

**Westmill Wind Farm
Performance Review**

Oct-13

Period 01/10/2013-31/10/2013					
Turbine	Days	Energy [kWh]	Turbine Manuf. Avail.		Energy Since Startup [kWh]
			Subtotal [%]	Total [%]	
T01	31	250,915	94.5	98.5	12,555,316
T02	31	262,408	99.2	97.4	12,158,740
T03	31	229,453	99.4	98.5	12,025,634
T04	30	210,387	99.1	96.6	11,379,597
T05	31	258,790	99.8	98.5	12,220,996
Totals					
Average	31	242,391	98.4	97.9	12,068,057
Sum		1,211,953			60,340,283

	October	Since Start Up
Production at SubStation		
Active Energy Import	3,777	387,109 kWh
Active Energy Export	1,170,558	
Budget	1,125,277	
Actual Export	1,173,090	
Variance to budget	104%	
Line Loss	3%	

Reactive Energy		
Reactive Energy Import	136,980	2,218,059 kVArh
Reactive Energy Export	8,624	1,459,459 kVArh

Reliability		
Manufacturer Availability	98.4%	97.9 %
Capacity Factor	24.50%	18.2 %

Outage Time		
Total	223.40	8,745.20 hours

Estimated figures until meter reading confirmed

Notes/Errors	
High upper voltage exceeded 11 times on T4 with total 50.3 hours	
Hub: Blade A encoder HW error 6 time on T1	
T4 tower vibration once	
T4 Stop for powerdown for total time of 46.6 hours	
The servicing was completed on all turbines	

**Daily output
Oct-13**

Grid								
Export Active Energy	Total [kWh]	Period	Total [kWh]	T01 [kWh]	T02 [kWh]	T03 [kWh]	T04 [kWh]	T05 [kWh]
31/10/2013	35,891	31/10/2013	37,319	7,201	7,655	7,661	7,476	7,326
30/10/2013	55,253	30/10/2013	56,892	11,957	11,347	11,259	11,326	11,003
29/10/2013	37,367	29/10/2013	38,763	8,605	7,587	7,453	7,481	7,637
28/10/2013	86,548	28/10/2013	88,513	17,730	18,199	18,140	15,655	18,789
27/10/2013	99,636	27/10/2013	101,816	20,238	20,784	20,105	20,324	20,365
26/10/2013	87,132	26/10/2013	89,148	18,571	18,897	16,957	16,853	17,870
25/10/2013	69,608	25/10/2013	71,382	12,951	15,753	13,507	13,778	15,393
24/10/2013	9,006	24/10/2013	10,083	374	2,349	2,215	2,014	3,131
23/10/2013	68,051	23/10/2013	69,835	14,924	15,179	11,940	12,784	15,008
22/10/2013	58,666	22/10/2013	60,375	13,571	13,114	11,701	11,112	10,877
21/10/2013	68,916	21/10/2013	70,564	18,104	17,202	12,915	6,729	15,614
20/10/2013	40,885	20/10/2013	42,023	12,763	12,824	5,176	0	11,260
19/10/2013	26,357	19/10/2013	27,620	6,866	6,995	5,100	2,691	5,968
18/10/2013	17,641	18/10/2013	18,671	3,976	3,862	3,731	3,579	3,523
17/10/2013	19,710	17/10/2013	20,903	4,125	4,588	3,710	3,899	4,581
16/10/2013	41,289	16/10/2013	42,731	5,672	8,317	9,394	8,833	10,515
15/10/2013	788	15/10/2013	1,000	244	168	150	181	257
14/10/2013	13,245	14/10/2013	14,432	4,281	2,520	2,428	2,532	2,671
13/10/2013	18,526	13/10/2013	19,676	4,078	3,813	3,930	4,001	3,854
12/10/2013	28,659	12/10/2013	29,710	7,321	7,322	4,474	3,686	6,907
11/10/2013	81,949	11/10/2013	83,889	18,740	18,902	14,910	13,299	18,038
10/10/2013	65,413	10/10/2013	67,113	8,476	14,679	14,606	14,737	14,615
09/10/2013	22,950	09/10/2013	23,965	5,642	4,524	4,375	4,648	4,776
08/10/2013	11,573	08/10/2013	12,644	2,093	2,616	2,662	2,662	2,611
07/10/2013	5,288	07/10/2013	6,171	616	1,388	1,432	1,428	1,307
06/10/2013	3,299	06/10/2013	4,239	458	967	971	1,075	768
05/10/2013	687	05/10/2013	956	137	216	219	258	126
04/10/2013	43,672	04/10/2013	45,190	9,362	9,885	8,261	8,093	9,589
03/10/2013	25,355	03/10/2013	26,662	6,457	5,057	4,782	4,313	6,053
02/10/2013	12,672	02/10/2013	13,928	2,694	2,943	2,735	2,460	3,096
01/10/2013	14,526	01/10/2013	15,740	2,688	2,756	2,554	2,480	5,262
Totals		Totals						
Average	37,760	Average	39,095	8,094	8,465	7,402	7,013	8,348
Sum	1,170,558	Sum	1,211,953	250,915	262,408	229,453	210,387	258,790
			100.00%	20.70%	21.65%	18.93%	17.36%	21.35%

