Project:
Michegan-offshore

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Calculated:
13-11-2009 01:05/2.7.394

PARK - Main Result

Calculation: Based on NARR data

Wake Model N.O. Jensen (RISØ/EMD)

Calculation Settings

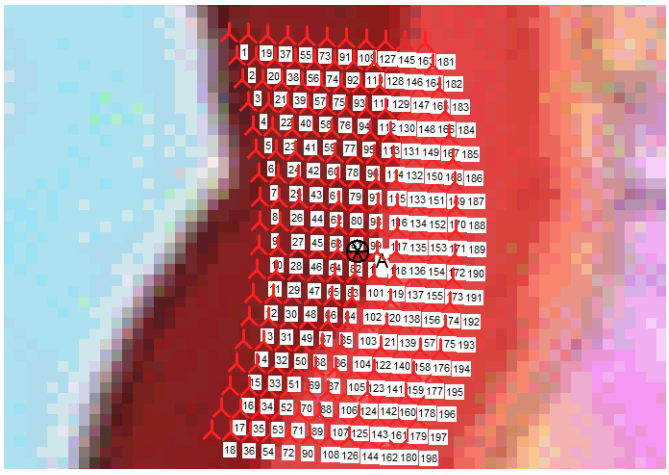
Air density calculation mode	Individual per WTG
Result for WTG at hub altitude	1,236 kg/m³
Air density relative to standard	100,9 %
Hub altitude above sea level (asl)	100,0 m
Annual mean temperature at hub alt.	9,1 °C
Pressure at WTGs	1.001,1 hPa

Wake Model Parameters
Wake Decay Constant 0,040 Offshore & Water areas

Wake calculation settings

Angle [°]			Wind speed [m/s]		
start	end	step	start	end	step
0,5	360,0	1,0	0,5	30,5	1,0

Wind statistics US NARR_Basic_W86.905_N43.657 - 30,00 m.wws



Scale 1:400.000

New WTG Site Data

Key results for height 50,0 m above ground level

Terrain UTM WGS84 Zone: 16

	East	North	Name of wind distribution	Type	Wind energy [kWh/m²]	Mean wind speed [m/s]	Equivalent roughness
A	532.696	4.848.460	Site data 12 sectors; Radius: 20.000 m (2)	WAsP (RVEA0151 1, 5, 0, 0)	3.509	7,4	-0,2

Calculated Annual Energy for Wind Farm

WTG combination	Result PARK [MWh/y]	Result-10,0% [MWh]	GROSS (no loss) Free WTGs [MWh/y]	Park efficiency [%]	Capacity factor [%]	Mean WTG result [MWh/y]	Full load hours [Hours/year]	Mean wind speed @hub height [m/s]
Wind farm	3.727.957,3	3.355.161,5	4.190.303,4	89,0	43,0	18.828,1	3.766	8,9

Calculated Annual Energy for each of 198 new WTGs with total 990,0 MW rated power

	WTG type						Power curve		Annual Energy		Park	
	Terrain	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Creator	Name	Result [MWh]	Result-10,0% [MWh]	Efficiency [%]	Mean wind speed [m/s]
1	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	20.596,7	18.537	97,3	8,88
2	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	20.139,1	18.125	95,2	8,88
3	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.843,7	17.859	93,8	8,88
4	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.626,0	17.663	92,7	8,88
5	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.502,8	17.553	92,2	8,88
6	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.444,3	17.500	91,9	8,88
7	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.408,2	17.467	91,7	8,88
8	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.379,1	17.441	91,6	8,88
9	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.372,2	17.435	91,5	8,88
10	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.358,3	17.422	91,5	8,88
11	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.355,3	17.420	91,5	8,88
12	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.383,6	17.445	91,6	8,88
13	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.449,7	17.505	91,9	8,88
14	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.545,7	17.591	92,4	8,88
15	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.687,0	17.718	93,0	8,88
16	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.907,8	17.917	94,1	8,88
17	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	20.180,9	18.163	95,4	8,88
18	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	20.583,4	18.525	97,3	8,88
19	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	20.003,2	18.003	94,5	8,88
20	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.490,2	17.541	92,1	8,88
21	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.170,9	17.254	90,6	8,88
22	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.949,2	17.054	89,5	8,88
23	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.839,1	16.955	89,0	8,88
24	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.788,1	16.909	88,8	8,88
25	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.760,4	16.884	88,6	8,88

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PARK - Main Result

Calculation: Based on NARR data

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		WTG type						Power curve		Annual Energy		Park	
	Terrain	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Creator	Name	Result	Result-10,0%	Efficiency	Mean wind speed
					[kW]	[m]	[m]			[MWh]	[MWh]	[%]	[m/s]
26	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.749,7	16.875	88,6	8,88
27	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.755,9	16.880	88,6	8,88
28	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.750,3	16.875	88,6	8,88
29	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.760,1	16.884	88,6	8,88
30	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.800,3	16.920	88,8	8,88
31	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.878,9	16.991	89,2	8,88
32	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.985,4	17.087	89,7	8,88
33	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.137,1	17.223	90,4	8,88
34	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.388,4	17.450	91,6	8,88
35	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.716,3	17.745	93,2	8,88
36	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	20.173,4	18.156	95,3	8,88
37	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.733,1	17.760	93,2	8,88
38	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.194,9	17.275	90,7	8,88
39	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.872,9	16.986	89,2	8,88
40	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.644,1	16.780	88,1	8,88
41	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.538,0	16.684	87,6	8,88
42	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.489,3	16.640	87,4	8,88
43	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.467,7	16.621	87,3	8,88
44	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.458,5	16.613	87,2	8,88
45	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.468,6	16.622	87,3	8,88
46	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.468,8	16.622	87,3	8,88
47	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.485,0	16.637	87,3	8,88
48	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.529,3	16.676	87,6	8,88
49	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.607,6	16.747	87,9	8,88
50	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.719,3	16.847	88,5	8,88
51	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.879,3	16.991	89,2	8,88
52	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.145,4	17.231	90,5	8,88
53	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.475,4	17.528	92,0	8,88
54	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.959,6	17.964	94,3	8,88
55	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.566,8	17.610	92,5	8,88
56	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.018,3	17.116	89,9	8,88
57	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.690,7	16.822	88,3	8,88
58	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.465,4	16.619	87,3	8,88
59	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.362,1	16.526	86,8	8,88
60	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.313,3	16.482	86,5	8,88
61	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.294,8	16.465	86,4	8,88
62	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.286,2	16.458	86,4	8,88
63	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.300,1	16.470	86,5	8,88
64	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.303,6	16.473	86,5	8,88
65	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.321,8	16.490	86,6	8,88
66	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.368,3	16.531	86,8	8,88
67	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.445,9	16.601	87,2	8,88
68	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.560,8	16.705	87,7	8,88
69	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.719,1	16.847	88,5	8,88
70	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.985,4	17.087	89,7	8,88
71	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.325,3	17.393	91,3	8,88
72	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.823,5	17.841	93,7	8,88
73	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.463,8	17.517	92,0	8,88
74	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.905,5	17.015	89,3	8,88
75	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.578,8	16.721	87,8	8,88
76	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.356,6	16.521	86,7	8,88
77	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.257,4	16.432	86,3	8,88
78	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.215,0	16.394	86,1	8,88
79	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.197,9	16.378	86,0	8,88
80	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.192,6	16.373	86,0	8,88
81	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.209,3	16.388	86,0	8,88
82	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.214,5	16.393	86,1	8,88
83	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.233,0	16.410	86,2	8,88
84	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.278,0	16.450	86,4	8,88
85	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.356,3	16.521	86,7	8,88
86	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.467,2	16.621	87,3	8,88
87	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.624,6	16.762	88,0	8,88
88	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.890,3	17.001	89,3	8,88
89	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.232,0	17.309	90,9	8,88
90	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.739,3	17.765	93,3	8,88
91	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.399,3	17.459	91,7	8,88
92	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.841,4	16.957	89,0	8,88
93	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.519,9	16.668	87,5	8,88

