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March 5, 2019

MEMORANDUM

TO: Power Committee

FROM: Gillian Charles, Jennifer Light

SUBJECT: Consistent treatment of quantifiable resource costs

BACKGROUND:

Presenter: Gillian Charles, Jennifer Light

Summary: Staff has developed a framework to document how the Council evaluates and accounts for costs – when quantifiable – across all resources (generating resources, energy efficiency, demand response) in its power planning efforts. While the consideration and accounting of costs within the Council's valuation of resources is nothing new, this is the first time that these assumptions have been deliberately compiled and captured in one place.

The purpose of this framework is to provide greater transparency and understanding of the Council's development of resource costs and to ensure consistent treatment of those costs among all resources. The framework is a "living document" meant to represent the current methodology in use. As such, staff will be seeking feedback from the Council's advisory committees and updating the framework as new data or analysis becomes available that enables us to better capture or quantify costs.

This framework is also intended to be used by the Regional Technical Forum to support quantification of costs and benefits in alignment with the

broader Council practices, particularly in the realm of potential non-energy benefits. The RTF continually revisits measure analysis, addressing a handful of measures each month. Using this framework as a reference, it will help to ensure that the RTF analysis remains consistent in accounting for costs in alignment with the broader Council methods.

Staff will be introducing the framework to the Power Committee in March. At the same time, staff will be sharing it with advisory committees for feedback and will provide an update to the Power Committee in the next few months.

Relevance: When developing the Power Plan, the Council models supply side and demand side resources based on their specific attributes, such as their costs and ability to meet energy and capacity adequacy needs. The Council then competes these resources on an “apples to apples” basis under a variety of conditions that account for uncertainty, including uncertainty in wholesale electricity market prices, natural gas prices, load growth, hydro conditions, carbon regulation, and other conditions. The Council also tests resource portfolios under a variety of policy scenarios. The Council weighs the results of all the futures across all the scenarios it tests to determine the desired resource strategy that ensures an economic, efficient, and reliable electric system to meet the needs of consumers in the Pacific Northwest. Ensuring consistency in the beginning of the process is critical to the development of a cost-effective resource mix for the region.

Consistent Treatment of Quantifiable Resource Costs

Power Committee

March 12, 2019

Gillian Charles and Jennifer Light



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ENERGY FUTURE

Background & Context

- Staff is starting to develop supply curves and reference plants for the 2021 Plan
- Staff has developed a framework to support increased coordination across our teams to ensure:
 - Treatment of resource costs in alignment with the Power Act
 - Consistent quantification of costs across generating resources, energy efficiency, and demand response going into the Regional Portfolio Model (RPM)
 - Avoiding any potential double counting across resources
 - Clear understanding of treatment of system costs applied in the RPM



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Reminder: This is Nothing New!

The consideration and accounting of costs within the Council's valuation of resources is nothing new, however...

Staff has not before compiled in a deliberate and thoughtful manner this accounting in one place

- Greater transparency
- Easier to review and provide feedback

This framework provides an explicit way to capture the Council's long-standing approach on quantification of resource costs.



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Putting it in One Place

Traditionally Council staff builds costs within our subject-matter teams, with cross-cutting discussions around key variables



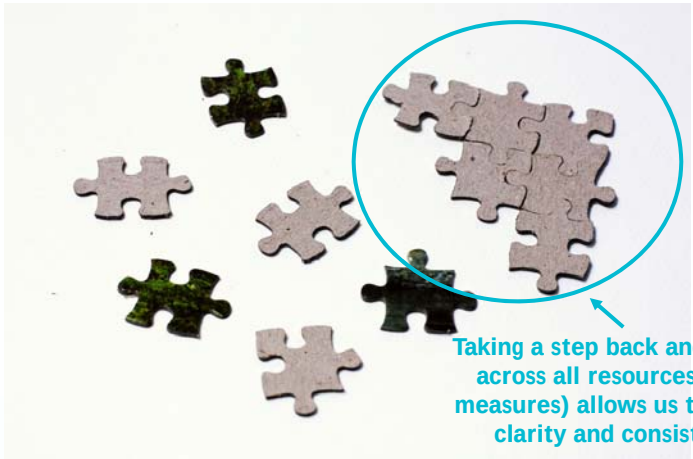
At the RTF, each measure is updated one at a time



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Putting it in One Place



Taking a step back and looking across all resources (or all measures) allows us to ensure clarity and consistency



