

November 2, 2016

**Mr. Steven V. King
Executive Director and Secretary
Washington Utilities and Transportation Commission
1300 South Evergreen Park Drive
Olympia, WA 98504-7250**

Re: Comments of Climate Solutions on Docket UE-161024, Rulemaking for Integrated Resource Planning, WAC 480-100-238, WAC 480-90-238, WAC 480-107

Dear Mr. Steven King,

Climate Solutions appreciates the opportunity to provide scoping comments on docket UE-161024, the Rulemaking for Integrated Resource Planning (“IRP”). A Northwest-based clean energy nonprofit advocacy organization, Climate Solutions’ mission is to accelerate practical and profitable solutions to global warming by galvanizing leadership, growing investment, and bridging divides. The Northwest has emerged as a center of climate action, and Climate Solutions is at the center of the movement as a catalyst, advocate, and campaign hub. For almost 20 years, we have cultivated political leadership in the Northwest for the proposition that clean energy and broadly-shared economic prosperity go hand-in-hand, building a powerful constituency for local, regional, and national action on climate and clean energy.

Changes in the climate have already led to increased extreme and unusual weather in Washington that is likely to become more common. In 2015, we experienced record forest fires, including in the Olympic rainforest, precipitated by drought that challenges water security and our agricultural sector. Sea level is projected to continue rising, putting Washingtonians at increased risk of floods, and warmer seas are negatively impacting our salmon and the fishing sectors that depend on them.¹ Without a transition to cleaner sources of energy, the ecosystem and humans are likely to experience irreversible impacts. Utilities are a critical part of the solution, and it begins with an effective and robust IRP process.

In these comments, we outline recommendations for the Commission to provide additional guidance to utilities in the following areas: incorporating storage into the IRPs; updating the RFP rules; calculating the avoided cost and determining contract length; proactive planning for distributed resources; improved transparency in modeling and assumptions; a method for incorporating future risk; and the role of policy intent in resource decisions.

¹ Climate Impacts Group. (2015) Puget Sound State of Knowledge Report. <https://cig.uw.edu/resources/special-reports/ps-sok/>

The Commission should merge the investigation of energy storage technologies with this docket, and should expand storage to include the second life use of batteries from motor vehicles.

After review of the 2013 IRPs, the Commission directed the regulated utilities to improve storage modeling in future IRPs. While a good-faith effort has been made by some utilities, additional guidance is necessary from the Commission. The Commission issued a policy statement and opened an investigation on the challenges and opportunities for energy storage modeling for Washington utilities. Stakeholders submitted comments in September 2015, but have not received any further guidance from the Commission since that time. As public policy and customer preference shift utilities into greater penetrations of variable energy, Climate Solutions sees significant value in continuing the investigation of storage. Identifying the full value that storage resources can provide is an important component of our vision of a 100% clean energy future. At the August 25, 2015 workshop, Pacific Northwest National Laboratory presented its newly released Battery Storage Evaluation Tool (“BSET”) that has an ability to optimize a variety of stacked benefits simultaneously, rather than independent analysis of each potential benefit in isolation. Climate Solutions finds it appropriate to merge the open docket with the rulemaking and continue investigating the usefulness of models like BSET, provided that the investigation be prioritized as a first step in this rulemaking and be incorporated into the 2017 utility IRPs.

Transportation electrification has gained traction in recent years due to declining costs, pressure to improve air quality, and an emphasis on reducing greenhouse gas emissions in the transportation sector. After a battery no longer meets the requirements necessary to power an electric vehicle (“EV”), General Motors found that up to 80% of the battery capacity remains, creating an opportunity for deploying recycled batteries on the grid as a storage option.² Bloomberg Energy Finance projects that approximately 95 gigawatt-hours of lithium-ion batteries may come out of cars by 2025.³ Aggregating recycled batteries from EVs or other electric fleets could provide an additional cost-effective option for utility-scale or distributed storage, a potential that has been demonstrated through pilot projects from General Motors and Nissan.⁴ Rather than limiting the investigation to new batteries designed especially for utility-scale storage, we recommend that the Commission expand the investigation to include second-life batteries as a deployment option, especially as they provide the potential to acquire storage at reduced costs.

