



November 23, 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-160799, Rulemaking to consider policy issues related to implementation of RCW 80.28.360, electric vehicle supply equipment

Dear Mr. Steven King,

Climate Solutions appreciates the opportunity to provide comments on docket UE-160799, rulemaking to consider policy issues related to electric vehicle supply equipment (“EVSE”). Climate Solutions is a clean energy nonprofit organization working 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 under 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.

Climate Solutions was very supportive of House Bill 1853 (“HB 1853”), the legislation responsible for catalyzing this rulemaking. The transportation sector is responsible for the largest share of Washington’s greenhouse gas emissions, making electrification a critical component of climate change mitigation. Furthermore, electrifying transportation poses a significant opportunity to mitigate other toxic pollutants, such as particulate matter and nitrous oxide, that have harmful effects on air and water quality in our state. This pollution is linked to higher incidence of asthma and lung disease, and given that this pollution is often coincident with other socioeconomic risk factors, the accumulated harm can be devastating.

We appreciate the efforts of the Legislature and Commission to investigate policy options that will reduce barriers to investments in the infrastructure necessary to expand penetration for transportation electrification. In these comments, we respond to the questions posed by the Commission in the Notice of Rulemaking and Opportunity to File Written Comments filed on November 2, 2016.

1. Policy statement versus rule making

Climate Solutions commends Avista for moving forward with a pilot program to expand EVSE in their territory. While the Commission allowed Avista's pilot program to proceed, many important policy questions remain unanswered and utilities are in need of guidance to implement RCW 80.28.360. In a rule making, the Commission undergoes a formal process to adopt a rule on how the statute is to be implemented, whereas a policy statement would provide a written description of the current approach of the Commission for implementation. Due to the nascent nature of the EVSE market and limited number of programs available to analyze best practices, we believe a policy statement in which the Commission provides guidance to regulated utilities is more appropriate at this time. Broad stakeholder discussion, review of pilot programs across the nation, and legal analysis are necessary prior to addressing these remaining policy considerations. Climate Solutions supports the Commission moving forward with a policy statement, and hopes to see the following issues considered for ensuring proper implementation.

Range of benefits to be considered

In the passage of HB 1853, the legislature emphasized the great opportunity for reducing emissions in the transportation sector by expediting the transition to cleaner sources of fuels, such as electricity.¹ Given the emphasis on reducing climate change pollution in the legislative intent, it is clear that societal benefits were at the forefront of the policy. In particular, the legislature identified air quality as a motivating factor in expanding utilities' role in electrification. Therefore, utilities should consider the full range of both economic and social benefits when evaluating the cost-effectiveness of EVSE investments. At a minimum, utilities should consider the following benefits: reduced greenhouse gas emissions from the transportation and electric sectors, valued at the social cost of carbon;² health benefits arising from a reduction of toxic air emissions, especially in disadvantaged communities with reduced air quality; economic benefits due to a more efficient use of the grid through electric vehicles ("EVs") as a distributed energy resource, such as demand response, flexible storage, and ancillary service capabilities; and the downward pressure on rates as a result of increased utility revenue. As penetration rates increase, new and existing technologies will continue to mature and the capabilities are likely to expand, making it important to consider that net benefits of transportation electrification are likely to grow over time.

¹ Substitute House Bill 1853, Chapter 220, Laws of 2015.

² The social cost of carbon should be determined by the latest International Panel on Climate Change report at the time of the utility quantification of benefits.

Incentive rate of return eligibility

An incentive rate of return is available for EVSE investments that are deployed for the benefit of ratepayers in a location where EVs are most likely to be parked for at least two hours.

Residential, workplace, and retail locations are among the most obvious locations in which cars will be parked for two hour intervals, but utilities should take a broad look at a variety of public and private locations in which cars may be parked for more than two hours - such as public parks and trailheads, places of worship, libraries, or community centers - that attracts a wide range of both utility and non-utility customers.