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PARK - Main Result

Calculation: Based on NARR data

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		WTG type						Power curve		Annual Energy		Park	
	Terrain	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Creator	Name	Result	Result-10,0%	Efficiency	Mean wind speed
					[kW]	[m]	[m]			[MWh]	[MWh]	[%]	[m/s]
94	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.302,1	16.472	86,5	8,88
95	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.207,1	16.386	86,0	8,88
96	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.167,5	16.351	85,8	8,88
97	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.156,0	16.340	85,8	8,88
98	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.154,3	16.339	85,8	8,88
99	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.174,0	16.357	85,9	8,88
100	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.179,1	16.361	85,9	8,88
101	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.196,1	16.377	86,0	8,88
102	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.239,5	16.416	86,2	8,88
103	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.315,9	16.484	86,5	8,88
104	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.425,2	16.583	87,1	8,88
105	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.576,8	16.719	87,8	8,88
106	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.837,7	16.954	89,0	8,88
107	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.174,2	17.257	90,6	8,88
108	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.681,0	17.713	93,0	8,88
109	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.367,0	17.430	91,5	8,88
110	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.813,3	16.932	88,9	8,88
111	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.497,9	16.648	87,4	8,88
112	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.284,2	16.456	86,4	8,88
113	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.194,1	16.375	86,0	8,88
114	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.157,2	16.341	85,8	8,88
115	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.151,3	16.336	85,8	8,88
116	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.150,2	16.335	85,8	8,88
117	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.167,8	16.351	85,8	8,88
118	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.172,5	16.355	85,9	8,88
119	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.188,9	16.370	85,9	8,88
120	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.232,8	16.409	86,2	8,88
121	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.306,5	16.476	86,5	8,88
122	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.414,5	16.573	87,0	8,88
123	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.564,3	16.708	87,7	8,88
124	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.818,3	16.937	88,9	8,88
125	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.150,9	17.236	90,5	8,88
126	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.653,2	17.688	92,9	8,88
127	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.361,1	17.425	91,5	8,88
128	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.817,4	16.936	88,9	8,88
129	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.509,3	16.658	87,5	8,88
130	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.321,8	16.490	86,6	8,88
131	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.237,0	16.413	86,2	8,88
132	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.205,8	16.385	86,0	8,88
133	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.196,8	16.377	86,0	8,88
134	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.196,5	16.377	86,0	8,88
135	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.214,8	16.393	86,1	8,88
136	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.221,9	16.400	86,1	8,88
137	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.239,1	16.415	86,2	8,88
138	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.279,2	16.451	86,4	8,88
139	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.350,3	16.515	86,7	8,88
140	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.451,9	16.607	87,2	8,88
141	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.596,5	16.737	87,9	8,88
142	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.830,7	16.948	89,0	8,88
143	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.157,9	17.242	90,5	8,88
144	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.650,9	17.686	92,9	8,88
145	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.376,6	17.439	91,6	8,88
146	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.852,8	16.968	89,1	8,88
147	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.571,5	16.714	87,8	8,88
148	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.395,6	16.556	86,9	8,88
149	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.323,8	16.491	86,6	8,88
150	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.296,6	16.467	86,5	8,88
151	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.291,1	16.462	86,4	8,88
152	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.294,4	16.465	86,4	8,88
153	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.315,2	16.484	86,5	8,88
154	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.324,7	16.492	86,6	8,88
155	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.343,8	16.509	86,7	8,88
156	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.385,4	16.547	86,9	8,88
157	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.453,2	16.608	87,2	8,88
158	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.545,8	16.691	87,6	8,88
159	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.676,9	16.809	88,3	8,88
160	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.900,8	17.011	89,3	8,88
161	A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.194,9	17.275	90,7	8,88

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PARK - Main Result

Calculation: Based on NARR data

...continued from previous page

	WTG type						Power curve		Annual Energy		Park	
Terrain	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Creator	Name	Result	Result-10,0%	Efficiency	Mean wind speed
				[kW]	[m]	[m]			[MWh]	[MWh]	[%]	[m/s]
162 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.671,3	17.704	93,0	8,88
163 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.424,3	17.482	91,8	8,88
164 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.934,0	17.041	89,5	8,88
165 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.692,0	16.823	88,3	8,88
166 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.552,8	16.697	87,7	8,88
167 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.497,1	16.647	87,4	8,88
168 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.480,3	16.632	87,3	8,88
169 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.481,2	16.633	87,3	8,88
170 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.486,8	16.638	87,4	8,88
171 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.512,2	16.661	87,5	8,88
172 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.525,8	16.673	87,5	8,88
173 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.544,9	16.690	87,6	8,88
174 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.580,2	16.722	87,8	8,88
175 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.650,2	16.785	88,1	8,88
176 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.741,9	16.868	88,6	8,88
177 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.855,7	16.970	89,1	8,88
178 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.016,1	17.114	89,9	8,88
179 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.279,9	17.352	91,1	8,88
180 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.725,8	17.753	93,2	8,88
181 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.557,9	17.602	92,4	8,88
182 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.227,1	17.304	90,9	8,88
183 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.065,0	17.159	90,1	8,88
184 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.974,4	17.077	89,7	8,88
185 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.953,0	17.058	89,6	8,88
186 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.954,0	17.059	89,6	8,88
187 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.974,4	17.077	89,7	8,88
188 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	18.994,2	17.095	89,8	8,88
189 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.020,2	17.118	89,9	8,88
190 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.040,8	17.137	90,0	8,88
191 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.069,6	17.163	90,1	8,88
192 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.112,0	17.201	90,3	8,88
193 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.171,4	17.254	90,6	8,88
194 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.246,7	17.322	90,9	8,88
195 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.318,7	17.387	91,3	8,88
196 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.411,1	17.470	91,7	8,88
197 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.553,4	17.598	92,4	8,88
198 A	Yes	REpower	5 M-5.000	5.000	126,0	100,0	EMD	Level 0 - guaranteed - Onshore - 3/2007	19.885,7	17.897	94,0	8,88