Additionally, utilities should consider broader electrification infrastructure as an additional type of storage resource. As technology improves, vehicle-to-grid (“V2G”) integration may reveal similar benefits to the grid through enabling demand-side management programs, providing

² GM Newsroom: <http://media.gm.com/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2015/jun/0616-volt-battery.htm>

³ <http://www.bloomberg.com/news/articles/2016-08-25/used-electric-car-batteries-will-get-second-life-as-home-storage>

⁴ http://www.nytimes.com/2015/06/17/business/gm-and-nissan-reusing-old-electric-car-batteries.html?_r=2

ancillary services, and an opportunity for load-shaping, much like other forms of distributed storage.⁵ If planned in a proactive way, transportation electrification can be a significant opportunity for reducing emissions in the transportation sector, while also enhancing grid reliability. While some of these applications may be several years away, there have already been successful demonstrations, including a Department of Defense project using hundreds of vehicles across four regions.⁶ We recommend that utilities proactively analyze opportunities for V2G integration that provide benefits to existing grid infrastructure. Updating the IRP process with these applications in mind ensures that the planning process is durable in light of changing interaction with the transportation sector.

The Commission should revise the Request for Proposal rules to ensure an effective, transparent, and competitive process.

Competitive procurement processes for generating resources are intended to select for the most valuable and cost-effective projects. When properly designed, the process should select between multiple projects that meet specified criteria, resulting in the lowest cost and risk to the utility and customers. A fair, transparent, and competitive process is critical to minimizing costs and maximizing the long-term benefits to customers. As the costs of renewable resources and other clean energy technologies continue to decline, clean energy resources are competitive with thermal resources, especially if accounting for the existing and future risks associated fossil generation.

Washington utilities have frequently requested and been granted waivers to the Request for Proposal (“RFP”) process. Continuous waiver of a rule compromises the effectiveness and objective that the process was designed to achieve. In order to protect customers and ensure that utilities are assessing an accurate depiction of the market, changes to Washington’s existing RFP rules are necessary. Climate Solutions suggests that the Commission explore alternative competitive procurement options that may prove to be more effective for utilities, resource developers, and other interested stakeholders.

Staff and utilities have disagreed in the past on whether a utility is permitted to rely on market purchases for capacity needs if such a need for capacity has been identified in the most recent IRP. While we acknowledge increased risk of reliance on market purchases for capacity - as well as significantly higher greenhouse gas emissions - there is a simultaneous risk of overbuilding resources for regional capacity needs that may be met through market purchases from existing resources. Additional analysis and stakeholder participation is necessary to better understand future risk and regional capacity needs, and we recommend that the Commission develop a process for further discussion moving forward.

⁵ Vermont Energy Investment Corporation Transportation Efficiency Group. (2014) Electric Vehicles as Grid Resources in ISO-NE: <https://www.veic.org/documents/default-source/resources/reports/evt-rd-electric-vehicles-grid-resource-final-report.pdf>

⁶ Gorguinpour, Camron. The DOD V2G Pilot Project Overview. <http://electricvehicle.ieee.org/files/2013/03/DoD-Plug-In-Electric-Vehicle-Program.pdf>

The Commission should provide additional guidance to utilities on calculating their avoided cost and determining the contract length for qualifying facilities under the Public Utility Regulatory Policies Act.

Enacted in 1978, the Public Utility Regulatory Policies Act (“PURPA”) has been one of the most effective national regulations to promote competition, energy conservation and renewable energy deployment, and remains one of the only national regulations that continues to promote clean energy resources. However, in order for the policy to be effective and achieve its intended purpose, state implementation rules regarding the avoided cost calculation and the contract length must be carefully constructed. In Washington, there is currently little guidance on the inputs into a utility’s avoided cost calculation, no limits on the frequency with which a utility can adjust the avoided cost rate, and no minimum contract length for qualifying facilities.

Customers in Washington continue to demand clean sources of energy and, increasingly, the state and federal government are implementing carbon regulations. Therefore, it is critical that the full range of locational and environmental benefits of renewable resources be accounted for in a utility’s avoided cost calculation. In Washington, avoided costs are defined as the “incremental costs to a utility of electric energy, electric capacity, or both, that the utility would generate itself or purchase from another source.”⁷ However, there are valuable benefits that distributed renewable resources bring that should be incorporated into a utility’s avoided cost calculation, including avoided line-losses, deferred capital expenditures, environmental benefits, and others.⁸ Additionally, in Puget Sound Energy’s current IRP process, they estimate the cost per ton of carbon emitted in Washington to be in the range of \$13-\$107.⁹ While this could have a noticeable economic impact on fossil generation, it should also be reflected in avoided cost rates if the marginal resource emits carbon. Climate Solutions recommends that the Commission investigate a broader range of benefits to be incorporated in utility cost calculations, and that it be done in a transparent manner in which stakeholders can provide input.