Rate of return on broader electrification

In HB 1853, there were also strong findings that utility investments in EVSE has the potential to provide significant benefits to the utility, its customers, and the public at-large. EVs represent only a small portion of the full range of benefits that can be realized from more comprehensive efforts to electrify transportation as whole, and a broader range of investments are eligible under the legislation. For example, grid and air quality benefits could be significantly higher when electrifying mass-transit, larger fleets, short haul vans and shuttles, light and heavy rail, freight, non-road industrial equipment, and other types of electrification that goes beyond passenger vehicles. Indeed, a number of transit agencies have already begun publicly exploring conversion of their fleets to full electric, including King County Metro, Pierce Transit, Spokane Transit and others. Each of these agencies is served by regulated utilities, and close partnership with utilities in this conversion is necessary to realize both the financial benefits for the agencies, as well as ensuring that the transition is optimized for grid and ratepayer benefits.

Level 3 DC Fast Chargers will meet the stated intentions of the legislation as more vehicles with larger batteries begin to dominate the EV market. Vehicles like the Chevrolet Bolt and the Tesla Model 3, both priced at a more affordable level than previous models, will feature larger batteries and greater range. To truly realize the benefits of electric utility investments in EVSE, investments must be intentional about addressing driver concerns, such as range anxiety, which may not be practically achieved without enabling public fast charge infrastructure in high-density, urban areas.

Competitive procurement process

As with other utility capital investments, competitive procurement processes for generating resources are intended to select for the most valuable and cost-effective projects. While investments in EVSE are uniquely distinct to generating resources, the importance of exploring a variety of business models and ownership structures still exists in order to determine what

models are best suited for preserving competition and customer choice. In order to prevent unnecessary barriers to deployment at this time, the Commission should maintain a high level of flexibility to allow for distinct frameworks to be analyzed, with an emphasis on customer engagement and maintaining customer choice throughout the procurement process.

2. Considerations for whether an investment is eligible for the incentive rate of return

Resource Cost Test

In many states, demand side resources often undergo a resource cost-effectiveness test. In order for Washington utilities to develop conservation potential and biennial conservation targets, they must undergo a total resource cost analysis that assesses the costs and benefits of conservation measures, regardless of to whom the benefits flow.³ The Total Resource Cost test examines efficiency from the viewpoint of a utility's entire service territory, comparing the benefits of avoided energy and capacity to the overall program costs. However, this test falls short of examining the full range of benefits to be realized with EVSE investments, which is an important component for evaluating the cost-effectiveness of utility expenditures in this space. Critically, such a limited test fails to meet the legislature's own intent in creating this program. A more appropriate test may be a resource cost test that captures social benefits, such as the Societal Cost Test, which expands the cost-benefit analysis to a societal perspective. This test includes a broader range of quantifiable benefits that result from a particular investment or program - such as avoided emissions, reduced air toxins, and other non-energy benefits - that are not often monetized by a utility.⁴

Electrification of the transportation sector also provides an opportunity for utilities to increase the overall efficiency of the grid and deliver economic benefit all utility customers, as well as reduced emissions from the electric sector through facilitating renewable energy integration. As coal plants are retired and Washington's electric grid continues to integrate increasing amounts of renewable energy, the benefits of integration become increasingly important and economic. Vehicle batteries, including large ones found in trucks and buses, can provide important load management opportunities for utilities. Coupled with strategies like demand response and fixed storage, these assets offer a low-cost way to shape load, provide ancillary services, and potentially delay or avoid expensive transmission, distribution and generation investments. When evaluating programs and investment, we recommend that the Commission consider benefits of transportation electrification to include a wide range of both economic and social benefits that may be more challenging to quantify.

³ WAC 194-37-070

⁴ Midwest Energy Efficiency Alliance, Definitions and Discussion of Benefit-Cost Tests: <http://www.mwalliance.org/node/3032>.

Demonstrating two-hour locational requirement

As utilities collect data from existing pilot programs and increase their understanding of transportation use, they can learn valuable information about the locations that will be best-suited for meeting the intent of HB 1853. At this point in time, utilities should make reasonable assumptions and projections as to which locations are likely to have vehicles parked for over two hours, as well as the number of cars projected to use the EVSE at each particular site, and justify to the Commission why certain locations were chosen. Considerations like commute patterns available from the Washington Department of Transportation, the concentration of business and commercial areas for workplace charging, residential areas where evening or overnight charging would be concentrated, and historic patterns of hybrid adoption will contribute to meaningful projections of demand for EVSE.