WTG siting

		UTM WGS84 Zone: 16 East	North	Z	Row data/Description
		UTM WGS84 Zone: 16		[m]	
1	New	525.839	4.860.019	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (1)
2	New	526.248	4.858.813	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (2)
3	New	526.601	4.857.591	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (3)
4	New	526.897	4.856.353	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (4)
5	New	527.136	4.855.102	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (5)
6	New	527.316	4.853.842	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (6)
7	New	527.438	4.852.576	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (7)
8	New	527.501	4.851.304	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (8)
9	New	527.505	4.850.032	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (9)
10	New	527.450	4.848.760	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (10)
11	New	527.336	4.847.492	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (11)
12	New	527.164	4.846.231	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (12)
13	New	526.934	4.844.979	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (13)
14	New	526.646	4.843.740	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (14)
15	New	526.301	4.842.514	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (15)
16	New	525.900	4.841.307	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (16)
17	New	525.443	4.840.119	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (17)
18	New	524.931	4.838.953	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (18)
19	New	526.881	4.859.974	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (19)
20	New	527.290	4.858.769	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (20)

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PARK - Main Result

Calculation: Based on NARR data

...continued from previous page

		UTM WGS84 Zone: 16 East	North	Z	Row data/Description
		UTM WGS84 Zone: 16		[m]	
21	New	527.643	4.857.546	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (21)
22	New	527.939	4.856.308	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (22)
23	New	528.178	4.855.058	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (23)
24	New	528.358	4.853.798	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (24)
25	New	528.480	4.852.531	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (25)
26	New	528.543	4.851.259	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (26)
27	New	528.547	4.849.987	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (27)
28	New	528.492	4.848.715	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (28)
29	New	528.378	4.847.447	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (29)
30	New	528.206	4.846.186	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (30)
31	New	527.976	4.844.934	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (31)
32	New	527.688	4.843.695	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (32)
33	New	527.343	4.842.470	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (33)
34	New	526.942	4.841.262	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (34)
35	New	526.485	4.840.074	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (35)
36	New	525.973	4.838.908	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (36)
37	New	527.923	4.859.929	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (37)
38	New	528.332	4.858.724	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (38)
39	New	528.685	4.857.501	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (39)
40	New	528.981	4.856.263	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (40)
41	New	529.220	4.855.013	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (41)
42	New	529.400	4.853.753	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (42)
43	New	529.522	4.852.486	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (43)
44	New	529.585	4.851.215	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (44)
45	New	529.589	4.849.942	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (45)
46	New	529.534	4.848.670	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (46)
47	New	529.420	4.847.402	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (47)
48	New	529.248	4.846.141	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (48)
49	New	529.018	4.844.890	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (49)
50	New	528.730	4.843.650	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (50)
51	New	528.385	4.842.425	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (51)
52	New	527.984	4.841.217	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (52)
53	New	527.527	4.840.029	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (53)
54	New	527.016	4.838.863	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (54)
55	New	528.965	4.859.884	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (55)
56	New	529.374	4.858.679	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (56)
57	New	529.727	4.857.456	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (57)
58	New	530.023	4.856.218	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (58)
59	New	530.262	4.854.968	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (59)
60	New	530.442	4.853.708	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (60)
61	New	530.564	4.852.441	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (61)
62	New	530.627	4.851.170	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (62)
63	New	530.631	4.849.897	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (63)
64	New	530.576	4.848.625	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (64)
65	New	530.462	4.847.358	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (65)
66	New	530.290	4.846.096	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (66)
67	New	530.060	4.844.845	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (67)
68	New	529.772	4.843.605	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (68)
69	New	529.427	4.842.380	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (69)
70	New	529.026	4.841.172	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (70)
71	New	528.569	4.839.984	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (71)
72	New	528.058	4.838.818	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (72)
73	New	530.007	4.859.839	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (73)
74	New	530.416	4.858.634	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (74)
75	New	530.769	4.857.411	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (75)
76	New	531.065	4.856.173	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (76)
77	New	531.304	4.854.923	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (77)
78	New	531.484	4.853.663	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (78)
79	New	531.606	4.852.396	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (79)
80	New	531.669	4.851.125	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (80)

To be continued on next page...

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PARK - Main Result

Calculation: Based on NARR data

...continued from previous page

		UTM WGS84 Zone: 16 East	North	Z	Row data/Description
		UTM WGS84 Zone: 16		[m]	
81	New	531.673	4.849.852	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (81)
82	New	531.618	4.848.580	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (82)
83	New	531.504	4.847.313	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (83)
84	New	531.332	4.846.052	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (84)
85	New	531.102	4.844.800	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (85)
86	New	530.814	4.843.560	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (86)
87	New	530.469	4.842.335	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (87)
88	New	530.068	4.841.127	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (88)
89	New	529.611	4.839.939	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (89)
90	New	529.100	4.838.773	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (90)
91	New	531.049	4.859.794	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (91)
92	New	531.459	4.858.589	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (92)
93	New	531.811	4.857.366	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (93)
94	New	532.107	4.856.128	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (94)
95	New	532.346	4.854.878	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (95)
96	New	532.526	4.853.618	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (96)
97	New	532.648	4.852.351	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (97)
98	New	532.711	4.851.080	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (98)
99	New	532.715	4.849.807	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (99)
100	New	532.660	4.848.535	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (100)
101	New	532.546	4.847.268	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (101)
102	New	532.374	4.846.007	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (102)
103	New	532.144	4.844.755	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (103)
104	New	531.856	4.843.515	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (104)
105	New	531.511	4.842.290	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (105)
106	New	531.110	4.841.082	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (106)
107	New	530.653	4.839.894	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (107)
108	New	530.142	4.838.729	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (108)
109	New	532.091	4.859.749	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (109)
110	New	532.501	4.858.544	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (110)
111	New	532.853	4.857.321	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (111)
112	New	533.149	4.856.083	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (112)
113	New	533.388	4.854.833	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (113)
114	New	533.568	4.853.573	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (114)
115	New	533.690	4.852.306	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (115)
116	New	533.753	4.851.035	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (116)
117	New	533.757	4.849.762	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (117)
118	New	533.702	4.848.491	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (118)
119	New	533.589	4.847.223	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (119)
120	New	533.416	4.845.962	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (120)
121	New	533.186	4.844.710	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (121)
122	New	532.898	4.843.470	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (122)
123	New	532.553	4.842.245	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (123)
124	New	532.152	4.841.037	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (124)
125	New	531.695	4.839.849	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (125)
126	New	531.184	4.838.684	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (126)
127	New	533.133	4.859.704	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (127)
128	New	533.543	4.858.499	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (128)
129	New	533.896	4.857.276	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (129)
130	New	534.191	4.856.038	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (130)
131	New	534.430	4.854.788	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (131)
132	New	534.610	4.853.528	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (132)
133	New	534.732	4.852.261	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (133)
134	New	534.795	4.850.990	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (134)
135	New	534.799	4.849.717	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (135)
136	New	534.744	4.848.446	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (136)
137	New	534.631	4.847.178	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (137)
138	New	534.458	4.845.917	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (138)
139	New	534.228	4.844.665	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (139)
140	New	533.940	4.843.425	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (140)