Utilities are required to update avoided costs at least once per year, but are permitted to update the calculation in a given year. The absence of a limit to avoided cost updates is problematic when fuel prices are continuously changing. For example, after a sudden decrease in natural gas prices, a utility can voluntarily update its avoided cost rate. However, a utility is not required to re-update avoided cost rates when natural gas prices increase. Adjustments to the avoided cost rate when gas prices decrease but not when they increase will distort the avoided cost rate that is used for qualifying facilities. The Commission should implement consistent guidelines for the frequency and conditions under which utilities can update their avoided costs.

⁷ WAC 480-107-007

⁸ Interstate Renewable Energy Council. (2014) Unlocking the Value of DG. <http://www.irecusa.org/publications/unlocking-dg-value-a-purpa-based-approach-to-promoting-dg-growth/>

⁹ Puget Sound Energy Integrated Resource Plan meeting handout, October 27, 2016. <https://pse.com/ABOUTPSE/ENERGYSUPPLY/Pages/Resource-Planning.aspx>

The majority of the costs of renewable resources are upfront capital costs, so contract length is an important factor in financing a new project. Utilities in Washington currently offer between a five and ten-year contract, depending on the conditions, which poses significant challenges to project development. No minimum requirement, paired with the short length of the contract utilities currently offer, inhibits new PURPA projects from being realized and prevents the law from meeting its objectives in Washington. Based on industry norms, a 20-year contract length facilitates project financing for renewable energy development and ensures greater certainty for the project developer and utility customers alike. Climate Solutions recommends that the Commission investigate potential benefits of revising the minimum contract length.

The Commission should encourage utilities to proactively plan for distributed generation in order to realize the associated benefits of strategic deployment.

Many states across the U.S. have implemented policies to promote distributed energy resources (“DER”), resulting in a significant increase in the number of resources interconnected to the utility distribution system. The state’s renewable energy cost recovery program has helped spur the solar market in Washington, now with approximately 70 MW of installed distributed solar capacity.¹⁰ Rooftop solar, energy efficiency, demand response measures, and EVs are all types of DERs that will have an impact the distribution system. Paired with declining costs and increasing customer demand for cleaner energy and cleaner air, penetration rates of distributed resources are projected to continue rising. Utilities can play an important role in ensuring that not only the environmental benefits maximized, but that deployment actually reduces costs and improves grid reliability and safety.

Successful integration of distributed resources is a key component of realizing the benefits that DERs can provide. Washington utilities have begun to incorporate changes in demand forecasts as a result of distributed solar and energy efficiency, but have placed less emphasis and analysis on proactively planning for strategic deployment. Identifying in advance the optimal locations in which distributed resources can yield benefits to the grid - such as avoided transmission and distribution costs, increased resiliency, avoided peaker plants, and reduced congestion – can deliver economic benefits to both participating and nonparticipating customers. Value of distributed generation studies have been completed in numerous states, often demonstrating the net benefits of distributed generation to all customers.¹¹ As distributed energy penetration continues to increase, even more benefits may be left unrealized without proactive planning from utilities.

EVs - as well as broader electrification of fleets and other large vehicles - are DERs that present a new opportunity for utility planning and operations. Transportation electrification is unique in

¹⁰ Solar Energy Industries Association. (2015) Solar Spotlight Washington.

¹¹ Solar Energy Industries Association: Solar Cost Benefit Studies. <http://www.seia.org/policy/distributed-solar/solar-cost-benefit-studies>

