Sixth Northwest Conservation & Electric Power Plan

Resource Assessment Status and Remaining Work

Jeff King
Northwest Power and Conservation Council
Generating Resources Advisory Committee

Portland, OR
December 18, 2008

Resource options
2010 Service

Transmission cost & losses to point of LSE wholesale delivery
No federal production tax credit for wind
Baseline operation (CC - 85%CF)
Medium NG price forecast (Proposed 6th Plan)
Bingaman/Specter safety valve CO2 cost
Resource options, early 2020s*

<table>
<thead>
<tr>
<th>Technology</th>
<th>Levelized lifecycle cost ($/MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Comb Cycle</td>
<td>$180</td>
</tr>
<tr>
<td>MT Wind (Local)</td>
<td>$160</td>
</tr>
<tr>
<td>Advanced Nuclear</td>
<td>$140</td>
</tr>
<tr>
<td>Supercritical PC (WA/OR)</td>
<td>$120</td>
</tr>
<tr>
<td>Columbia Basin Wind</td>
<td>$100</td>
</tr>
<tr>
<td>AB Wind &gt; WA/OR</td>
<td>$80</td>
</tr>
<tr>
<td>ID Wind &gt; WA/OR</td>
<td>$60</td>
</tr>
<tr>
<td>MT Wind &gt; WA/OR</td>
<td>$40</td>
</tr>
<tr>
<td>NY CSP &gt; S. ID</td>
<td>$20</td>
</tr>
<tr>
<td>NV CSP &gt; WA/OR</td>
<td>$0</td>
</tr>
</tbody>
</table>

Emission (CO2) cost: $0, $20, $40, $60, $80, $100, $120, $140, $160, $180

Transmission & Losses
System Integration
Plant costs

* Commercial technologies

Remaining 6th Plan resource-related work

- Complete assessments of potential "major players"
- Complete price forecast and assessment of avoided cost
- Review project financing assumptions
- Review capacity and flexibility options
- Portfolio risk assessment of "minor" renewables
- GHG policy assumptions and CO2 valuation
- Refinement of the windpower assessment
- Review portfolio risk assessment results
- Identify action items for inclusion in the action plan
- Write and review resource sections of the plan

December 18, 2008
Proposed GRAC schedule

• Thursday January 22
  GHG policy assumptions and CO2 valuation
  Review of project financing assumptions
  Remaining "potential major players"
    • Central-station solar PV
    • Coal gasification
    • Woody biomass
  Completed price forecast and assessment of avoided cost
• Thursday February 19
• Thursday March 19 or Thursday April 16