To be continued on next page...

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PARK - Main Result

Calculation: Based on NARR data

...continued from previous page

		UTM WGS84 Zone: 16 East	North	Z	Row data/Description
		UTM WGS84 Zone: 16		[m]	
141	New	533.595	4.842.200	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (141)
142	New	533.194	4.840.992	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (142)
143	New	532.737	4.839.804	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (143)
144	New	532.226	4.838.639	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (144)
145	New	534.175	4.859.659	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (145)
146	New	534.585	4.858.454	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (146)
147	New	534.938	4.857.231	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (147)
148	New	535.234	4.855.993	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (148)
149	New	535.472	4.854.743	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (149)
150	New	535.652	4.853.483	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (150)
151	New	535.774	4.852.216	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (151)
152	New	535.837	4.850.945	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (152)
153	New	535.841	4.849.672	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (153)
154	New	535.786	4.848.401	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (154)
155	New	535.673	4.847.133	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (155)
156	New	535.500	4.845.872	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (156)
157	New	535.270	4.844.620	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (157)
158	New	534.982	4.843.380	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (158)
159	New	534.637	4.842.155	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (159)
160	New	534.236	4.840.947	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (160)
161	New	533.779	4.839.759	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (161)
162	New	533.268	4.838.594	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (162)
163	New	535.218	4.859.615	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (163)
164	New	535.627	4.858.409	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (164)
165	New	535.980	4.857.186	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (165)
166	New	536.276	4.855.949	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (166)
167	New	536.514	4.854.698	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (167)
168	New	536.694	4.853.438	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (168)
169	New	536.816	4.852.171	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (169)
170	New	536.879	4.850.900	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (170)
171	New	536.883	4.849.627	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (171)
172	New	536.828	4.848.356	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (172)
173	New	536.715	4.847.088	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (173)
174	New	536.543	4.845.827	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (174)
175	New	536.312	4.844.575	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (175)
176	New	536.024	4.843.335	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (176)
177	New	535.679	4.842.110	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (177)
178	New	535.278	4.840.902	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (178)
179	New	534.821	4.839.714	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (179)
180	New	534.310	4.838.549	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (180)
181	New	536.260	4.859.570	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (181)
182	New	536.669	4.858.364	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (182)
183	New	537.022	4.857.142	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (183)
184	New	537.318	4.855.904	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (184)
185	New	537.556	4.854.653	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (185)
186	New	537.736	4.853.393	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (186)
187	New	537.858	4.852.127	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (187)
188	New	537.921	4.850.855	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (188)
189	New	537.925	4.849.583	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (189)
190	New	537.870	4.848.311	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (190)
191	New	537.757	4.847.043	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (191)
192	New	537.585	4.845.782	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (192)
193	New	537.354	4.844.530	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (193)
194	New	537.066	4.843.291	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (194)
195	New	536.721	4.842.065	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (195)
196	New	536.320	4.840.858	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (196)
197	New	535.863	4.839.670	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (197)
198	New	535.352	4.838.504	0,0	REpower 5 M 5000 126.0 !O! hub: 100,0 m (198)

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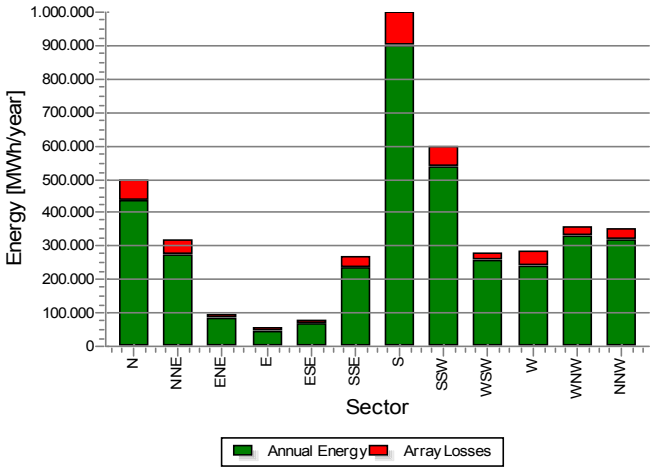
PARK - Production Analysis

