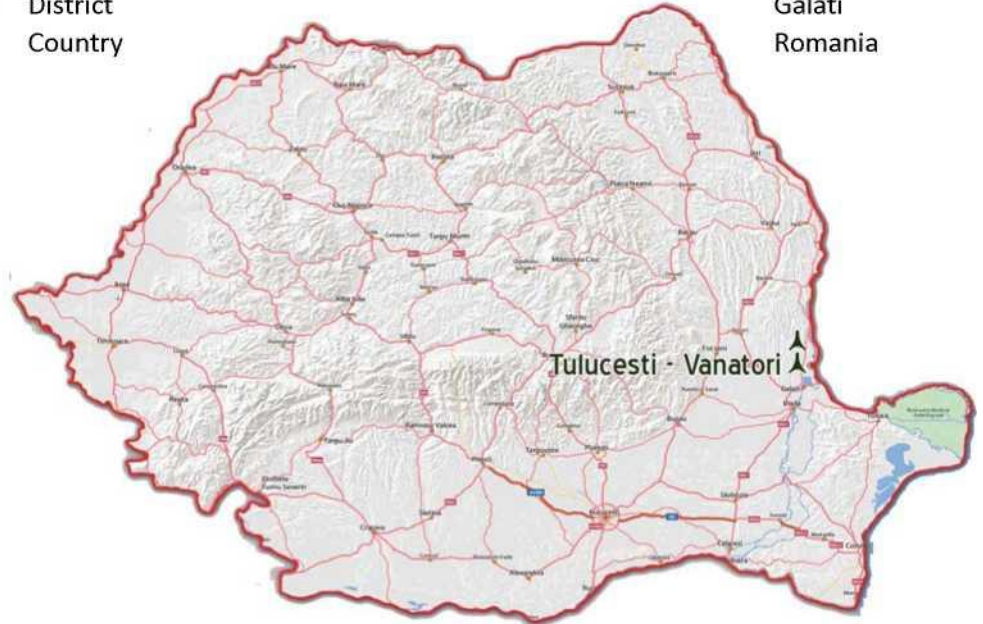
Wind park name: Eolian Park Tulucesti- Vanatori 70MW

• Area / region

- District
- Country

Tulucesti - Vanatori,

Galati
Romania



Basic project information

• Coordinates

o Latitude:

45° 37' 25.00" N

o Longitude

28° 00' 00.00" E

Total maxim output
Wind farm planning

70 MW
available

Number of turbines

35 pieces

Altitude

between 130 - 148

Distance between two turbines

between 400m - 550m

Turbine preference of the project owner o Original production

area of turbine

Any 2MW model

o Manufacturer

Enercon, Vestas, Gamesa, etc

o Capacity of single wind turbine

2MW

Is an extension of the potential wind park possible?

yes

Is any possibility of change in wind turbine type?

