



# **Wind Power Operational and Market Report Week of Jun 29, 2008 to Jul 5, 2008**

Thursday, July 10, 2008

## 1.0 Purpose

Around the world, interest in wind development as a source of renewable energy continues to grow. In Alberta, wind power is part of the diverse mix of generation sources that supplies the growing electricity demands of Albertans. As the amount of wind power on a system grows, so do the operational challenges.

Wind can start, stop or change at any moment. Today wind power is backed up by coal, gas, hydro generation facilities or the interconnections to BC and Saskatchewan using Alberta's competitive electricity markets.

The purpose of the weekly report is to provide industry with graphs and tables that illustrate aspects such as:

- Wind generation versus system load
- Regional diversity of wind generation
- Wind generation in the energy market
- Wind generation forecasts versus actual wind generation

The forecast information comes from the Wind Power Forecasting Pilot Project. The intent is to capture weekly wind power events and break them down from a forecasting perspective in order to educate AESO stakeholders on the capabilities of wind power forecasting. More information about this project can be found on our website at <http://www.aeso.ca/gridoperations/13825.html>.

The AESO anticipates that this report will continue to improve and any feedback is appreciated and feedback can be emailed to AESO stakeholder relations at [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca).

## 2.0 Wind Generation Statistics

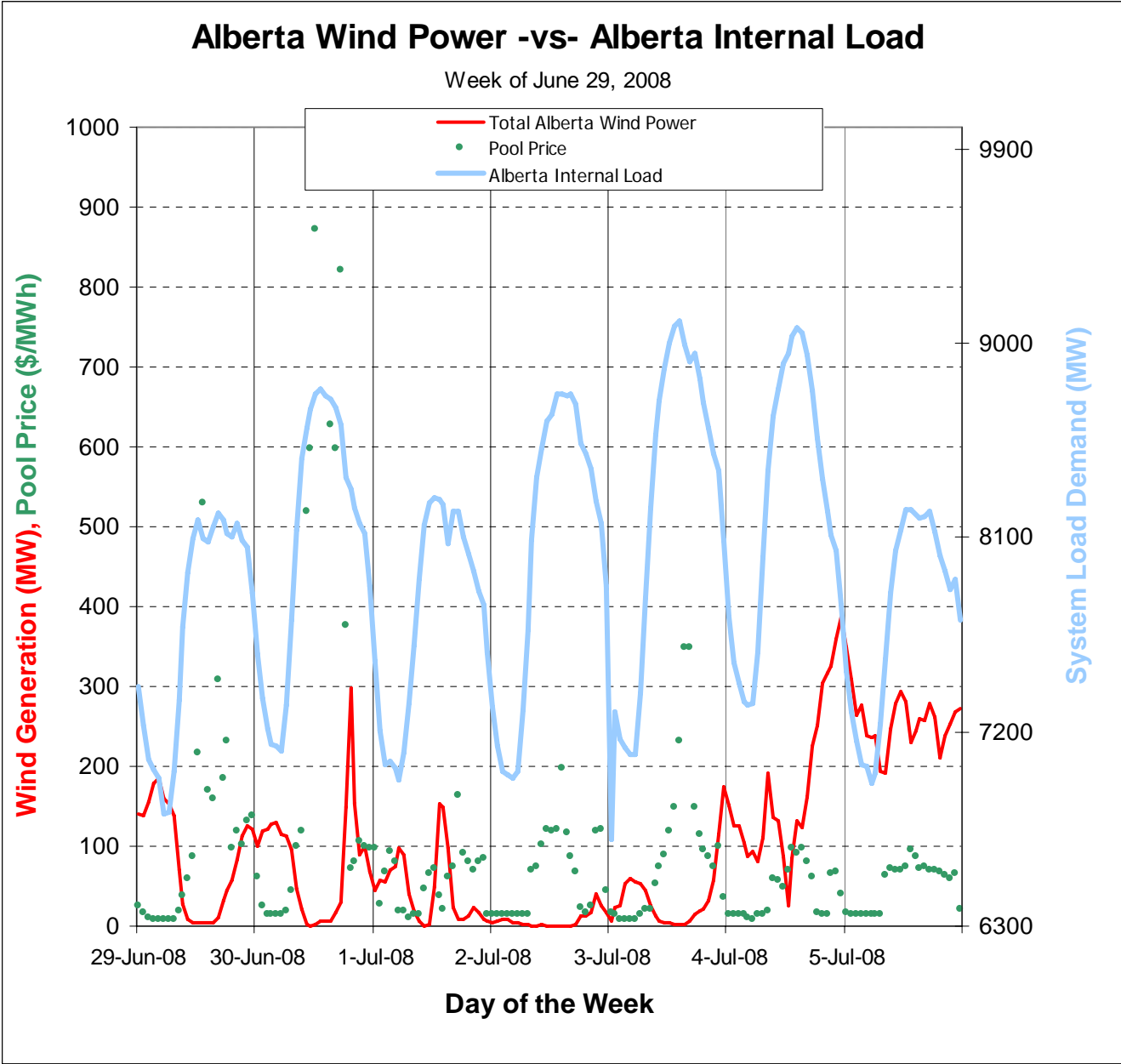
The purpose of this table is to provide daily production statistics as well as any wind power curtailment that occurred. The weekly average capacity factor<sup>1</sup> was 19.49%.