3. Interaction with other relevant statutes - RCW 80.28.360(4)

Once the asset has reached the end of its useful life, we do not find a conflict with RCW 80.28.260(4) to gift EVSE infrastructure. Even when fully depreciated, the asset may continue providing benefits to the site host and the utility, but the costs of utility maintenance may outweigh the benefits of maintaining ownership of the asset. Gifting of the infrastructure to the site host provides an opportunity to reduce utility costs while maintaining many of the benefits to the grid and increased revenue.

4. Alternative policy considerations

Increase low-income access

As mentioned, low-income communities are disproportionately affected by climate change impacts, as well as co-pollutants from sources that emit greenhouse gases. Often surrounded by freeways, other busy roads, or industrial facilities, the air contaminants emitted from polluting sources impose a significant threat to the public health of low-income communities. A Cumulative Health Impacts Analysis found that high air-pollution in the form of particulate matter and benzene, byproducts of fossil fuel combustion, in Seattle's South Park, Georgetown and Beacon Hill neighborhoods contributed to life expectancy that was 13 years shorter than less polluted areas⁵. When examining specific locations in which to install EVSE, utilities should prioritize low-income communities to ensure that they benefit from transportation electrification projects as much as – or more than – the rest of the customers. These communities will be

⁵ Gould L, Cummings BJ. Duwamish Valley Cumulative Health Impacts Analysis. Seattle, WA: Just Health Action and Duwamish River Cleanup Coalition/Technical Advisory Group. 2013. http://duwamishcleanup.org/wp-content/uploads/2013/03/CHIA_low_res.pdf

contributing to utility investments, and it is critical that at least the same level of benefits accrue to the communities already disproportionately impacted by emitting sources.

While ownership of a new EV for low-income households may be unrealistic at this time, the price of used EVs is falling fast and will continue to fall over time as adoption rates increase. Bloomberg New Energy Finance projects that EVs will become 35% of new light vehicle sales by 2040,⁶ and many used Nissan Leafs in Washington are already selling for under \$7,000, making zero-emission vehicles increasingly an option for a variety of income levels. For comparison, the average used car sold in the US in the third quarter of 2016 cost over \$19,000, an amount expected to continue escalating⁷. This means that even today, EVs are a potentially more economic choice for people at a variety of income levels. As access to EVs expands, utility investments in EVSE should facilitate ownership by various income levels and prioritize air quality benefits from these investments in low-income communities. Despite financial barriers for low-income households to purchase EVs at this time, ensuring that EVSE infrastructure facilitates use on highway corridors and other busy streets with heavy use in these neighborhoods still provides an opportunity to mitigate pollution impacts in these communities. Once EVs are affordable to low-income households, total savings may be substantial given that low-income households spend a disproportionate share of their earnings on fuel. Because low-income individuals and families are more likely to reside in multi-family dwellings with no access to parking or overnight charging, publicly available charging options, or workplace charging, is critical to ensure that low-income communities can genuinely benefit from electrification.

Other types of utility investments in EVSE pose a significant opportunity to benefit low-income communities, such as vehicles that serve these communities or operate close by. For example, charging infrastructure that benefits services such as vanpools, public housing authority services, Medicaid transportation, transit agencies, freight, and industrial equipment at facilities in low-income would greatly benefit air quality. Rideshare and car-share services are also often more accessible for individuals across the income spectrum, and electrification of these vehicles offer the opportunity for wider benefits. As utilities analyze the most appropriate locations to site EVSE in low-income areas, it is important to map out the demographics and engage in in-depth communication and outreach with selected communities. While we suggested the aforementioned recommendations to ensure benefits to low-income communities at this time, we strongly encourage the Commission and utilities to engage with the communities that are most affected to determine the best method of ensuring benefits are realized.

⁶ Bloomberg New Energy Finance. (2016), Electric Vehicles to be 35% of Global New Car Sales by 2040. <https://about.bnef.com/press-releases/electric-vehicles-to-be-35-of-global-new-car-sales-by-2040/>

⁷ <http://static.ed.edmunds-media.com/unversioned/img/car-news/data-center/2016/nov/used-car-report/used-car-report-q3.pdf>

Capital cost reductions

The production of new and emerging technologies generally shows an experience curve effect, meaning that as production increases, costs will continue to decline. While nascent technologies mature, policies and regulatory frameworks that reduce capital cost can reduce barriers to deployment, especially if net benefits are likely to be realized as adoption rates increase. Earlier this year, Seattle City Light released a technical assessment completed by E3 that investigated the value of transportation electrification to the utility and its customers. The results consistently showed net benefits in Seattle City Light's territory⁸, indicating that utility involvement in transportation electrification can be beneficial to all utility customers, while also providing significant environmental and health benefits to society as a whole. We acknowledge that regulated utilities in Washington have not necessarily conducted extensive analyses, but the study provides promising results that both economic and environmental benefits are likely to be realized with broad electrification efforts. However, even as the technology improves and costs continue to decline, capital expenses often pose significant barriers to large-scale deployment of larger fleet electrification.

