Northwest Power and Conservation Council

Status Report – Portfolio Analysis

July 13, 2004

The last month was...

- 1 step forward, two back, 1 forward
  - Refined a lot of the data and assumptions
  - Made some mistakes in the process
  - Took some time to find the mistakes
- Net effect – We're about where we were in June

Northwest Power and Conservation Council

The good news...the basic conclusions are unchanged

- Aggressive conservation is clearly justified – reducing both cost and risk relative to a minimal conservation schedule DR valuable if available at levels/cost around that assumed
- Large scale generating development not required until next decade*
- Coal not chosen because of risk of carbon control measures, transmission costs

* Assumes IPP generation available and used for regional load

Northwest Power and Conservation Council

Basic conclusions (continued)

- Large commitment to wind
  - May be wise to encourage modest level commercial scale development over next few years to address questions like benefits of geographic diversity...
- Number of sensitivities and scenarios to evaluate
  - How small does the risk of carbon penalties have to be before coal comes in
  - Higher gas prices
  - Removal of price caps
  - Sensitivity of wind development to cost curve
  - Uncommitted resources

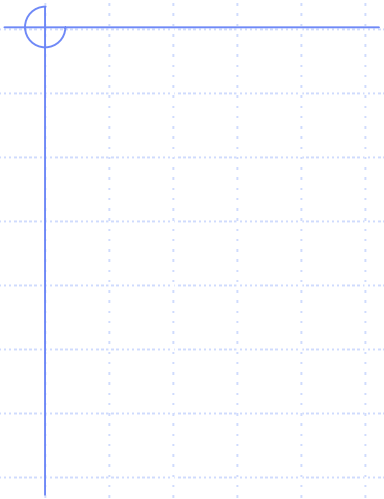
Northwest Power and Conservation Council

Uncommitted Resources

Project	Type	Inservice	Capacity	Percent Available	Jan Peak (MW)	Annual Energy (aMW)	Developer
Big Hanaford	CCCT	2002	248	100%	248	223	Transalta
Centralia	Coal	1971	1404	100%	1340	1192	Transalta
Chehalis Generating Facility	CCCT	2003	520	100%	520	468	Chehalis Power Limited
Coyote Springs II	CCCT	2003	288	50%	144	136	Avista
Hermiston Power Project	CCCT	2002	630	100%	630	567	Calpine
Klamath Cogen Project	Cogen	2001	484	79%	382	344	Pacific Klamath energy -- PPM
Nine Canyon	Wind	2002	48	53%	0	9	Energy Northwest
Rathdrum Power Project	CCCT	2001	270	100%	270	243	Avista
Stateline Wind Phase 1	Wind	2001	284	51%	0	46	FPL
				Total	3534	3228	

Source:PNUCC

Northwest Power and Conservation Council




Northwest
Power and
Conservation
Council

Least-Risk Plan Schedule

Resource	Characteristics	12/07	12/09	12/11	12/13	12/15	12/17	12/19
Gas CCCT	High efficiency, moderate capital cost, moderate lead time, moderate fuel cost			475	1425	1900	1900	1900
Gas SCCT	Moderate efficiency, low capital cost, short lead time, high fuel cost							
Coal	Moderate efficiency, high capital cost, long lead time, low fuel cost							
Wind	High capital cost, short lead time, zero fuel costs, intermittent				600	900	1500	1500
Conservation	*Cumulative* total:	628	942	1256	1570	1848	2090	2332
Total		628	942	1731	3595	4648	5490	5732

All resources stated in cumulative energy(MWa). CCCT values assume five percent forced outage rate; Wind values assume a 30 percent availability.

These dates represent the earliest that construction would begin. The earliest in-service dates are 2 years later for CCCT, 1 year for SCCT, 3 years six months for Coal, and 1 year for Wind, due to construction time requirements.

Northwest Power and Conservation Council

Least-Cost Plan Schedule

Resource	Characteristics	12/07	12/09	12/11	12/13	12/15	12/17	12/19
Gas CCCT	High efficiency, moderate capital cost, moderate lead time, moderate fuel cost			475	475	950	950	950
Gas SCCT	Moderate efficiency, low capital cost, short lead time, high fuel cost							
Coal	Moderate efficiency, high capital cost, long lead time, low fuel cost							
Wind	High capital cost, short lead time, zero fuel costs, intermittent				180	450	540	540
Conservation	*Cumulative* total:	588	882	1176	1470	1725	1941	2157
Total		588	882	1651	2125	3125	3431	3647

All resources stated in cumulative energy(MWa). CCCT values assume five percent forced outage rate; Wind values assume a 30 percent availability.

These dates represent the earliest that construction would begin. The earliest in-service dates are 2 years later for CCCT, 1 year for SCCT, 3 years six months for Coal, and 1 year for Wind, due to construction time requirements.

Northwest Power and Conservation Council

Link to workbook

Northwest Power and Conservation Council