Calculation: Based on NARR data**WTG:** All new WTGs, Air density 1,236 kg/m³

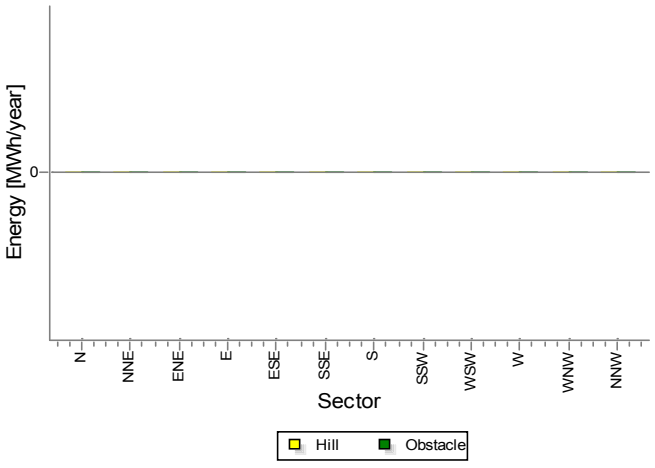
Directional Analysis

Sector		0 N	1 NNE	2 ENE	3 E	4 ESE	5 SSE	6 S	7 SSW	8 WSW	9 W	10 WNW	11 NNW	Total
Roughness based energy	[MWh]	496.745,2	321.025,9	93.449,8	56.371,0	77.685,5	269.242,2	1.001.276,1	599.569,8	279.303,8	284.390,6	356.105,1	355.136,0	4.190.297,5
-Decrease due to array losses	[MWh]	59.023,5	45.030,1	12.067,1	12.759,0	8.463,5	31.968,5	100.810,0	63.149,2	24.451,6	43.767,9	24.933,6	35.922,4	462.346,2
Resulting energy	**[MWh]**	**437.722,4**	**275.995,5**	**81.382,6**	**43.611,9**	**69.221,9**	**237.273,2**	**900.467,5**	**536.421,3**	**254.852,3**	**240.623,3**	**331.171,8**	**319.213,8**	**3.727.955,8**
Specific energy	[kWh/m²]													1.510
Specific energy	[kWh/kW]													3.766
Decrease due to array losses	[%]	11,9	14,0	12,9	22,6	10,9	11,9	10,1	10,5	8,8	15,4	7,0	10,1	11,0
Utilization	[%]	23,8	28,3	31,1	27,8	29,6	26,3	23,4	24,4	25,9	22,9	24,2	23,8	24,6
Operational	[Hours/year]	969	807	353	240	277	605	1.560	1.100	606	581	667	690	8.454
Full Load Equivalent	[Hours/year]	442	279	82	44	70	240	910	542	257	243	335	322	3.766

Energy vs. sector



Impact of hills and obstacles vs. sector



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PARK - Power Curve Analysis

Calculation: Based on NARR data**WTG:** 1 - REpower 5 M 5000 126.0 !O! Level 0 - guaranteed - Onshore - 3/2007, Hub height: 100,0 m

Name: Level 0 - guaranteed - Onshore - 3/2007
Source: REpower

Source/Date	Created by	Created	Edited	Stop wind speed [m/s]	Power control	CT curve type
07-11-2007	EMD	05-01-2006	24-04-2008	25,0	Pitch	User defined

guaranteed Power Curve LM 61,5 P
D-5.1-GP.SD.01-A, and
SD-0.0-WT.PC-2-B

HP curve comparison - Note: For standard air density and weibull k parameter = 2

Vmean	[m/s]	5	6	7	8	9	10
HP value	[MWh]	5.812	9.582	13.515	17.352	20.601	23.474
REpower 5 M 5000 126.0 !O! Level 0 - guaranteed - Onshore - 3/2007	[MWh]	6.021	9.757	13.682	17.406	20.709	23.474
Check value	[%]	-3	-2	-1	0	-1	0

The table shows comparison between annual energy production calculated on basis of simplified "HP-curves" which assume that all WTGs performs quite similar - only specific power loading (kW/m^2) and single/dual speed or stall/pitch decides the calculated values. Productions are without wake losses.
For further details, ask at the Danish Energy Agency for project report J.nr. 51171/00-0016 or see WindPRO manual chapter 3.5.2.
The method is refined in EMD report "20 Detailed Case Studies comparing Project Design Calculations and actual Energy Productions for Wind Energy Projects worldwide", jan 2003.
Use the table to evaluate if the given power curve is reasonable - if the check value are lower than -5%, the power curve probably is too optimistic due to uncertainty in power curve measurement.

Power curve

Original data from Windcat, Air density: 1,225 kg/m³

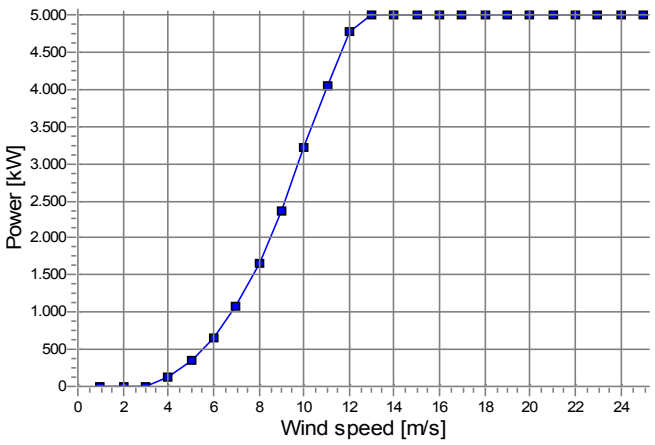
Wind speed [m/s]	Power [kW]	Ce	Wind speed [m/s]	Ct curve
3,5	53,0	0,17	4,0	1,02
4,0	126,0	0,26	5,0	0,88
5,0	352,0	0,37	6,0	0,85
6,0	648,0	0,39	7,0	0,85
7,0	1.081,0	0,41	8,0	0,84
8,0	1.638,0	0,42	9,0	0,77
9,0	2.335,0	0,42	10,0	0,72
10,0	3.170,0	0,42	11,0	0,67
11,0	4.017,0	0,40	12,0	0,62
12,0	4.755,0	0,36	13,0	0,43
13,0	5.000,0	0,29	14,0	0,33
14,0	5.000,0	0,24	15,0	0,26
15,0	5.000,0	0,19	16,0	0,22
16,0	5.000,0	0,16	17,0	0,18
17,0	5.000,0	0,13	18,0	0,15
18,0	5.000,0	0,11	19,0	0,13
19,0	5.000,0	0,09	20,0	0,11
20,0	5.000,0	0,08	21,0	0,10
21,0	5.000,0	0,07	22,0	0,08
22,0	5.000,0	0,06	23,0	0,08
23,0	5.000,0	0,05	24,0	0,07
24,0	5.000,0	0,05	25,0	0,06
25,0	5.000,0	0,04		
25,1	5.000,0	0,00		

Power, Efficiency and energy vs. wind speed

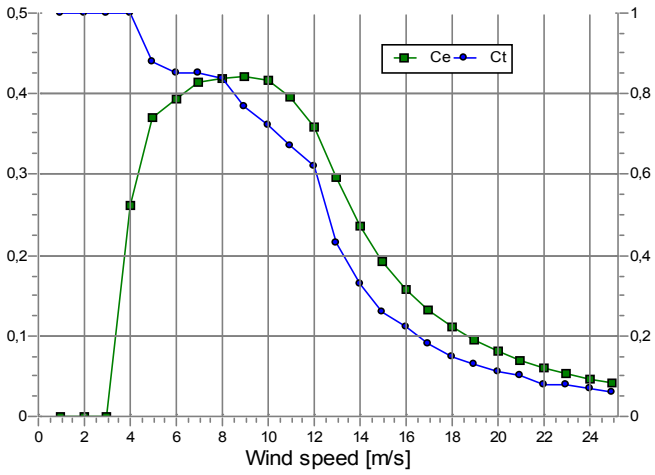
Data used in calculation, Air density: 1,236 kg/m³ New WindPRO method (adjusted IEC method, improved to match turbine control) <RECOMMENDED>