that it not only reduces greenhouse gas emissions in the transportation sector, but additionally may deliver benefits to the grid as a source of both load and generation, much like more traditional forms of storage. Through local city and county initiatives that outline roadmaps for achieving higher levels of penetration, recently passed state legislation in Washington to incentivize EVs, and an increasing focus on meeting the adopted state greenhouse gas goals, policymakers have expressed an intent to continue electrifying transportation. These existing and future policies and regulations, are certain to result in even greater adoption in the near future. In order to optimize the full range of potential benefits of transportation electrification, utility IRPs should plan for and incorporate various electrification penetration scenarios that reflect these initiatives and policy preferences, and project optimal locations of infrastructure under the various penetration rates. Vehicles of different classes are subject to different use patterns, but because of their mobility, capturing their value requires identifying their likely location throughout the day. Despite their mobility, studies indicate that cars are idle approximately 95% of the time, meaning that a few discreet strategies to properly site charging can yield significant grid management benefits.¹² To properly model distribution needs, utilities should incorporate travel and commute patterns to understand where load will locate throughout the day, as well as various scenarios based on the spatial availability of charging. Properly incorporating travel patterns into transportation electrification planning may be the difference between disruptive capacity issues and a more efficient use of existing capital investments that may defer unnecessary, and often highly polluting, spending on generation.¹³ Climate Solutions recommends that the Commission provide guidance to utilities on planning for a broad range of distributed energy resources in a proactive manner that seeks to optimize their potential value to customers.

The Commission should order utilities to continue filing smart grid reports.

Higher penetrations of renewable energy, an increasing deployment of distributed energy, and an electrified transportation system are all necessary to achieve a full transition to a clean energy economy, and the grid is central to the successful deployment of those resources. However, much of our existing grid infrastructure was built in the 1800s and lacks the flexibility and digital communications critical for an efficient management of the grid and optimal use of resources. Through increased automation and more efficient digital communication, utilities will be able to more efficiently utilize the existing grid infrastructure and potentially avoid some projected needs for additional power plants and substations. Because many smart grid technologies are still in their infancy, there is great value in requiring utilities to evaluate and plan for the deployment of new and emerging technologies, which could be included as part of the IRP.

¹² Royal Automobile Club Foundation. (2012) Spaced Out, Perspectives on Parking Policy.

http://www.racfoundation.org/assets/rac_foundation/content/downloadables/spaced_out-bates_leibling-jul12.pdf

¹³ Rocky Mountain Institute. Electric Vehicles as Distributed Energy Resources.

http://www.rmi.org/Content/Files/RMI_Electric_Vehicles_as_DERs_Final_V2.pdf

Climate Solutions recommends that the Commission order utilities to continue filing smart grid reports, but that the report be a chapter of the IRP instead of a separate filing.

The Commission should develop a process by which utilities can protect sensitive information, while maintaining the transparency emphasis of the current rules.

Transparency in utility IRPs is central to ensuring a good public process. However, utilities often obtain sensitive information that they are unwilling to make publicly available. Because IRP processes are the forum used for determining avoided cost rates, calculating the incremental costs for renewable energy resources, and as a reference for the Commission to make prudency determinations, it is essential that resource costs, planning assumptions, model runs, etc., are transparent, understandable, and accurately reflect the current and future markets. Resource cost assumptions have received high amounts of stakeholder pushback in utility IRPs, and the lack of transparency has been a key factor. Utilities should be required to consult with third party experts, for both thermal and alternative resources, throughout the development of resource cost assumptions for technologies. Additionally, as costs of renewable resources continue to decline, future cost projections and estimated learning curves should be used for future resource assumptions.

Current rules require public participation and consultations with commission staff, which are critical to creating an effective plan. IRPs should continue to emphasize the importance of public engagement. In order to ensure effective engagement, Climate Solutions recommends that the Commission clarify the treatment of confidential information in the IRPs and develop a process for improving the transparency of sensitive information, without violating proprietary agreements.

The Commission should provide guidance to utilities for incorporating future risk into utility IRPs.

In the current IRP rules, utilities are required to consider risks that are imposed on ratepayers.¹⁴ However, there is little guidance in the rules for identifying or calculating those risks – especially future risks – and what timeframe should be considered with regards to long-term costs and benefits related to the identified risks. Currently, Washington utilities plan for existing public policies, such as the Energy Independence Act, the emissions performance standard, and the Clean Air Rule, but there is a significant risk to utilities and their customers that increasingly stringent policies and regulations will be implemented in the future. Newly released research on fugitive methane emissions, public opposition to fracking, and events such as the Aliso Canyon natural gas leak put additional pressure on elected officials to impose new regulations. While there are certainly challenges to enumerating the exact level of risk, we are confident that the risk

¹⁴ WAC 480-100-238

is not zero. A framework for utilities to assess the risk of future regulations, as well as fuel price volatility, should be incorporated throughout the utility planning process. Climate Solutions recommends that a larger emphasis be placed on evaluating long-term risks and that the Commission provide guidance to utilities for how risk is to be incorporated into the IRP process.