WESTMILL YEAR TO DATE PRODUCTION

2012/2013						
PRODUCTION PER TURBINE						
	T1	T2	T3	T4	T5	Total
Nov-12	176,718	176,584	174,401	171,328	170,333	869,364
Dec-12	283,559	287,872	285,748	273,392	285,905	1,416,476
Jan-13	236,139	234,043	231,129	95,477	240,000	1,036,788
Feb-13	176,638	169,370	173,881	143	186,646	706,678
Mar-13	240,231	173,280	226,002	148,922	248,572	1,037,007
Apr-13	282,827	277,802	277,610	267,895	277,468	1,383,602
May-13	194,653	191,473	191,490	189,553	186,500	953,669
Jun-13	182,843	175,069	172,850	174,281	176,513	881,556
Jul-13	84,922	68,888	81,122	82,150	79,363	396,445
Aug-13	112,776	101,075	108,621	108,913	109,879	541,264
Sep-13	86,113	81,340	81,628	82,259	87,035	418,375
Oct-13	250,915	262,408	229,453	210,387	258,790	1,211,953
Total	2,308,334	2,199,204	2,233,935	1,804,700	2,307,004	10,853,177
%	21.3%	20.3%	20.6%	16.6%	21.3%	100.0%

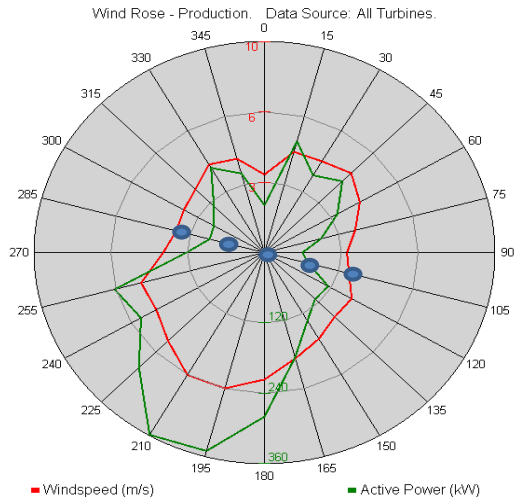
Estimated lost output due to mechanical failure and above 24 hours								Total after
	T1	T2	T3	T4	T5	Total	Line Loss	Line Loss
Jan-13				136,065		136,065	4,568.74	131,496
Feb-13				176,598		176,598	6,819.24	169,779
Mar-13		58,581		81,801		140,381	4,453.99	135,927
Apr-13								-
May-13				1,200		1,200	48.36	1,152
Jun-13						-	-	-