Wind speed [m/s]	Power [kW]	Ce	Interval [m/s]	Energy [MWh]	Acc.Energy [MWh]	Relative [%]
1,0	0,0	0,00	0,50- 1,50	0,0	0,0	0,0
2,0	0,0	0,00	1,50- 2,50	0,0	0,0	0,0
3,0	0,0	0,00	2,50- 3,50	11,8	11,8	0,1
4,0	128,7	0,26	3,50- 4,50	81,0	92,8	0,5
5,0	356,4	0,37	4,50- 5,50	242,9	335,7	1,6
6,0	655,7	0,39	5,50- 6,50	510,4	846,1	4,1
7,0	1.092,6	0,41	6,50- 7,50	896,7	1.742,9	8,5
8,0	1.655,3	0,42	7,50- 8,50	1.381,6	3.124,5	15,2
9,0	2.360,9	0,42	8,50- 9,50	1.911,3	5.035,8	24,4
10,0	3.204,2	0,42	9,50-10,50	2.387,5	7.423,3	36,0
11,0	4.055,7	0,40	10,50-11,50	2.676,0	10.099,3	49,0
12,0	4.770,6	0,36	11,50-12,50	2.643,6	12.742,8	61,9
13,0	5.000,0	0,30	12,50-13,50	2.289,8	15.032,7	73,0
14,0	5.000,0	0,24	13,50-14,50	1.796,9	16.829,6	81,7
15,0	5.000,0	0,19	14,50-15,50	1.326,3	18.155,9	88,1
16,0	5.000,0	0,16	15,50-16,50	930,4	19.086,3	92,7
17,0	5.000,0	0,13	16,50-17,50	619,3	19.705,6	95,7
18,0	5.000,0	0,11	17,50-18,50	390,7	20.096,3	97,6
19,0	5.000,0	0,09	18,50-19,50	233,4	20.329,8	98,7
20,0	5.000,0	0,08	19,50-20,50	132,1	20.461,8	99,3
21,0	5.000,0	0,07	20,50-21,50	70,8	20.532,7	99,7
22,0	5.000,0	0,06	21,50-22,50	36,0	20.568,7	99,9
23,0	5.000,0	0,05	22,50-23,50	17,5	20.586,2	99,9
24,0	5.000,0	0,05	23,50-24,50	8,1	20.594,2	100,0
25,0	5.000,0	0,04	24,50-25,50	2,5	20.596,7	100,0

Pow er curve
Data used in calculation



Ce and Ct curve



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PARK - Terrain

Calculation: Based on NARR data**Site Data:** A - Site data 12 sectors; Radius: 20.000 m (2)

Obstacles:
0 Obstacles used

Roughness:
Calculation uses following Area files:
C:\Users\per.EMD\Documents\WindPRO Data\PROJECTS\USA\Michigan\ROUGH_REGIONS_Michegan-offshore_1.w2r
Min X: 498.656, Max X: 575.090, Min Y: 4.797.843, Max Y: 4.891.645, Width: 76.434 m, Height: 93.801 m

Orography:
No orography

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PARK - Wind Data Analysis

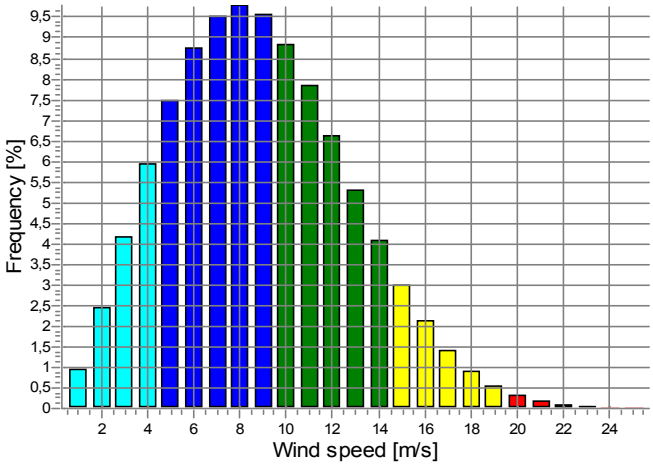
Calculation: Based on NARR data**Wind data:** A - Site data 12 sectors; Radius: 20.000 m (2); Hub height: 100,0

Site Coordinates
UTM WGS 84 Zone: 16 East: 525.839 North: 4.860.019
REpower 5 M 5000 126.0 !O! hub: 100,0 m (1)
Wind statistics
US NARR_Basic_W86.905_N43.657 - 30,00 m.wws

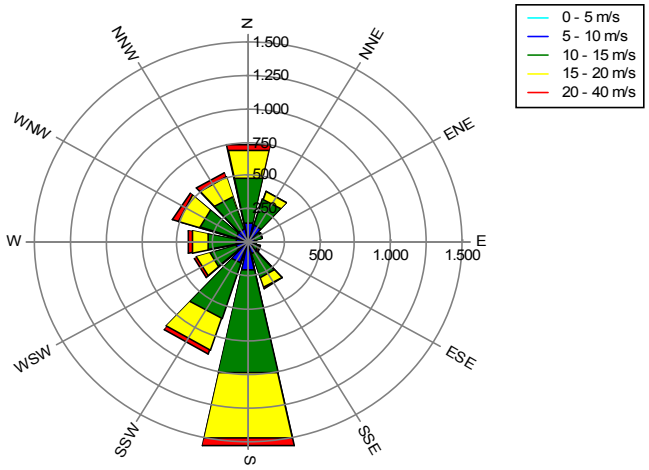
Weibull Data

Sector	Current site A- parameter [m/s]	Wind speed [m/s]	k- parameter	Frequency [%]
0 N	10,24	9,09	2,447	11,5
1 NNE	8,83	7,83	2,479	9,5
2 ENE	7,24	6,41	2,158	4,2
3 E	6,84	6,06	2,057	2,8
4 ESE	7,36	6,52	1,979	3,3
5 SSE	9,40	8,33	2,389	7,2
6 S	11,62	10,38	3,045	18,5
7 SSW	10,58	9,40	2,627	13,0
8 WSW	9,61	8,52	2,338	7,2
9 W	9,98	8,85	2,354	6,9
10 WNW	10,52	9,33	2,455	7,9
11 NNW	10,29	9,12	2,416	8,2
All	10,01	8,88	2,408	100,0

