Northwest **Power** and **Conservation** Council



April 1, 2014

# MEMORANDUM

**TO:** Power Committee

**FROM:** Charlie Black, Power Planning Division Director

**SUBJECT:** Seventh Power Plan Environmental Methodology Outline

The Council's Power Planning Division and Legal staff have begun development of potential approaches to a methodology for determining environmental costs and benefits for the upcoming Seventh Northwest Power Plan. At the Power Committee meeting on April 8, we will describe an initial conceptual outline for the environmental methodology, and invite comments from the committee.

The draft outline will describe requirements established by the Northwest Power Act for the Council's power plans to include a methodology for determining quantifiable environmental costs and benefits. In addition, the outline will provide some initial ideas about an approach for meeting the methodology requirements.

Further, there appears to be significant interest in addressing reductions in aggregate greenhouse gas emissions from the region's overall power system, including existing generating resources. As a result, this could lead to consideration of environmental impacts beyond what is formally required by the Northwest Power Act for the environmental costs and benefits methodology. This topic will also be raised for discussion with the committee.

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# Seventh Northwest Conservation and Electric Power Plan

## Methodology for Determining Quantifiable Environmental Costs and Benefits

# Initial Discussion

### Intro to the Topic: What's at Stake

Relevant Provisions of the Northwest Power Act

- Section 4(e)(3)(C): power plan elements: methodology for determining quantifiable environmental costs and benefits under section 3(4)
- Section 3(4): definition of cost effectiveness
- Also, Section 4(e)(2): due consideration for environmental quality and fish and wildlife

Important Points Relating to the Act

- Policy intent: internalize environmental externalities
- Focus is on New resources -- for use in least-cost comparison of new conservation and generating resources in developing the resource strategy for the plan
- Key terms: "environmental," "quantifiable" and "directly attributable"
- Statutory quirk in role of the Bonneville Administrator

### Quantifiable Environmental *Costs* – Three Primary Approaches

1. Regulatory Compliance Costs (Costs of complying with air and water pollution control, disposal of waste products, fuel extraction regulations, etc.)
    - Principal approach used by the Council to date
    - Council is not a environmental regulator
    - Deference given to environmental regulatory bodies to set standards that balance environmental impacts with other (e.g., economic) impacts
    - Issue for 7th Plan, what is range of potential costs of *new* regulation? In the 6th Plan future cost of compliance with carbon emissions were treated as a"risk"
2. Damage Costs
    - Generally have not been used by the Council to date
    - Most environmental impacts of power resource development direct are site specific; Council Power Plans use "generic" plants
    - Some environmental impacts of power resource development are not "location specific (e.g., GHG, SOx and NOx emissions)
    - Residual environmental impacts may exist, even after compliance with regulations
    - An issue for the Seventh Power Plan is how to treat these residual impacts, if they are quantifiable and if not, to ensure they are given "due consideration"
    - Assessment of damage costs has a high degree of uncertainty, especially for long-term impacts (e.g., federal government's estimates for the "Social Cost of Carbon")

3. Avoidance Costs (Costs of entirely mitigating or avoiding the environmental impacts of resource development)
    - Occasionally used by Council (e,g, Council established "protected areas" that prohibit hydroelectric development of specific river stretches to avoid further impacting fish and wildlife; required mititgation of indoor air quality impacts in new homes)
    - This approach may be particularly appropriate for addressing carbon emissions
    - concept: what it costs to develop a power system that avoids carbon emissions, entirely or to some determined level
    - difference in total power system costs compared to the base case is the measure of the costs of the new resource scheme that will produce this result
    - opportunities and challenges with this approach

## Quantifiable Environmental *Benefits*

- Few examples used by the Council to date (e.g., energy efficient washers and water/soap savings)
- Environmental benefit of one resource that results from avoiding the environmental costs of the alternative resources?
    - One new resource vs. another new resource (No?)
    - New resource vs. existing resource? ("Direct" benefit? Quantifiable?)

## Process for Developing and Applying the Methodology

- Staff draft an issue paper and proposed methodology for review by Power Committee and Council
- Public review and comment
- Council approves a methodology for use in developing the resource strategy for the draft Seventh Power Plan
- Staff applies the methodology in Seventh Power Plan analyses
- Include the methodology in the draft Seventh Power Plan for further review and comment on the methodology as well as its application