



December 15, 2015

Council Members
Northwest Power and Conservation Council
851 SW 6th Avenue, Suite 1100 Portland Oregon

Dear Council Members:

Thank you for the opportunity to provide these written comments to the Draft 7th Power Plan. Climate Solutions is a Northwest-based clean energy nonprofit organization whose mission is to accelerate practical and profitable solutions to global warming.

Climate Solutions has tracked the development of the Draft 7th Plan, including serving as a member of the Resources Advisory Council (RSAC). Climate Solutions appreciates the depth of work by staff and Council members to produce this Draft Plan.

We write these comments as leaders from around the world are gathered in Paris for COP 21 to address how governments, communities, and citizens will respond to the climate crisis. We are hopeful that the COP21 will result in a meaningful agreement. Our hope derives from our experience here at home in the Pacific Northwest, which has been a leader in solutions to address climate change for decades. The Council's six previous plans are a testament to that experience. The region has prioritized energy efficiency investments and renewable generation, while squeezing more out of existing power supplies. The results speak for themselves: a power system that is the envy of the nation, proof that the urgently needed transition to a clean energy economy is possible.

We are also gravely aware of how climate change is affecting our states. We must now accelerate and complete this transition and the 7th Power Plan must help guide us to do that. It does that in some respects, but fails in others.

General Comments

First, we strongly support the draft Plan's conclusion that the region can get 4,500 average megawatts of new energy efficiency over the next 20 years. Energy efficiency is the cleanest, cheapest resource and the Plan rightly prioritizes it going forward, as we have in the past.

Second, the draft Plan shows that currently planned investments in energy efficiency and renewables put the region on track for a 35% cut in carbon emissions by 2035. Even more important is the finding that we could cut carbon emissions by 80% with moderate additional costs by shutting down coal plants and relying on existing known clean technologies. We strongly support this pathway.

Third, we are pleased with the conclusion that there is little likelihood that the region will need new gas plants over the next decade. Additional fossil fuel infrastructure development in our region is one of the key barriers to meeting our state greenhouse gas reduction goals in Oregon and Washington. Instead, we need to prioritize clean energy development, in combination with taking advantage of more efficient power market opportunities to truly prevent new natural gas plant development in the region.

Fourth, the draft Plan's conclusions about implementing demand response to meet peak demand are encouraging. This is not a result the region should shrink from, and indeed we recommend that the final Plan should include the specific target of 700 to 1,100 megawatts of demand response.

Concerns with Renewables Modeling and Need for Low Carbon Grid Study

Our biggest critique of the draft plan is its treatment of renewable resources, calling only for those renewables that are already planned in the region. The Climate Solutions vision of the next 20 years in the Northwest requires rapid decarbonization and we see no future that does not include significant additional development of cost-effective renewable resources. We believe that flaws in the model underlying the Plan lead to these disappointing results, flaws that we address below.

Given these limitations, we request that the description of the renewable results, in particular the 35% RPS scenario, be revised to make clear that individual utilities may find that renewable resources do meet their specific system needs in the coming decade. Further, individual states in the Northwest may conclude that increasing their Renewable Portfolio Standard laws is the best way to meet energy needs and reduce emissions as they transition away from coal plants.

This is an important distinction that the draft Plan currently does not make. The draft Plan made a similar distinction with respect to natural gas plants. The draft plan makes clear that individual utilities may decide that natural gas could be required for their system needs, despite the overall conclusion that the region does not need new natural gas plants. The draft Plan is, in fact, very clear on this point. We ask that the same philosophy be applied in the description of the renewables results and the 35% RPS scenario.