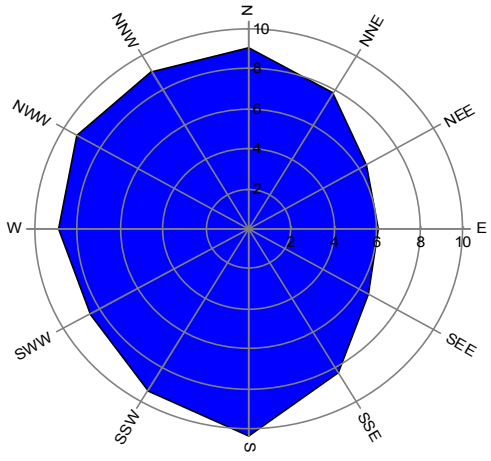
Weibull Distribution



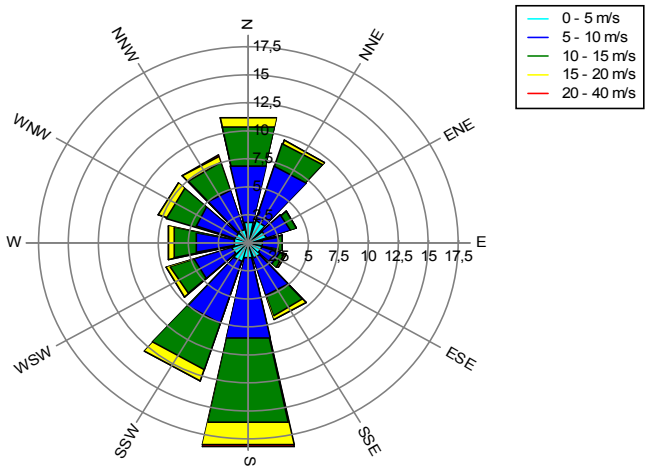
Energy Rose (kWh/m²/year)



Mean wind speed (m/s)



Frequency (%)



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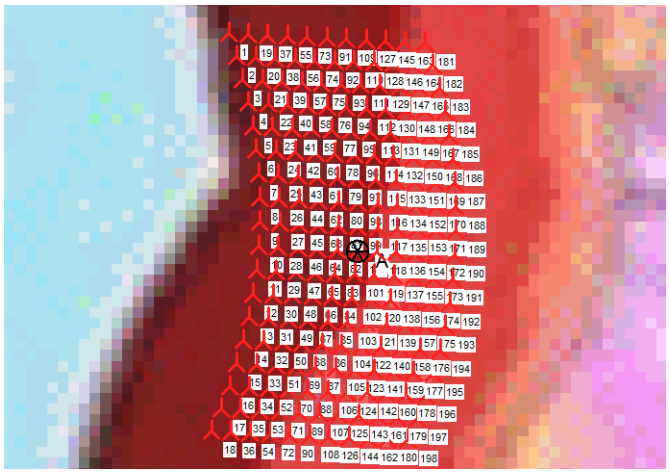
PARK - WTG distances

Calculation: Based on NARR data

WTG distances

	Z	Nearest WTG	Z	Horizontal distance	Distance in rotor diameters
	[m]		[m]	[m]	
1	0,0	19	0,0	1.043	8,3
2	0,0	20	0,0	1.043	8,3
3	0,0	21	0,0	1.043	8,3
4	0,0	22	0,0	1.043	8,3
5	0,0	23	0,0	1.043	8,3
6	0,0	24	0,0	1.043	8,3
7	0,0	25	0,0	1.043	8,3
8	0,0	26	0,0	1.043	8,3
9	0,0	27	0,0	1.043	8,3
10	0,0	28	0,0	1.043	8,3
11	0,0	29	0,0	1.043	8,3
12	0,0	30	0,0	1.043	8,3
13	0,0	31	0,0	1.043	8,3
14	0,0	32	0,0	1.043	8,3
15	0,0	33	0,0	1.043	8,3
16	0,0	34	0,0	1.043	8,3
17	0,0	35	0,0	1.043	8,3
18	0,0	36	0,0	1.043	8,3
19	0,0	37	0,0	1.043	8,3
20	0,0	38	0,0	1.043	8,3
21	0,0	39	0,0	1.043	8,3
22	0,0	40	0,0	1.043	8,3
23	0,0	41	0,0	1.043	8,3
24	0,0	42	0,0	1.043	8,3
25	0,0	43	0,0	1.043	8,3
26	0,0	44	0,0	1.043	8,3
27	0,0	45	0,0	1.043	8,3
28	0,0	46	0,0	1.043	8,3
29	0,0	47	0,0	1.043	8,3
30	0,0	48	0,0	1.043	8,3
31	0,0	49	0,0	1.043	8,3
32	0,0	50	0,0	1.043	8,3
33	0,0	51	0,0	1.043	8,3
34	0,0	52	0,0	1.043	8,3
35	0,0	53	0,0	1.043	8,3
36	0,0	54	0,0	1.043	8,3
37	0,0	55	0,0	1.043	8,3
38	0,0	56	0,0	1.043	8,3
39	0,0	57	0,0	1.043	8,3
40	0,0	58	0,0	1.043	8,3
41	0,0	59	0,0	1.043	8,3
42	0,0	60	0,0	1.043	8,3
43	0,0	61	0,0	1.043	8,3
44	0,0	62	0,0	1.043	8,3
45	0,0	63	0,0	1.043	8,3
46	0,0	64	0,0	1.043	8,3
47	0,0	65	0,0	1.043	8,3
48	0,0	66	0,0	1.043	8,3
49	0,0	67	0,0	1.043	8,3
50	0,0	68	0,0	1.043	8,3
51	0,0	69	0,0	1.043	8,3
52	0,0	70	0,0	1.043	8,3
53	0,0	71	0,0	1.043	8,3
54	0,0	72	0,0	1.043	8,3
55	0,0	73	0,0	1.043	8,3
56	0,0	74	0,0	1.043	8,3
57	0,0	75	0,0	1.043	8,3
58	0,0	76	0,0	1.043	8,3
59	0,0	77	0,0	1.043	8,3
60	0,0	78	0,0	1.043	8,3