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Intended Audiences

Council staff	Provides: Single reference for all staff on treatment of resource costs Use Case: Working document to reflect current accounting, ensuring communication and consistency among staff
Council Members	Provides: More detailed understanding of resource costs Use Case: Starting point for questions and feedback
Council stakeholders and advisory committees	Provides: Broadens the understanding, with a look across all resources, rather than narrow look at a single resource Use Case: Informing and seeking feedback on method and inputs
Regional Technical Forum	Provides: Direction on how Council accounts for costs Use Case: Enables updates to a single measure, while maintaining consistency, with a clear understanding of what is in and what is out of cost consideration

Costs to be Considered (1)

“System Cost” as defined by the Act:

“... an estimate of all **direct costs of a measure or resource over its effective life**, including, if applicable, the cost of **distribution and transmission** to the consumer and, among other factors, **waste disposal costs, end-of-cycle costs, and fuel costs** (including projected increases), and such **quantifiable environmental costs and benefits** as the Administrator determines, on the basis of a methodology developed by the Council as part of the plan, or in the absence of the plan by the Administrator, are directly attributable to such measure or resource.”

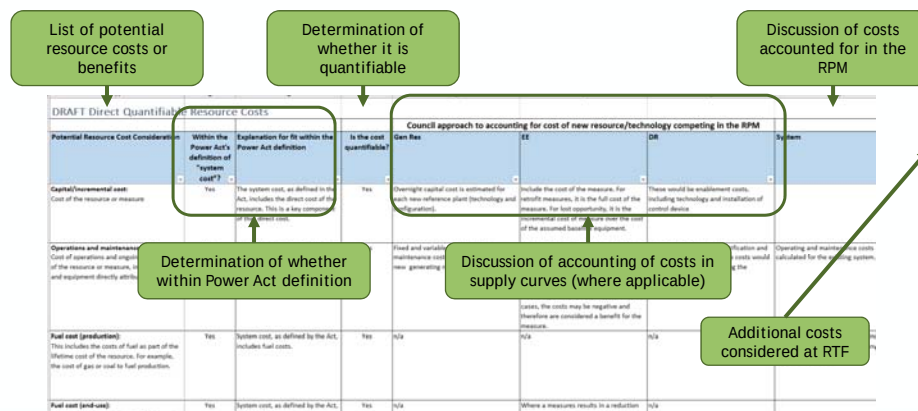
[Northwest Power Act, §3(4)(B), 94 Stat. 2698-9.]



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Framework Snapshot



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Costs to be Considered (2)

Direct costs of measure or resource over its effective life

- Capital/incremental costs
- Operations and maintenance
- Administrative costs
- Tax credits

Distribution and transmission

- Transmission (existing, new)
- Transmission and distribution (deferral)
- Generation (deferral)

Waste disposal costs, end-of-cycle costs, and fuel costs

- Fuel costs
- Decommissioning and end-of-lifecycle costs
- Disposal of hazardous waste

Quantifiable environmental costs and benefits

- Greenhouse gas emissions
- Particulates
- Impacts on land, water, and air
- Water use (volume)

Other Costs

- Regional preference adder
- Reliability
- Ancillary services

The Power Act gives preference to resources that meet the definition of conservation (§3(4)(D), 94 stat. 2699)

The Power Act seeks an "adequate, efficient, economical, and reliable power supply" (§2(2), 94 stat. 2697)



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More on Environmental Costs

"... and such **quantifiable environmental costs and benefits** as the Administrator determines, on the basis of a methodology developed by the Council as part of the plan, or in the absence of the plan by the Administrator, are directly attributable to such measure or resource."

[Northwest Power Act, §3(4)(B), 94 Stat. 2698-9.]

- With every plan, the Council must include a methodology for determining quantifiable environmental costs and benefits
 - Not all environmental effects can be quantified
 - Not all are determined to be directly-attributable to a resource
 - Not all are able to be quantified consistently across resources
- RTF will follow the Council's methodology to ensure symmetric treatment of energy efficiency measures with other resources



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Sharing with Advisory Committees

- Starting to work with Advisory Committees on cost assumptions for specific resources:
 - DRAC (3/6) started thinking through how best to consider costs for DR consistent with framework and other resources
 - CRAC (4/3) will revisit assumptions and update with new data and methodology, as needed, to ensure consistency
 - GRAC will review via email, discuss during May meeting
- Also sharing out to RTF to support consistent analysis
 - RTF Policy Advisory Committee (3/6) discussed, with a focus on what is in and what is out
 - Staff will share with RTF at upcoming meeting



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Recap of Today's Discussion

- Make you aware of:
 - High-level approach to estimating costs
 - Staff efforts to improve communication, clarity, and consistency going into the 2021 Plan
 - Staff plans for getting advisory committee input into specific cost assumptions for resources
- Plan to keep you updated on any significant changes from proposed approach
- Available to answer any questions on specific assumptions as we move forward



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