One barrier that may be addressed by utilities without legislative changes are line extension allowances, determined individually by each utility. For broader electrification efforts, such as mass-transit, the limited line extension allowance can pose significant cost barriers. Utilities could provide a greater allowance for line extensions to reduce the upfront costs of electrification, and recover the lost revenue through an increase in revenue from the additional electrification. Seattle's E3 study, for example, found a net benefit to ratepayers of over \$120,000 per electric bus deployed. Utilities should be willing to spend closer to this amount to facilitate deployment in order to capture benefits to their customers. This analysis does not capture other potential grid benefits listed above, meaning that the total value may be even greater than measured by this report. While each utility has a unique line extension allowance, the Commission and utilities should consider amending the tariffs to facilitate electrification of large fleets.

Alternative Rate structures

To ensure that additional load created by transportation electrification benefits the grid, the utilities should also examine alternative rate designs that send a price signal for customers to charge at times that do not impose additional costs to the grid, such as time varying rates. Surplus generating capacity is often available during off-peak hours, and due to the flexible nature of EVs as a distributed resource, the opportunity for demand response, peak load-shifting,

⁸ Seattle City Light, Electric Vehicle Strategy 2016.

and storage capabilities may result in cost savings through avoided new generating resources and increased utilization of the grid. According to a recently released report by the Rocky Mountain Institute, San Diego Gas & Electric data shows that time of use rates have been effective at influencing residential behavior to charge during off-peak times.⁹

In addition to maximizing grid benefits, time varying rates can also effectively reduce operational costs to EV users and owners of larger electric fleets. By providing the option to charge at certain times for a lower cost, owners and operators of EVs with flexible charging schedules can maximize the net value of their assets by choosing to charge at the most cost-effective hours of the day. Under existing authority, the Commission may approve banded rates for non-residential service, and utilities should investigate a variety of rate structures to facilitate broad electrification.¹⁰

Other components of rate design, such as demand charges, can inhibit transportation electrification. Through the temporary elimination or reduction of demand charges, utilities can remove additional operational cost barriers, especially as larger electric fleets are deployed and that may be unable to charge sequentially. Paired with time varying rates, we believe that there is a great opportunity to encourage electrification through alternative rate designs specifically targeted at transportation electrification that can provide benefits to both the utility and operators of EVs and other electric fleets.

IRP Planning

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 local and state policies to determine the optimal locations of infrastructure as electrification expands. 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. The Oregon Commission is currently contemplating a planning process for electrification and California Commission already requires proactive planning for electrification in order to meet greenhouse gas goals established by the State. We recommend that the Commission encourage utilities to proactively plan for a variety of transportation electrification scenarios in order to optimize the benefits and reduce costs to the grid.

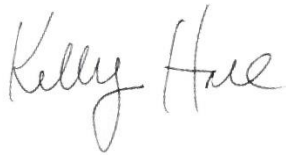
⁹ Rocky Mountain Institute, Electric Vehicles as Distributed Energy Resources.

¹⁰ RCW 80.28.075

5. Conclusion

Thank you again for the opportunity to provide comments on UE-160799, rulemaking for consider policy issues for EVSE. Climate Solutions greatly appreciates the efforts of the Legislature and Commission to examine policy issues and other frameworks to encourage EV adoption and other transportation electrification deployment at scale. We are excited by the significant opportunity posed by RCW 80.28.360 to realize greenhouse gas reductions, reduce costs to customers, and enhance air quality in the state. We look forward to further engagement as the Commission proceeds with this rule making.

Sincerely,

Handwritten signature of Kelly Hall in cursive script.

Kelly Hall
Washington Policy Manager
Climate Solutions

Handwritten signature of Vladimir Gutman-Britten in cursive script.

Vladimir Gutman-Britten
Washington Director
Climate Solutions