

PARK - Main Result

Calculation: Alternatief 1

Setup

AEP assuming long term representative time series data with optional corrections

Calculation performed in UTM (north)-WGS84 Zone: 31
At the site centre the difference between grid north and true north is: 2.1°

Wake

Wake Model: N.O. Jensen (EMD) : 2005
Include mirror wakes
Wake decay constant
Wake decay constant: 0.054 HH:100m Very open farmland

Use Downwind change of WDC by number of wake turbines. $y = A \cdot \ln(x) + B$
Model A B Max x
2 -0.3000 1.4000 5

Combination model

Weighted linear and RSS
Linear weight RSS weight
0.35 0.65

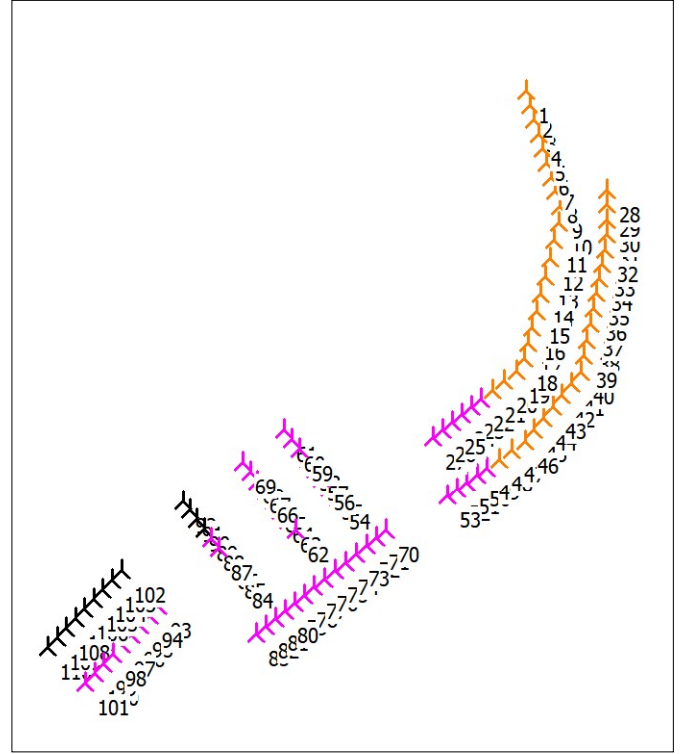
Scaler/wind data

Name EMD Scaler WKG
Used period 31/01/1993 05:00:00 - 31/01/2017 04:00:00
Meteo object(s) EmdConwx_N52.400_E005.540 (Pijlstaartweg)
EmdConwx_N52.430_E005.660 (Kokkeltocht)
EmdConwx_N52.460_E005.660 (Kubbeweg)
EmdConwx_N52.490_E005.750 (Hoge Vaart)
EmdConwx_N52.520_E005.780 (Hondtocht)
Take nearest
Horizontal interpolation
Displacement height: Omnidirectional from objects
WASP version WASP 11 Version 11.04.0006

Power correction

Power curve correction (adjusted IEC method, improved to match turbine control)

	Min	Max	Avg	Corr. [%]	Neg. corr. [%]	Pos. corr. [%]
Air density						
From scaler meteo objects [°C]	-13.9	32.9	10.1			
From air density settings						
Resulting air density [kg/m³]	1.139	1.346	1.232			
Relative to 15°C at sea level [%]	93.0	109.9	100.6	100.0	100.0	100.0



New WTG

Scale 1:250,000

Calculated Annual Energy for Wind Farm

WTG combination	Result PARK [MWh/y]	GROSS (no loss) Free WTGs [MWh/y]	Wake loss [%]	Specific results ^{a)}			Wind speed	
				Capacity factor [%]	Mean WTG result [MWh/y]	Full load hours [Hours/year]	free [m/s]	wake reduced [m/s]
Wind farm	1,201,725.7	1,362,601.0	11.8	33.8	10,924.8	2,962	7.1	6.7

^{a)} Based on wake reduced results, but no other losses included

Calculated Annual Energy for each of 110 new WTGs with total 405.7 MW rated power