But language changes in the text are not sufficient on their own. We need a better study that properly recognizes the value of renewable resources. We believe this can best be achieved with a new study, rather than changes to the model that gave rise to the draft Plan. We therefore also request that the Council include an action item in the final Plan to help facilitate a Low Carbon Grid Study for Northwest. This would be a complementary study to the 7th Plan that shows how the region's grid can be run with the least amount of carbon emissions, meeting winter peak needs with a diverse portfolio of energy efficiency, renewable resources, demand response, and storage. California has already undertaken such a study with intriguing results (lowcarbongrid2030.org). The final Plan should include an action item to work with national modeling experts and other stakeholders to conduct a similar study in the Northwest.

Specific Concerns with Renewables Modeling

1. The Council's model projects significant potential energy shortfalls across the Northwest during a few peak demand hours on some exceptionally cold winter days that coincide with low river

flows and thus reduced hydropower capacity. This perceived shortfall underlies much of the plan's resource development modeling. Due to many embedded components, the Council's model does not adequately recognize renewable resources' contribution to meeting the potential winter peak demand. Even though the Council identifies renewables that cost less than natural gas, the model does not choose to build them.

2) The Council's modeling omits many coal resources, notably PacifiCorp's out-of-region coal generation that is paid for by many ratepayers in the region, particularly in Oregon. Thus the model is less relevant to how removing coal from the system mix will affect Oregon utilities and ratepayers.

3) The Council's modeling of a region-wide 35% RPS does not remove existing coal generation from the system and significantly overbuilds the electric system by adding new renewables in addition to running existing coal and gas. Of course, this results in unrealistically high costs. It also misses the emissions reductions to be gained by replacing retiring coal plants with a combination of resources that includes substantial amounts of clean energy, including new renewables.

In a more realistic renewables expansion scenario, 1) coal plants are retired on an orderly basis, and 2) cost-effective renewables are built to match system needs. This scenario would result in much lower costs and fewer carbon emissions.

4) Incomplete modeling of transmission systems: While the draft plan identifies Montana wind and Idaho solar as least-cost resources, the analysis constrains them due to perceived transmission constraints. The model does not consider additional realistic scenarios, such as the probability of Colstrip units 1-2 in Montana closing in the next few years, making the transmission that those plants now use to reach West Coast markets available to new renewables. Not modeling these scenarios drives the cost of renewable resources significantly higher.

5) Incomplete calculation of renewables' capacity value. The Council calculated a value adder for natural gas and energy efficiency to represent how they interact with the system to serve times of increased electricity need. The Council, however, made no such calculation for renewable resources. The Council plans to calculate these values for wind and solar resources, but did not complete this in time to influence the draft results. This puts these resources at a disadvantage compared to natural gas and energy efficiency resources.

6. High long-term solar costs: The Council's near-term solar pricing represents the market, but its long-term cost projections are far too conservative. We expect prices to fall much faster than the Draft 7th Plan's estimates.

7. Omission of some renewable resources and resources that help integrate renewables: The 7th Plan modeling does not include geothermal, storage, energy market improvements, Smart Grid applications, customer behavioral programs, and many other emerging technologies and approaches that will help our electric system become smarter, cleaner, and more effective at incorporating renewable energy.

Climate Change Impacts

We strongly encourage the Council to continue to improve its ability to model the physical impacts of climate change on the region's power system. Appendix M addresses how this has been done to date and how these impacts are accounted for in the Draft Plan. It concludes *"the physical effects of climate change have no effect on the resource acquisition or actions identified in this plan over the next six year period."* While we are supportive generally of the direction of the action plan, we are concerned about this conclusion given the limitations of the Regional Portfolio Model to address climate change impacts. We do recognize the Council staff is engaged in remedying this and we strongly support the decision to continue to research and participate in regional efforts to better understand potential climate change impacts on the power supply. The 7th Plan should be the last one that does not fully include a model that can adequately account for these impacts.

Thank you for your hard work and dedication in preparing the draft 7th Plan. We appreciate your thoughtful attention to our comments and look forward to continuing to work with you to prepare our region for 21st century energy challenges.

Sincerely,



Kristen Sheeran, Ph.D.
Oregon Director, Climate Solutions