Daily Alberta Wind Generation Statistics										
497MW of Wind Power Currently Operational										
Wind Generation (MWh/MW) Statistics									Curtailment Statistics	
Date	Average Off-Peak Wind Gen (MWh)	Off-Peak Capacity Factor	Average On-Peak Wind Gen (MWh)	On-Peak Capacity Factor	Average Daily Wind Gen (MWh)	Minimum Wind Generation	Maximum Wind Generation	Average Wind Gen During High Load Hour (MWh)	Number of Hours	Number of Affected Wind Power Facilities
29-Jun-08	154	30.97%	46	9.16%	82	2	192	40		
30-Jun-08	112	22.51%	64	12.86%	80	0	322	9	59m	1
1-Jul-08	62	12.46%	39	7.78%	46	0	175	49		
2-Jul-08	7	1.35%	7	1.47%	7	0	53	1		
3-Jul-08	57	11.37%	23	4.64%	34	0	189	5		
4-Jul-08	145	29.11%	185	37.29%	172	20	410	103	2h39m	1
5-Jul-08	273	54.88%	249	50.12%	257	165	386	265	3h38m	2

<sup>1</sup> Capacity factor is determined by averaging the hourly capacity factors which are calculated as: Average Hourly Wind generation/Total installed capacity \*100

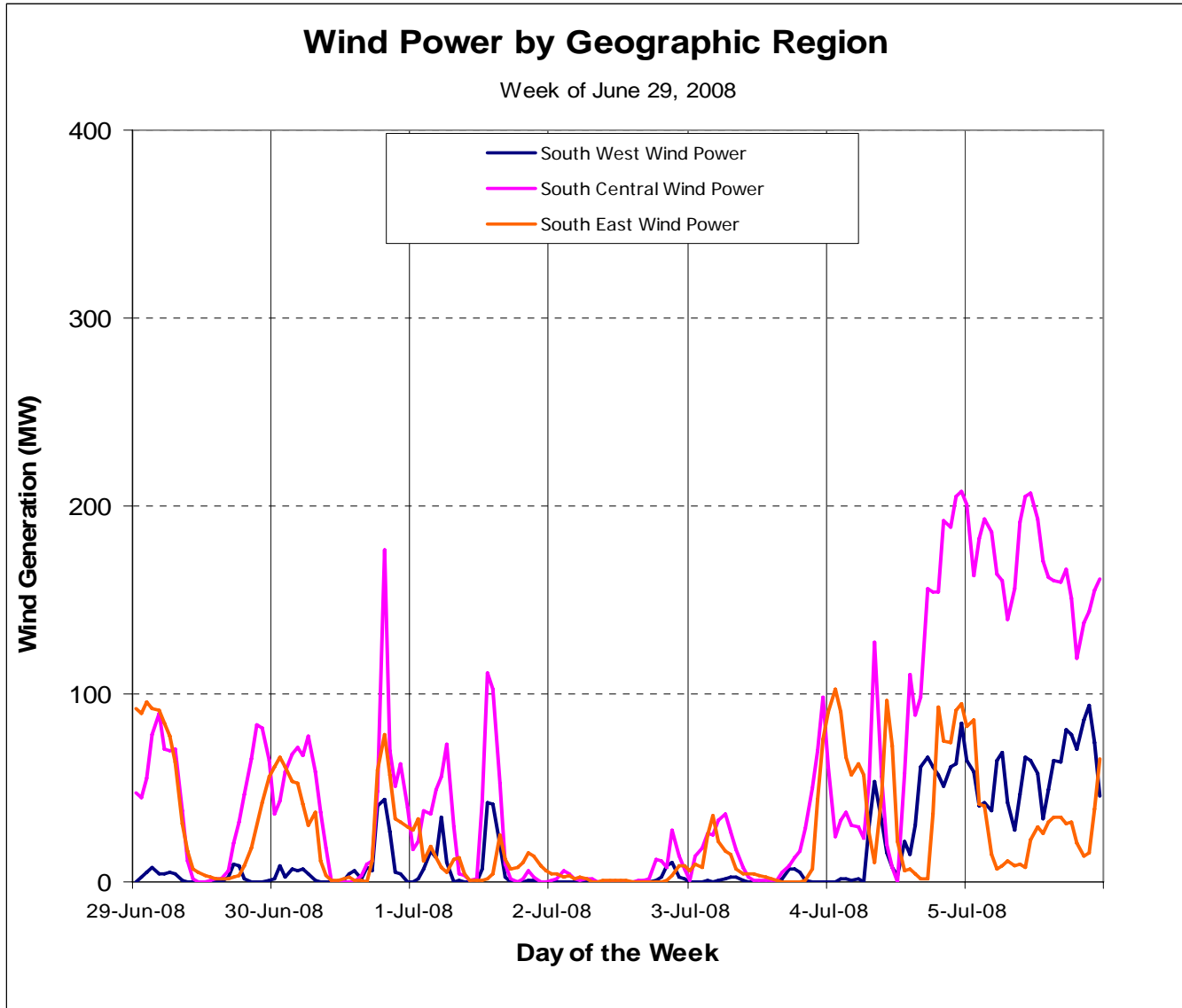
### 3.0 Wind Generation and System Load

The purpose of the graph is to illustrate how wind power varies with system load and the hourly pool price.



## 4.0 Wind Diversity in Alberta

The purpose of this graph is to illustrate how wind power varies in the different regions of Alberta.



### Wind Regions:

South West (SW) Total Installed = 212.3MWs

South Central (SC) Total Installed = 176.2 MWs

South East (SE) Total Installed = 110 MWs

There are currently no operational wind facilities in the North.

