

NW Wind Projected Projects and Sites Thru 2009

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Projected NW Wind Projects Thru 2009

- The following tables are projections of how much wind and where it will be located in the Northwest.
- Jeff King of the NW Power and Conservation Council has prepared an estimate of wind projects based on public reports and RFPs.
- Assumptions include sales to California and to other regional utilities.
- The tables were prepared for average expectations, and low assumes no PTC, no RPS and more limited sales to California.
- Tables prepared for use in estimating impact of various levels of wind on regulation (possibly transmission requirements).
- We need input from other NW utilities to confirm the expected level and location of the projects.

NW Utilities Midpoint Assumption

Based on Published Acquisition Targets (Assumes 0.31 Capacity Factor)	Committed + Planned (MW)					
	2006	2007	2008	2009	Total	
Puget	229	33	33	33	327	Note 1
Idaho	30	283	0	0	313	Note 2
Avista	0	98	0	0	98	Note 3
Northwestern	0	0	0	0	0	Note 4
Portland General	0	126	0	162	288	Note 5
PacifiCorp	106	87	87	87	368	Note 6
Last Mile Members / EWEB	0	100	125	0	225	Note 7
Published PNW Total	365	728	245	282	1620	
Additional for other PNW Utilities load growth	0	185	185	185	556	Note 8
Total to PNW Utilities	365	913	430	467	2176	
CA Total	200	200	200	200	800	Note 9
PNW Total Wind Development	564	1112	630	667	2976	

Notes:

1. Puget - 150 - 175 MWa renewable additions 2006-13 (IRP). Assumes 175MW, linear additions following Wild Horse.
2. Based on RFPs and QFs. Awaiting integration study.
3. Next increment for Avista scheduled for 2010.
4. Assumes no additions after Judith Gap for Northwestern. Load is total AURORA PNW, inc. E. MT
5. Biglow Canyon (PGE) planned in 3 Phases over 5-yr period. Assumes Ph II on-line in 2009.
6. 200 MW/yr "RFP Wind" planned through post 2006 period. Take fraction (46%) equivalent to PNW & NCA load.
7. LMEC members include: Tanner, Klickitat, Douglas, Lakeview, Cowlitz, Peninsula, Lewis. Includes EWEB additions.
8. No published targets for Publics (including Seattle, Snohomish or Tacoma) - Assumed Wind is 75% of estimated load growth.
9. Assumes CA acquisitions continue at 2006 rate. (Mid range assumption)

Existing Thru 2006

Project/Developer	Year	MW	Location	Purchaser
Vanscycle / FPLE	1999	25	Walla Walla	PortGE
Foot Creek	2000	60	Wyoming	PacifiCorp
Stateline / FPLE	2001	210	Walla Walla	PacifiCorp
Stateline / FPLE	2001	90	Walla Walla	BPA/PBL
Condon / SeaWest	2001	50	DeMoss/John Day	BPA/PBL
Klondike I / PPM Energy	2001	24	DeMoss/John Day	BPA/PBL
Nine Canyon / Energy NW	2002	48	Walla Walla	Various Publics
Combine Hills I	2003	41	Walla Walla	PacifiCorp
Klondike II / PPM Energy	2005	76	DeMoss/John Day	PortGE
Hopkins Ridge / Puget	2005	150	Walla Walla	Puget
		774	2005 and older	
Leaning Juniper I / PacifiCorp	2006	100	Arlington	PacifiCorp
Idaho Small	2006	30	Idaho	IPCo
Wild Horse / Puget	2006	230	Kittitas Valley	Puget
Big Horn / PPM Energy	2006	200	DeMoss/John Day	Market/CA
		560	2006	