yes

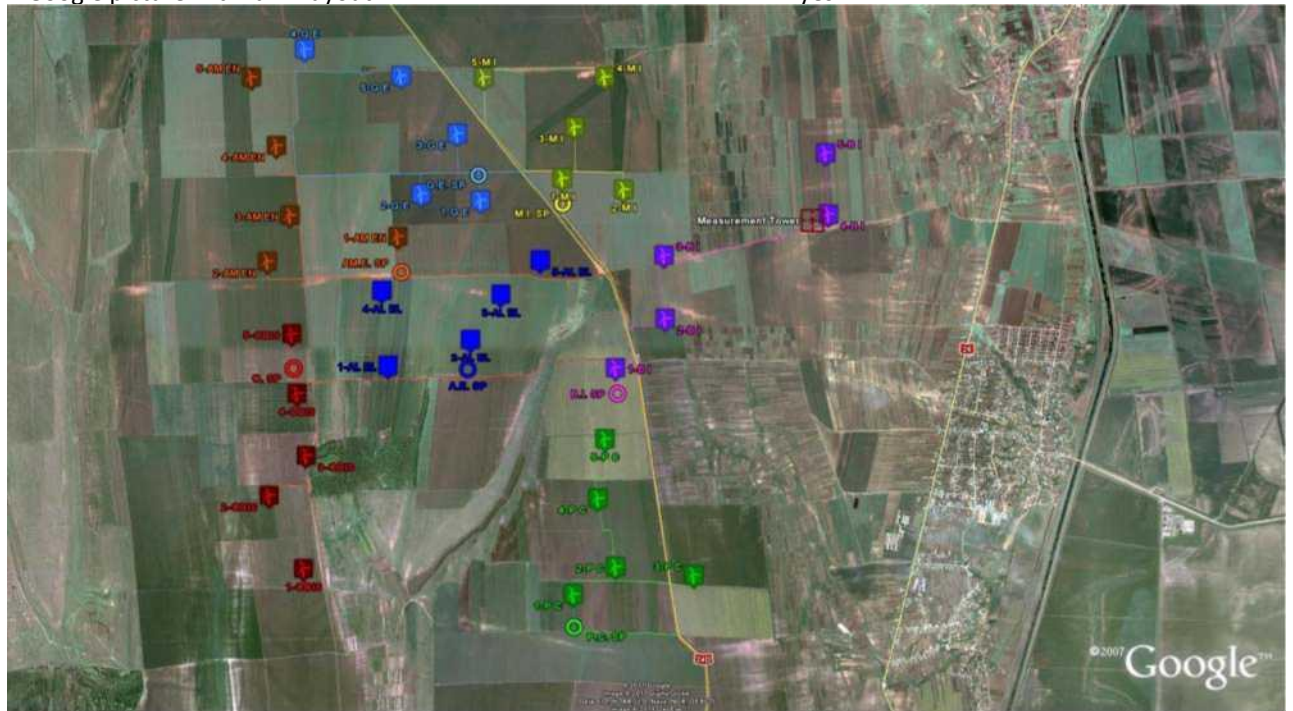
Wind conditions

• Wind data complete measurements	30 months
• Which measurements have been used?	Ammonit Anemometers
• Anemometer calibration?	INEM MEASNET
• Own wind mast in the area available?	Yes
• Tower coordinates	
o Latitude:	45° 37' 37.64" N
o Longitude	28° 02' 09.33" E
• Measurement tower height	103m
• Tower type	latticed
• Anemometers heights and position	
	103m-vertical 102m-horizontal
	80m - horizontal 60m - horizontal
• Topographical map	available
• Digital land map	available
• Since when is delivery of wind data?	01 st of June 2009
• Report available?	available
• Wind study company name	Cube Engineering GmbH
• Date of most current wind report	3 th of January 2010
• Annual long term wind speed in rotor axis	aprox. 7.0-7.2 m/s
• Annual density of wind power	average 1,2547 kg/m ³
• Seasons with high/ medium /low wind speed	
o High wind speed	winter
o Medium wind speed	spring, autumn
o Low wind speed	summer
• Capacity of single wind turbine	2 MW
• Special historical climatic situations	INMH report
• The meteorology data beyond 10 years	INMH report
• Wind and temperature data from meteorology centre	yes
• Average output of WT	about 6.476 MWh/year/turbine
• Farm output	about 216.160 MWh/year/farm
• Number of operating hours	about 3.200 hours / year

Geological condition of the project wind farm

- Google picture with farm layout

yes



Type of land ownership:?

