Northwest Electric Market

This map was created using Platts PowerMap.
Overview

Geography

States covered: All or most of Washington, Oregon, Idaho, Utah, Nevada, Montana, Wyoming and part of California.

Reliability region: Northwest Power Pool Area (NWPP) sub-region of the Western Electric Coordinating Council (WECC).

Balancing authorities: See page 5.

Hubs: California-Oregon Border (COB), Mid-Columbia (Mid-C)

RTO/ISO

None

Generation/Supply

Marginal fuel type: Hydro and natural gas

Generating capacity (winter 2005): 57,120 MW

Capacity reserve (winter 2005): 16,822 MW

Reserve margin (winter 2005): 42%

When taken together, hydro, fossil fuels, nuclear energy, and renewable resources, were adequate to provide electricity in excess of in-region needs.
Demand

All time peak demand (2005): 40,298 MW

Peak demand growth: 1.5% (2004–2005)

Prices

Index Annual Average of Daily Bilateral Day Ahead On-Peak Prices:

Platts California-Oregon Border (COB) Hub:


Platts Mid-Columbia (Mid-C) Hub:

2004: $44.50/MWh  2005: $62.95/MWh  2006: $50.18/MWh  2007: $56.57/MWh

Physical and financial electricity products are traded through brokers using the Mid-Columbia (Mid-C) and California-Oregon Border (COB) hubs as pricing points.

Interconnections/Seams

The region relies on hydroelectric production for approximately two thirds of its electricity needs. In most years, Northwest sells surplus power into California and the Southwest.
Balancing Authorities in the Northwest Electric Market

<table>
<thead>
<tr>
<th>Balancing Authority</th>
<th>NERC Acronym</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta Electric System Operator</td>
<td>AESO</td>
</tr>
<tr>
<td>Avista Corp.</td>
<td>AVA</td>
</tr>
<tr>
<td>Bonneville Power Administration</td>
<td>BPAT</td>
</tr>
<tr>
<td>British Columbia Transmission Corporation</td>
<td>BCHA</td>
</tr>
<tr>
<td>Idaho Power Company</td>
<td>IPCO</td>
</tr>
<tr>
<td>NorthWestern Energy</td>
<td>NWMT</td>
</tr>
<tr>
<td>PacifiCorp-East</td>
<td>PACE</td>
</tr>
<tr>
<td>PacifiCorp-West</td>
<td>PACW</td>
</tr>
<tr>
<td>Portland General Electric Company</td>
<td>PGE</td>
</tr>
<tr>
<td>PUD No. 1 of Chelan County</td>
<td>CHPD</td>
</tr>
<tr>
<td>PUD No. 1 of Douglas County</td>
<td>DOPD</td>
</tr>
<tr>
<td>PUD No. 2 of Grant County</td>
<td>GCPD</td>
</tr>
<tr>
<td>Puget Sound Energy</td>
<td>PSEI</td>
</tr>
<tr>
<td>Seattle Department of Lighting</td>
<td>SCL</td>
</tr>
<tr>
<td>Sierra Pacific Power Company</td>
<td>SPPC</td>
</tr>
<tr>
<td>Tacoma Power</td>
<td>TPWR</td>
</tr>
<tr>
<td>Western Area Power Administration - Upper Great Plains West</td>
<td>WAUW</td>
</tr>
</tbody>
</table>

Source: NERC (www.tsin.com)
### Northwest Annual Average Bilateral Prices

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>5-Year Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-Columbia (Mid-C)</td>
<td>$65.00</td>
<td>$35.66</td>
<td>$35.90</td>
<td>$29.10</td>
<td>$22.54</td>
<td>$37.66</td>
</tr>
<tr>
<td>California-Oregon Border (COB)</td>
<td>$73.86</td>
<td>$38.02</td>
<td>$38.84</td>
<td>$32.55</td>
<td>$26.79</td>
<td>$42.03</td>
</tr>
</tbody>
</table>

Source: Derived from *Platts* data.

February 2013

Updated January 6, 2013
Northwestern Daily Index Day-Ahead On-Peak Prices

![Northwestern Daily Index Day-Ahead On-Peak Prices](image_url)

Source: Derived from Platt’s data

February 2013

Updated: February 06, 2013
Western Daily Index Day-Ahead On-Peak Prices

Source: Derived from Platts data
February 2013
Implied Heat Rates at Western Trading Points - Weekly Avgs.

Source: Derived from Platt's on-peak electric and natural gas price data

Updated: February 06, 2013
Northwestern Daily Index Day-Ahead On-Peak Prices

Source: Derived from Platts data

February 2013
Western Daily Index Day-Ahead On-Peak Prices

Source: Derived from Platt's data
February 2013

Updated: February 06, 2013
Weekly Generation Output - Rocky Mountains

Source: Derived from EEI data

February 2013

Updated: February 12, 2013
Weekly Generation Output - Pacific Northwest

Source: Derived from EEI data
Updated: February 12, 2013
## Pacific/Northwest Hydro and Snowpack Levels

<table>
<thead>
<tr>
<th></th>
<th>Hydro Generation</th>
<th>Snow Water Equivalent&lt;sup&gt;3&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In-State Capacity (MW)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Additional Capacity Created Downstream (MW)&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Washington</td>
<td>21,500</td>
<td>0</td>
</tr>
<tr>
<td>Oregon</td>
<td>9,100</td>
<td>0</td>
</tr>
<tr>
<td>California</td>
<td>10,400</td>
<td>0</td>
</tr>
<tr>
<td>Idaho</td>
<td>2,700</td>
<td>19,700</td>
</tr>
<tr>
<td>Montana</td>
<td>2,700</td>
<td>16,200</td>
</tr>
</tbody>
</table>

**Notes:**

1. Net summer capacity in megawatts by state (EIA)
2. Approximate electric capacity created by water flow through downstream states (EIA and BPA). The capacity estimates reflect water flow patterns of the series of hydro facilities on the Snake and Columbia rivers.
3. Snow Water Equivalent represents the depth of water in the snowpack, if the snowpack were melted, expressed in inches. The percentage of median is the ratio of current snow water equivalents compared to the median for the same day from 1981-2010. Source: U.S. Department of Agriculture Natural Resources Conservation Service.
**Stream Flows at the Dalles Dam**

Notes: Trend lines are 7-day moving averages
Source: Derived from USACE data

Updated: February 08, 2013
Western Daily Actual Peak Demand

Notes: Data does not include weekends and holidays. Some data for 12/31/2008 – 1/9/2009 are not available from WECC
Source: Derived from WECC Daily Report data available at http://wecc.biz

Updated: February 08, 2013

February 2013