2007-9 Wind Projects Mid-Point Assumption

Leaning Juniper II / PPM Energy	2007	100	Arlington	Market/CA
Klondike III / PPM Energy	2007	125	DeMoss/John Day	Various NW
Klondike WF / PPM Energy	2007	100	DeMoss/John Day	Market/CA
Elkhorn / Horizon Energy	2007	150	Telocaset Mtn	IPCo
Cotterel / Windland	2007	100	Idaho	IPCo
Biglow Canyon / PortGE	2007	126	DeMoss/John Day	PortGE
Goodnoe Hills	2007	112	Rock Creek	PacifiCorp
Windy Pt I / Cannon	2007	100	Rock Creek	Avista
Windy Pt I / Cannon	2007	100	Rock Creek	Market/CA
White Creek I / LMEC	2007	100	Rock Creek	Various Publics
		1113	2007	
Hopkins Ridge / RES	2008	150	Walla Walla	PacifiCorp
White Creek I / LMEC	2008	100	Rock Creek	Various Publics
Windy Pt I / Cannon	2008	100	Rock Creek	Market/CA
Locust Grove / PPM Energy	2008	200	DeMoss/John Day	Various NW
Arlington / CEP	2008	100	Arlington	Market/CA
		650	2008	
Shepherds Flat	2009	250	Slatt/Arlington	Market/CA
Biglow Canyon / PortGE	2009	162	DeMoss/John Day	PortGE
Windy Pt II / Cannon	2009	100	Rock Creek	Market/CA
Idaho Small	2009	30	Idaho	IPCo
Kittitas Valley	2009	125	Kittitas Valley	Puget
Roosevelt / LMEC	2009	100	Rock Creek	Various Publics
Elkhorn / Horizon Energy	2009	120	Telocaset Mtn	IPCo
		637	2009	
		2960	Total 2006-9 (3734 MW Total NW)	

NW Utilities Low Assumption

Based on Published Acquisition Targets (Assumes 0.31 Capacity Factor)	Committed + Planned (MW)					
	2006	2007	2008	2009	Total	
Puget	229	33	33	33	327	Note 1
Idaho	30	200	0	0	230	Note 2
Avista	0	98	0	0	98	Note 3
Northwestern	0	0	0	0	0	Note 4
Portland General	0	126	0	162	288	Note 5
PacifiCorp	106	87	87	87	368	Note 6
Last Mile Members / EWEB	0	100	125	0	225	Note 7
Published PNW Total	365	611	212	249	1438	
Additional for other PNW Utilities load growth	0	60	60	60	180	Note 8
Total to PNW Utilities					1618	
CA Total	200	200			400	Note 9
PNW Total Wind Development	564	861	272	309	2018	

Notes for Low Assumption:

1. Puget - 150 - 175 MWa renewable additions 2006-13 (IRP). Assume 150MW added after 2009.
2. Based on RFPs and QFs. Awaiting integration study.
3. Next increment for Avista scheduled for 2010.
4. Assumes no additions after Judith Gap for Northwestern.
5. Biglow Canyon (PGE) planned in 3 Phases over 5-yr period. Assumes Ph II on-line in 2009.
6. 200 MW/yr "RFP Wind" planned through post 2006 period. Take fraction (46%) equivalent to PNW & NCA load.
7. Assume LMEC delays add'l development after 2008, no RPS, PTC or CA buyers.
8. Assume Wind is 25% of estimated load growth, without RPS, PTC.
9. Assumes CA acquisitions end after 2007 - no PTC.

2007-9 Wind Projects Low Assumption

Project / Developer	Year	MW	Location	Purchaser
Leaning Juniper II / PPM	2007	100	Arlington	Market/CA
Klondike III / PPM Energy	2007	60	DeMoss/John Day	Various NW
Klondike WF / PPM Energy	2007	100	DeMoss/John Day	Market/CA
Elkhorn / Horizon Energy	2007	100	Telocaset Mtn	IPCo
Cotterel / Windland	2007	100	Idaho	IPCo
Biglow Canyon / PortGE	2007	126	Rock Creek	PortGE
Goodnoe Hills	2007	87	Rock Creek	PacifiCorp
Windy Pt I / Cannon	2007	100	Rock Creek	Avista
White Creek I / LMEC	2007	100	Rock Creek	Various Publics
		873	2007	
Hopkins Ridge / RES	2008	150	Walla Walla	PacifiCorp
Locust Grove / PPM Energy	2008	125	DeMoss/John Day	Various NW
Arlington / CEP	2008		Arlington	Market/CA
		275	2008	
Biglow Canyon / PortGE	2009	162	DeMoss/John Day	PortGE
Idaho Small	2009	30	Idaho	IPCo
Elkhorn / Horizon Energy	2009	120	Telocaset Mtn	IPCo
		312	2009	
		2020	Total 2006-9 (2795 Total NW)	

Next Steps

- We need input from other NW utilities to confirm the expected level and location of the projects for the Midpoint and Low Assumption cases.
- We need input from other NW utilities on whether there should be a High Assumption case and what it should be.
- Data required for Regulation impact studies – so we need to complete now.
- Comments/ Questions?