WTG type	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Power curve Creator	Name	Annual Energy	Wind speed	free [m/s]	reduced [m/s]
									Result [MWh/y]	Wake loss [%]		
1 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	14,464.6	3.3	7.50	7.36	
2 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	14,088.1	4.9	7.46	7.25	
3 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,924.0	5.5	7.43	7.20	
4 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,734.0	5.9	7.40	7.15	
5 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,602.7	6.3	7.37	7.11	
6 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,536.7	6.7	7.37	7.09	
7 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,350.7	7.1	7.33	7.04	
8 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,242.9	7.7	7.32	7.01	
9 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,111.1	8.4	7.32	6.97	
10 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,114.2	8.7	7.33	6.98	
11 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,075.7	8.7	7.32	6.97	
12 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,071.9	8.7	7.32	6.97	
13 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,087.5	8.8	7.33	6.98	
14 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	13,045.8	9.2	7.33	6.97	
15 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	12,929.2	9.7	7.32	6.94	
16 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	12,865.4	10.3	7.33	6.92	
17 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	12,775.3	11.3	7.35	6.90	
18 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	12,548.3	12.9	7.35	6.84	
19 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	12,375.9	13.9	7.34	6.79	
20 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	12,326.3	14.2	7.34	6.78	
21 No	GE WIND ENERGY	GE 3.8-130-3,830	3,830	130.0	120.0	USER	Medium TI band Power Curve - 3830	12,414.5	13.5	7.34	6.81	
22 Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5	EMD	Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,002.7	17.7	6.86	6.27	
23 Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5	EMD	Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,004.4	17.6	6.86	6.28	

To be continued on next page...

PARK - Main Result

Calculation: Alternatief 1

...continued from previous page

WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Power curve Creator Name	Annual Energy Result [MWh/y]	Wind speed free [m/s]	Wind speed reduced [m/s]	
Valid	Manufact.									Wake loss [%]
100	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,955.5	10.3	6.92	6.58
101	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	10,650.7	3.9	6.91	6.76
102	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,501.3	13.7	6.89	6.47
103	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,450.0	14.8	6.91	6.44
104	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,426.9	14.7	6.90	6.43
105	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,459.5	14.5	6.91	6.44
106	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,504.3	14.1	6.91	6.45
107	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,569.3	13.5	6.91	6.47
108	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,687.7	12.5	6.91	6.51
109	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	9,830.5	10.8	6.89	6.55
110	Yes	VESTAS	V117-3.6-3,600	3,600	117.0	91.5 EMD Level 0 - Calculated - Modes PO1 & PO1-OS - 01-2016	10,542.5	4.4	6.90	6.74

Annual Energy results do not include any losses apart from wake losses. Additional losses and uncertainty must be considered for an investment decision.

WTG siting

Dutch Stereo-RD/NAP 2008				Row data/Description	Calculation period	
X (east)	Y (north)	Z [m]	Row data/Description		Start	End
1	New	180,318.0	509,223.0	-4.9 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5874)	31/01/1993	31/01/2017
2	New	180,458.0	508,751.0	-6.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5875)	31/01/1993	31/01/2017
3	New	180,598.0	508,280.0	-4.3 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5876)	31/01/1993	31/01/2017
4	New	180,738.0	507,808.0	-4.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5877)	31/01/1993	31/01/2017
5	New	180,878.0	507,337.0	-6.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5878)	31/01/1993	31/01/2017
6	New	181,018.0	506,865.0	-4.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5879)	31/01/1993	31/01/2017