Additionally, further guidance is needed on accounting for the cost and risk of carbon emissions and other environmental effects. In the 2013 IRP acknowledgement letter to the utilities, the Commission stated that a utility's base case must incorporate a price for carbon emissions. However, there is little guidance as to what the specific cost of carbon should be, the sources of information that are acceptable for arriving at an estimated cost, and whether or not it should be imposed on the generation alone versus a lifecycle analysis. According to the Congressional Research Service, if fugitive emission rates range between 2-4%, the lifecycle greenhouse gas emissions from natural gas may be more similar to that of coal generation.¹⁵ All carbon emissions (or CO₂ equivalent) contribute equally to climate change, regardless of whether the emissions occur during extraction, transport, or combustion, and should be reflected in the carbon emission assumptions of generating resources. Climate Solutions recommends that the Commission provide guidance to utilities on how to best reflect the cost of carbon in IRP scenarios and require that emissions from generating resources be considered on a lifecycle basis.

Legislative intent and public policy goals should play a more significant role in the utility planning process.

According to the current IRP rules, utilities are required to consider public policies regarding resource preference adopted by Washington state or the federal government. While the economic impact of existing policies is often considered in IRPs, the legislative intent and preference for clean energy resources is often overlooked. For example, the Washington State legislature found that Washington should continue its leadership on climate change policy and adopted greenhouse gas targets for the state.¹⁶ These greenhouse gas goals provide intent from our governing body that utilities in Washington should strive to reduce greenhouse gas emissions and procure resources with lower greenhouse gas emissions. Furthermore, the legislature found that Washington is vulnerable to climate change and that electric utilities should internalize the cost of emissions, thereby implementing an emissions performance standard.¹⁷ The intent of these policies, among other clean energy policies being implemented in Washington, should be reflected in the utility IRPs and ultimate resource acquisition decisions.

¹⁵ Lattanzio, Richard. (2015) Life-Cycle Greenhouse Gas Assessment of Coal and Natural Gas in the Power Sector. <http://nationalaglawcenter.org/wp-content/uploads/assets/crs/R44090.pdf>

¹⁶ RCW 70.235.005

¹⁷ RCW 80.80.005

The requirement to incorporate policy intent into the IRP process should also be extended to local governing bodies. Many cities and counties in Washington have recently adopted policies to limit greenhouse gas emissions and increase rates of transportation electrification. In November of last year, King County Council approved their 2015 Strategic Climate Action Plan, in which they committed to 100% greenhouse-gas neutral electricity in government operations by 2025.¹⁸ Drive Clean Seattle, a new initiative by Seattle Mayor Ed Murray, sets out a comprehensive plan for transportation electrification with goals of reducing greenhouse gas emissions from the city's fleet by 50% in 2025, including a goal of 30% of all registered vehicles in the city to be powered by an electric drive-train. King County Metro has been ordered by its County Council to draft a feasibility report and plan to achieve a zero emission fleet, which would cover over 1,400 buses and over 1,000 vanpool vehicles,¹⁹ and other transit agencies have expressed the intent to fully electrify their bus fleets, including Everett, Pierce, Chelan-Douglas²⁰, and Spokane.²¹ Significant efforts to transition to greenhouse-gas neutral electricity and to electrify transportation will have a major impact on utility resource decisions, and Climate Solutions recommends that local policies also play a greater role in utility IRPs.

Conclusion

Thank you again for the opportunity to provide scoping comments on UE-161024, Rulemaking for Integrated Resource Planning. The rules which guide the IRP process are critical to ensuring that the process is effective, transparent, and leads to a low-cost, low-risk resource portfolio. Climate Solutions looks forward to engaging with the Commission and other stakeholders throughout this process.

Sincerely,

/s/ Kelly Hall
Washington Policy Manager
Climate Solutions

/s/ Vladimir Gutman-Britten
Washington Director
Climate Solutions

¹⁸ http://your.kingcounty.gov/dnrc/climate/documents/2015_King_County_SCAP-Executive_Summary.pdf

¹⁹ Resolution 14633, 2016

²⁰ <https://www.transit.dot.gov/funding/grants/fiscal-year-2016-low-or-no-emission-low-no-bus-program-projects>

²¹ Spokane Transit. (2015) Alternate Fuel Evaluation for Spokane Transit Fixed Route Bus Fleet. Spokane Transit.