Private

Topographic map

available

Soil analysis report

1st of November 2011

Physiognomy and vegetation

available

Coordinates of the farm

o Top left corner

45° 38' 28.75" N

27° 57' 49.08" E

o Bottom right corner

45° 35' 46.12" N

28° 02' 37.79" E

CU available

yes

Does an actualized cadastre exist?

yes

For what kind of activities are used those lands

Agriculture

WT (count / under contract %)

100% under contract

Cable line (count / under contract %)
100% under contract

100% under contract

- Substation (count / under contract %)

Connection to the grid

• Other wind projects in the area	no
• Scenario for grid connection available:	yes
• Power lines and substations nearby (voltage and power)	110/20 KV SRP 1 Vanatori
• Grid capacity study available	yes
• Wind farm tension	20 KV
• ATR available:	yes
• Grid Connection Contract available:	yes
• Cable line type	under the public roads
• Distance between the park and the grid	between 7.5km - 12.5km
• Grid Operator:	S.C. Electrica Muntenia Nord S.A.

Local, government and environmental aspects

• Certificate of urbanism	available
• Local authorities permits	available
• Local government permits	available
• Building permit	available
• Building permit date:	April 2012
• Zoning approval	available
• Environmental impact study	available
• Environmental permit available	available
• Expected issuing date:	available

Turbinbe preferance of the project owner turbines

• Provider selected	Vestas V90 - 2.0 MW Enercon E82 - 2.0 MW Gamesa G90 - 2.0 MW
	yes Yes
• Other 2MW turbine type	
• Possibility of change in wind turbine type?	yes
• Possibility of change in wind turbine power?	

Land, maps, topography and geodesy

- The land can be leased and/or purchased?
- Land purchase documents
- Possibility of extension

100% purchased

100% available

yes



Wind farm layout	available
Possibility of change in wind farm layout	yes
Operation flow	available
Land topographic measurements	available
Cable line topographic measurements	available
Wind farm roads topographic measurements	available
Geotechnical study available	available
Digital map	available
Cable map	available
Cadastral map	available
105.m height wind map	available
Topographic map	available
DEM map	available

Local transportation condition

- Is there any highway nearby the wind farms?
- Is there any roads nearby the wind farms?
- Limitation to carrying capacity?
- Transportation proposal available?
- Is there any river nearby the wind farms?
- Is there any bridge in transportation proposal?
- Is there any port?
- Distance from the port to wind farm

no

yes

no

yes

Danube - 25km distance no

New Basin port Galati 25-

30km

New BasinPort Galati

General Information

- Geographical position: NM 79, near Galati Free Zone. [\(see map\)](#)

Port Equipments

1. **Floating cranes**
2. - 2x32 tons
 - 1x16 tons
 - 1x10 tons
3. **Quay cranes**
 - 10x10 tons
 - 1x6,3 tons
 - 2x32 tons (crane bridge - transcontainers)
4. **Mobile Cranes**
 - 3x50 tons
 - 1x30 tons
5. **Fork-lifters**
 - 4x22-25 tons
 - 4x10-14 tons
 - 6x5-7 tons
 - 9x1,6-3,2 tons
6. **Wheel loaders**
 - 2x3,5 cbm
7. **Fleet**
 - 1 (one) river pusher of 600 HP;
 - 1 (one) river pusher tug of 780 HP;
 - 1 selfpropelled river vessel with transport capacity of abt. 1500 mts;
 - 5 (five) lighters and 4 (four) barges, with a total transport capacity of abt. 11.500 tons.

Port Facilities

- The total surface of New Basin Port is of 334,464.470 sqm, out of which 73,967.00 sqm are situated in the Free Zone of Galati.
 - The access to the port can be done by roads, by railways (with standard and wide gauge) and waterway:
1. **The roads** - network allows the transit of both regular and special (overall exceeded dimensions/weight) goods, and is connected with the Romanian roads network, thus being in connection with all the European countries.
 2. **The waterway**
 - The access can be done by barges, river vessels and maritime vessels of max.15,000 dwt (their dwt capacity and draft depend on the max. allowed draft at the Sulina channel entrance);
 - On the Danube shore, there are 8 (eight) berths of 110 m length each, out of which 3 (three) berths are situated in the Free Zone, and benefit from its related facilities;
 - 2 (two) berths of 105 m length each are situated in the harbour's basin.