7	New	181,158.0	506,393.0	-5.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5880)	31/01/1993	31/01/2017
8	New	181,299.0	505,922.0	-5.7 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5881)	31/01/1993	31/01/2017
9	New	181,447.0	505,422.0	-6.5 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5882)	31/01/1993	31/01/2017
10	New	181,432.0	504,870.0	-4.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5883)	31/01/1993	31/01/2017
11	New	181,291.0	504,305.0	-5.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5884)	31/01/1993	31/01/2017
12	New	181,143.0	503,712.0	-5.7 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5885)	31/01/1993	31/01/2017
13	New	180,994.0	503,118.0	-5.4 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5886)	31/01/1993	31/01/2017
14	New	180,846.0	502,524.0	-5.1 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5887)	31/01/1993	31/01/2017
15	New	180,704.0	501,956.0	-5.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5888)	31/01/1993	31/01/2017
16	New	180,568.0	501,412.0	-5.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5889)	31/01/1993	31/01/2017
17	New	180,438.0	500,893.0	-4.9 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5890)	31/01/1993	31/01/2017
18	New	180,314.0	500,398.0	-5.1 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5891)	31/01/1993	31/01/2017
19	New	180,038.0	499,969.0	-5.5 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5892)	31/01/1993	31/01/2017
20	New	179,640.0	499,651.0	-6.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5893)	31/01/1993	31/01/2017
21	New	179,242.0	499,332.0	-5.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5894)	31/01/1993	31/01/2017
22	New	178,885.0	499,060.0	-5.0 VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5895)	31/01/1993	31/01/2017
23	New	178,562.0	498,806.0	-5.0 VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5896)	31/01/1993	31/01/2017
24	New	178,240.0	498,552.0	-5.1 VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5897)	31/01/1993	31/01/2017
25	New	177,918.0	498,299.0	-4.1 VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5898)	31/01/1993	31/01/2017
26	New	177,596.0	498,045.0	-5.5 VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5899)	31/01/1993	31/01/2017
27	New	177,274.0	497,792.0	-7.4 VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5900)	31/01/1993	31/01/2017
28	New	183,025.0	505,975.0	-5.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5901)	31/01/1993	31/01/2017
29	New	183,027.0	505,485.0	-4.8 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5902)	31/01/1993	31/01/2017
30	New	183,028.0	504,995.0	-5.4 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5903)	31/01/1993	31/01/2017
31	New	183,030.0	504,505.0	-5.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5904)	31/01/1993	31/01/2017
32	New	182,978.0	504,018.0	-5.8 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5905)	31/01/1993	31/01/2017
33	New	182,884.0	503,537.0	-4.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5906)	31/01/1993	31/01/2017
34	New	182,791.0	503,056.0	-3.9 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5907)	31/01/1993	31/01/2017
35	New	182,697.0	502,575.0	-4.3 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5908)	31/01/1993	31/01/2017
36	New	182,599.0	502,070.0	-4.1 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5909)	31/01/1993	31/01/2017
37	New	182,497.0	501,544.0	-3.3 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5910)	31/01/1993	31/01/2017
38	New	182,395.0	501,018.0	-4.1 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5911)	31/01/1993	31/01/2017
39	New	182,292.0	500,492.0	-6.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5912)	31/01/1993	31/01/2017
40	New	182,190.0	499,966.0	-4.8 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5913)	31/01/1993	31/01/2017
41	New	181,881.0	499,582.0	-4.1 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5914)	31/01/1993	31/01/2017
42	New	181,573.0	499,198.0	-4.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5915)	31/01/1993	31/01/2017
43	New	181,264.0	498,815.0	-5.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5916)	31/01/1993	31/01/2017
44	New	180,956.0	498,431.0	-5.0 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5917)	31/01/1993	31/01/2017
45	New	180,647.0	498,047.0	-4.6 GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5918)	31/01/1993	31/01/2017