Scale 1:400.000

New WTG Site Data

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PARK - WTG distances

Calculation: Based on NARR data

...continued from previous page

	Z	Nearest WTG	Z	Horizontal distance	Distance in rotor diameters
	[m]		[m]	[m]	
61	0,0	79	0,0	1.043	8,3
62	0,0	80	0,0	1.043	8,3
63	0,0	81	0,0	1.043	8,3
64	0,0	82	0,0	1.043	8,3
65	0,0	83	0,0	1.043	8,3
66	0,0	84	0,0	1.043	8,3
67	0,0	85	0,0	1.043	8,3
68	0,0	86	0,0	1.043	8,3
69	0,0	87	0,0	1.043	8,3
70	0,0	88	0,0	1.043	8,3
71	0,0	89	0,0	1.043	8,3
72	0,0	90	0,0	1.043	8,3
73	0,0	91	0,0	1.043	8,3
74	0,0	92	0,0	1.043	8,3
75	0,0	93	0,0	1.043	8,3
76	0,0	94	0,0	1.043	8,3
77	0,0	95	0,0	1.043	8,3
78	0,0	96	0,0	1.043	8,3
79	0,0	97	0,0	1.043	8,3
80	0,0	98	0,0	1.043	8,3
81	0,0	99	0,0	1.043	8,3
82	0,0	100	0,0	1.043	8,3
83	0,0	101	0,0	1.043	8,3
84	0,0	102	0,0	1.043	8,3
85	0,0	103	0,0	1.043	8,3
86	0,0	104	0,0	1.043	8,3
87	0,0	105	0,0	1.043	8,3
88	0,0	106	0,0	1.043	8,3
89	0,0	107	0,0	1.043	8,3
90	0,0	108	0,0	1.043	8,3
91	0,0	109	0,0	1.043	8,3
92	0,0	110	0,0	1.043	8,3
93	0,0	111	0,0	1.043	8,3
94	0,0	112	0,0	1.043	8,3
95	0,0	113	0,0	1.043	8,3
96	0,0	114	0,0	1.043	8,3
97	0,0	115	0,0	1.043	8,3
98	0,0	116	0,0	1.043	8,3
99	0,0	117	0,0	1.043	8,3
100	0,0	118	0,0	1.043	8,3
101	0,0	119	0,0	1.043	8,3
102	0,0	120	0,0	1.043	8,3
103	0,0	121	0,0	1.043	8,3
104	0,0	122	0,0	1.043	8,3
105	0,0	123	0,0	1.043	8,3
106	0,0	124	0,0	1.043	8,3
107	0,0	125	0,0	1.043	8,3
108	0,0	126	0,0	1.043	8,3
109	0,0	127	0,0	1.043	8,3
110	0,0	128	0,0	1.043	8,3
111	0,0	129	0,0	1.043	8,3
112	0,0	130	0,0	1.043	8,3
113	0,0	131	0,0	1.043	8,3
114	0,0	132	0,0	1.043	8,3
115	0,0	133	0,0	1.043	8,3
116	0,0	134	0,0	1.043	8,3
117	0,0	135	0,0	1.043	8,3
118	0,0	136	0,0	1.043	8,3
119	0,0	137	0,0	1.043	8,3
120	0,0	138	0,0	1.043	8,3

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PARK - WTG distances

Calculation: Based on NARR data

...continued from previous page

	Z	Nearest WTG	Z	Horizontal distance	Distance in rotor diameters
	[m]		[m]	[m]	
121	0,0	139	0,0	1.043	8,3
122	0,0	140	0,0	1.043	8,3
123	0,0	141	0,0	1.043	8,3
124	0,0	142	0,0	1.043	8,3
125	0,0	143	0,0	1.043	8,3
126	0,0	144	0,0	1.043	8,3
127	0,0	145	0,0	1.043	8,3
128	0,0	146	0,0	1.043	8,3
129	0,0	147	0,0	1.043	8,3
130	0,0	148	0,0	1.043	8,3
131	0,0	149	0,0	1.043	8,3
132	0,0	150	0,0	1.043	8,3
133	0,0	151	0,0	1.043	8,3
134	0,0	152	0,0	1.043	8,3
135	0,0	153	0,0	1.043	8,3
136	0,0	154	0,0	1.043	8,3
137	0,0	155	0,0	1.043	8,3
138	0,0	156	0,0	1.043	8,3
139	0,0	157	0,0	1.043	8,3
140	0,0	158	0,0	1.043	8,3
141	0,0	159	0,0	1.043	8,3
142	0,0	160	0,0	1.043	8,3
143	0,0	161	0,0	1.043	8,3
144	0,0	162	0,0	1.043	8,3
145	0,0	163	0,0	1.043	8,3
146	0,0	164	0,0	1.043	8,3
147	0,0	165	0,0	1.043	8,3
148	0,0	166	0,0	1.043	8,3
149	0,0	167	0,0	1.043	8,3
150	0,0	168	0,0	1.043	8,3
151	0,0	169	0,0	1.043	8,3
152	0,0	170	0,0	1.043	8,3
153	0,0	171	0,0	1.043	8,3
154	0,0	172	0,0	1.043	8,3
155	0,0	173	0,0	1.043	8,3
156	0,0	174	0,0	1.043	8,3
157	0,0	175	0,0	1.043	8,3
158	0,0	176	0,0	1.043	8,3
159	0,0	177	0,0	1.043	8,3
160	0,0	178	0,0	1.043	8,3
161	0,0	179	0,0	1.043	8,3
162	0,0	180	0,0	1.043	8,3
163	0,0	181	0,0	1.043	8,3
164	0,0	182	0,0	1.043	8,3
165	0,0	183	0,0	1.043	8,3
166	0,0	184	0,0	1.043	8,3
167	0,0	185	0,0	1.043	8,3
168	0,0	186	0,0	1.043	8,3
169	0,0	187	0,0	1.043	8,3
170	0,0	188	0,0	1.043	8,3
171	0,0	189	0,0	1.043	8,3
172	0,0	190	0,0	1.043	8,3
173	0,0	191	0,0	1.043	8,3
174	0,0	192	0,0	1.043	8,3
175	0,0	193	0,0	1.043	8,3
176	0,0	194	0,0	1.043	8,3
177	0,0	195	0,0	1.043	8,3
178	0,0	196	0,0	1.043	8,3
179	0,0	197	0,0	1.043	8,3
180	0,0	198	0,0	1.043	8,3

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PARK - WTG distances

Calculation: Based on NARR data

...continued from previous page

	Z	Nearest WTG	Z	Horizontal distance	Distance in rotor diameters
	[m]		[m]	[m]	
181	0,0	163	0,0	1.043	8,3
182	0,0	164	0,0	1.043	8,3
183	0,0	165	0,0	1.043	8,3
184	0,0	166	0,0	1.043	8,3
185	0,0	167	0,0	1.043	8,3
186	0,0	168	0,0	1.043	8,3
187	0,0	169	0,0	1.043	8,3
188	0,0	170	0,0	1.043	8,3
189	0,0	171	0,0	1.043	8,3
190	0,0	172	0,0	1.043	8,3
191	0,0	173	0,0	1.043	8,3
192	0,0	174	0,0	1.043	8,3
193	0,0	175	0,0	1.043	8,3
194	0,0	176	0,0	1.043	8,3
195	0,0	177	0,0	1.043	8,3
196	0,0	178	0,0	1.043	8,3
197	0,0	179	0,0	1.043	8,3
198	0,0	180	0,0	1.043	8,3

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Calculated:
13-11-2009 01:05/2.7.394

PARK - Map

Calculation: Based on NARR data

Map: WindPRO map , Print scale 1:125.000, Map center UTM WGS 84 Zone: 16 East: 531.586 North: 4.849.078

New WTG Site Data WTG area(s)