	YTD					Cumulative			Capacity Factor	Availability	Wind Speed m/s	Historic data				
	2012/2013					2012/2013						Average	2011/2012	2010/2011	2009/2010	2008/2009
	Actual Including Estimated Outages	Actual	Budget	Variance	Line Loss	Actual	Budget	Variance								
Nov-12	826,190	826,190	1,113,177	74.2%	5%	826,190	1,113,177	74%	18.2%	100.0%	5.27	1,247,111	838,750	1,040,420	1,938,119	1,171,155
Dec-12	1,377,105	1,377,105	1,246,274	110.5%	3%	2,203,295	2,359,451	93%	28.6%	99.1%	5.45	1,036,380	1,724,080	498,995	1,010,235	912,210
Jan-13	1,133,471	1,001,975	1,355,172	73.9%	3%	3,205,270	3,714,623	86%	21.0%	94.9%	5.16	1,040,928	1,297,035	1,041,950	683,190	1,141,535
Feb-13	849,169	679,390	1,234,187	55.0%	4%	3,884,660	4,948,810	78%	15.8%	80.3%	5.99	755,544	728,005	1,161,200	622,215	510,755
Mar-13	1,140,032	1,004,105	1,197,875	83.8%	3%	4,888,765	6,146,685	80%	21.0%	92.3%	4.75	906,230	470,930	589,550	915,735	1,032,800
Apr-13	1,344,095	1,344,095	943,781	142.4%	3%	6,232,860	7,090,466	88%	28.9%	99.8%	7.14	733,454	994,110	634,940	637,085	483,385
May-13	916,392	915,240	846,983	108.1%	4%	7,148,100	7,937,448	90%	19.3%	99.5%	5.50	820,976	634,345	1,202,020	380,665	1,202,895
Jun-13	848,400	848,400	750,185	113.1%	4%	7,996,500	8,687,633	92%	18.4%	99.3%	5.60	652,675	1,121,805	795,565	268,615	348,430
Jul-13	370,585	370,585	701,786	52.8%	7%	8,367,085	9,389,418	89%	8.0%	94.0%	4.30	673,089	575,445	460,895	619,750	967,500
Aug-13	510,790	510,790	725,985	70.4%	6%	8,877,875	10,115,403	88%	10.9%	98.3%	5.14	706,140	581,425	513,435	671,210	761,260
Sep-13	395,320	395,320	859,070	46.0%	6%	9,273,195	10,974,473	84%	8.7%	97.9%	3.99	798,720	750,075	1,079,775	694,335	777,250
Oct-13	1,173,090	1,173,090	1,125,277	104.2%	3%	10,446,285	12,099,750	86%	24.5%	98.4%	5.49	934,480	859,350	1,231,920	853,350	567,510
TOTAL	10,884,638	10,446,285	12,099,750		4.14%				18.6%	96.2%	5.31	10,305,726	10,575,355	10,250,665	9,294,504	9,876,685

estimated figure

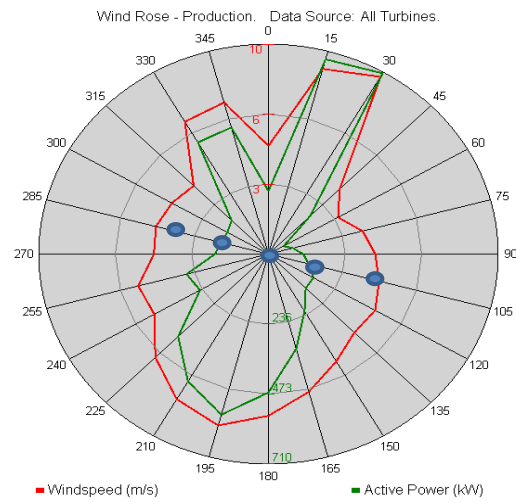
2007/2008
160,710
1,522,135
917,750
684,955
728,960
741,855
1,003,370
692,165
1,160,270
7,612,170

Wind Rose



YTD Wind Rose (from Nov 2012)

● Direction of Turbines



1st - 31st October 2013 Wind Rose