To be continued on next page...

PARK - Main Result

Calculation: Alternatief 1

...continued from previous page

Dutch Stereo-RD/NAP 2008				Calculation period		
	X (east)	Y (north)	Z	Row data/Description	Start	End
			[m]			
46 New	180,339.0	497,663.0	-5.0	GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5919)	31/01/1993	31/01/2017
47 New	179,917.0	497,364.0	-4.6	GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5920)	31/01/1993	31/01/2017
48 New	179,495.0	497,065.0	-5.2	GE WIND ENERGY GE 3.8-130 3830 130.0 !O! hub: 120,0 m (TOT: 185,0 m) (5921)	31/01/1993	31/01/2017
49 New	179,084.0	496,772.0	-5.6	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5922)	31/01/1993	31/01/2017
50 New	178,753.0	496,537.0	-5.1	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5923)	31/01/1993	31/01/2017
51 New	178,423.0	496,303.0	-5.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5924)	31/01/1993	31/01/2017
52 New	178,092.0	496,069.0	-5.1	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5925)	31/01/1993	31/01/2017
53 New	177,762.0	495,835.0	-4.9	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5926)	31/01/1993	31/01/2017
54 New	174,097.0	495,754.0	-5.1	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5927)	31/01/1993	31/01/2017
55 New	173,846.0	496,078.0	-6.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5928)	31/01/1993	31/01/2017
56 New	173,594.0	496,402.0	-5.2	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5929)	31/01/1993	31/01/2017
57 New	173,343.0	496,725.0	-4.7	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5930)	31/01/1993	31/01/2017
58 New	173,091.0	497,049.0	-5.1	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5931)	31/01/1993	31/01/2017
59 New	172,840.0	497,373.0	-4.5	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5932)	31/01/1993	31/01/2017
60 New	172,589.0	497,697.0	-5.6	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5933)	31/01/1993	31/01/2017
61 New	172,337.0	498,021.0	-5.8	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5934)	31/01/1993	31/01/2017
62 New	172,708.0	494,674.0	-5.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5935)	31/01/1993	31/01/2017
63 New	172,456.0	494,998.0	-5.9	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5936)	31/01/1993	31/01/2017
64 New	172,205.0	495,322.0	-5.7	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5937)	31/01/1993	31/01/2017
65 New	171,954.0	495,646.0	-5.1	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5938)	31/01/1993	31/01/2017
66 New	171,702.0	495,969.0	-6.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5939)	31/01/1993	31/01/2017
67 New	171,451.0	496,293.0	-5.4	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5940)	31/01/1993	31/01/2017
68 New	171,200.0	496,617.0	-6.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5941)	31/01/1993	31/01/2017
69 New	170,948.0	496,941.0	-5.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5942)	31/01/1993	31/01/2017
70 New	175,734.0	494,701.0	-5.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5943)	31/01/1993	31/01/2017
71 New	175,412.0	494,442.0	-5.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5944)	31/01/1993	31/01/2017
72 New	175,079.0	494,175.0	-5.6	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5945)	31/01/1993	31/01/2017
73 New	174,735.0	493,899.0	-6.9	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5946)	31/01/1993	31/01/2017
74 New	174,380.0	493,614.0	-4.9	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5947)	31/01/1993	31/01/2017
75 New	174,025.0	493,330.0	-4.5	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5948)	31/01/1993	31/01/2017
76 New	173,681.0	493,054.0	-4.3	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5949)	31/01/1993	31/01/2017
77 New	173,347.0	492,786.0	-4.1	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5950)	31/01/1993	31/01/2017
78 New	173,025.0	492,527.0	-5.9	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5951)	31/01/1993	31/01/2017
79 New	172,702.0	492,269.0	-5.6	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5952)	31/01/1993	31/01/2017
80 New	172,380.0	492,011.0	-4.4	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5953)	31/01/1993	31/01/2017
81 New	172,057.0	491,753.0	-4.2	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5954)	31/01/1993	31/01/2017
82 New	171,735.0	491,495.0	-5.3	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5955)	31/01/1993	31/01/2017
83 New	171,413.0	491,237.0	-4.7	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5956)	31/01/1993	31/01/2017
84 New	170,862.0	493,145.0	-5.6	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5957)	31/01/1993	31/01/2017
85 New	170,625.0	493,455.0	-4.6	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5958)	31/01/1993	31/01/2017
86 New	170,389.0	493,765.0	-6.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5959)	31/01/1993	31/01/2017
87 New	170,153.0	494,076.0	-5.3	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5960)	31/01/1993	31/01/2017
88 New	169,917.0	494,386.0	-5.9	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5961)	31/01/1993	31/01/2017
89 New	169,678.0	494,697.0	-5.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5962)	31/01/1993	31/01/2017
90 New	169,442.0	495,008.0	-6.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5963)	31/01/1993	31/01/2017
91 New	169,206.0	495,318.0	-5.1	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5964)	31/01/1993	31/01/2017
92 New	168,970.0	495,629.0	-6.6	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5965)	31/01/1993	31/01/2017
93 New	168,162.0	492,154.0	-5.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5966)	31/01/1993	31/01/2017
94 New	167,858.0	491,833.0	-6.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5967)	31/01/1993	31/01/2017
95 New	167,554.0	491,512.0	-5.1	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5968)	31/01/1993	31/01/2017
96 New	167,250.0	491,191.0	-5.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5969)	31/01/1993	31/01/2017
97 New	166,946.0	490,870.0	-5.9	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5970)	31/01/1993	31/01/2017
98 New	166,642.0	490,549.0	-6.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5971)	31/01/1993	31/01/2017
99 New	166,338.0	490,229.0	-5.3	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5972)	31/01/1993	31/01/2017
100 New	166,034.0	489,908.0	-5.9	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5973)	31/01/1993	31/01/2017
101 New	165,730.0	489,587.0	-5.7	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5974)	31/01/1993	31/01/2017
102 New	166,921.0	493,323.0	-6.3	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5976)	31/01/1993	31/01/2017
103 New	166,616.0	493,003.0	-4.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5977)	31/01/1993	31/01/2017
104 New	166,312.0	492,683.0	-5.6	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5978)	31/01/1993	31/01/2017
105 New	166,007.0	492,362.0	-5.8	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5979)	31/01/1993	31/01/2017
106 New	165,703.0	492,042.0	-5.1	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5980)	31/01/1993	31/01/2017
107 New	165,398.0	491,722.0	-6.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5981)	31/01/1993	31/01/2017
108 New	165,094.0	491,402.0	-4.3	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5982)	31/01/1993	31/01/2017
109 New	164,789.0	491,082.0	-6.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5983)	31/01/1993	31/01/2017
110 New	164,485.0	490,762.0	-5.0	VESTAS V117-3.6 3600 117.0 !O! hub: 91,5 m (TOT: 150,0 m) (5984)	31/01/1993	31/01/2017