



November 23, 2016

Steven V. King
Executive Director and Secretary
Washington Utilities and Transportation Commission
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Greenlots' CR-101 comments on rulemaking to consider policy issues related to implementation of RCW 80.28.360, electric vehicle supply equipment Docket UE-160799

Greenlots appreciates the opportunity to comment on the Commission's rulemaking process in Docket UE-160799 regarding implementation of RCW 80.28.360.

Greenlots is a leading provider of grid-focused electric vehicle charging software and services. The Greenlots' network supports a significant percentage of the DC fast charging infrastructure in North America, including the West Coast Electric Highway in British Columbia. Greenlots' smart charging solutions are built around an open standards based focus on future-proofing while helping site hosts, utilities, and grid operators manage dynamic EV charging loads. By communicating with hardware through an open communication language, the Greenlots' software platform is able to be paired with a wide range of hardware options, with a focus on protecting the hardware investments made by our clients and maximizing site host choice.

Q. Whether a rule or policy statement is necessary to implement RCW 80.28.360

Greenlots does not believe that a rule or policy statement is necessary to implement RCW 80.28.360, however, we do believe there are benefits to issuing a rule or policy statement.

Certain other Commissions have employed a case by case review process after lifting a blanket ban on utility investment in electric vehicle (EV) infrastructure. This has afforded utilities the opportunity to propose different deployment concepts, and has given Commissions the opportunity to analyze a range of deployment concepts. This approach can provide a utility with leeway to design a program that best fits its service territory and thinking and allows it to maximize benefit to ratepayers in its territory – which may have marked differences from other service territories. The downside of this approach (as has been seen in California) is that the review process can be lengthy and uncertain – even when leveraging existing precedent.

It is our expectation that utilities will appreciate some further clarification of the Commission's implementation strategy such that they can actively plan within a more certain framework. We therefore encourage the Commission to consider providing a modest structure to guide utility filings while providing for the type of flexibility that will ensure the utilities are best able to serve their ratepayers.

Q. How the Commission will consider whether an investment is eligible for the incentive rate of return

Greenlots believes that RCW 80.28.360 Sections 3 and 4 are reasonably straightforward and unambiguous. What ambiguity exists allows the utilities and Commission leeway that can benefit the program design process and allow the utilities – and the Commission – to offer and support similar or differentiated deployment models with the confidence of knowing that the Legislature found that deployments in locations with likely vehicle dwell times over two hours result in real and tangible ratepayer benefits. While the measurable benefits may or may not rise to the level of existing ratepayer benefit review, the Legislature clearly defined these benefits flowing from a combination geographic/demographic deployment. Greenlots believes that in part this was intended to speed deployment and thereby EV adoption.

Q. Whether the Commission should consider or adopt other policies to improve access to electric vehicle supply equipment and allow a competitive market for charging services to develop.

Greenlots believes that the Commission should consider policies to improve access to electric vehicle supply equipment (EVSE) that would complement the existing language of RCW 80.28.360. The Commission may limit its adoption of such policies where its consideration may prove outside the scope of this implementation or may require consultation with other State entities. Areas that may be appropriate for consideration include driver interoperability or roaming, backend (between hardware and software network) interoperability, and EV equity. An area that the Commission should consider and adopt supporting policy if it does not read RCW 80.28.360 Section 3 to positively include it, is for utility investment in DC fast chargers.

If the Commission decides to consider driver roaming, it need not necessarily define a protocol or standard but could define characteristics that an implemented protocol or standard should include. While the Electric Vehicle Charging Open Access Act in California addresses driver roaming, the California Air Resources Board has yet to adopt a standard or protocol and as yet there has not been widespread adoption of any protocol or standard in the U.S. Efforts to push a standard through the National Equipment Manufacturers Association (NEMA) have as yet been unsuccessful. To date, deployed activities in the U.S. have centered around programs such as Nissan's No Charge to Charge and methodologies as simple as offering a credit card swipe. Widely adopted in Europe are the Open Clearing House Protocol (OCHP) and the Open Interchange Protocol (OICP/Hubject).

Likewise, the Commission need not define a protocol or standard for backend interoperability, but could define characteristics that an implemented protocol or standard should include. The most widely adopted protocol in this space is the Open Charge Point Protocol (OCPP). OCPP is widely adopted in Europe and is the most widely used protocol in the U.S. and Canada. A key aspect of OCPP is that it is both IP and royalty free. It is currently going through the

standardization process in the U.S. through OASIS (Organization for the Advancement of Structured Information Standards). OCPP version 1.6 offers a full compliancy toolkit and certification program. Commission action on backend interoperability can help facilitate greater site host choice of equipment while protecting ratepayer investment by providing utility choice in choosing software that best meets utility system needs. That software platform could then be switched between different providers and/or the utility could support multiple platforms.

The Commission should adopt policy to allow utility incentive rate of return on DC fast chargers if it does not already read RCW 80.28.360 Section 3 to provide this. DC fast chargers are few and far between in Washington (and nationwide) and their lack has proved a critical barrier to adoption of EVs. While data shows that a majority of charging activity currently occurs at home and at work (locations that may afford maximum potential grid benefits), this is in part because plug-in hybrid electric vehicles (PHEVs) can't currently use public DC fast chargers and a combination of a lack of said infrastructure, relatively short battery electric vehicle (BEV) driving ranges, and a lack of adoption of EVs by multi unit dwelling residents and drivers that don't have dedicated parking.

Beyond the obvious psychological benefit of reducing range anxiety, as battery sizes and electric ranges continue to increase (the 238 mile range \$30,000 Chevrolet Bolt BEV hits the streets shortly), and MUD residents adopt electric vehicles, there will be an increase of and increased need for "gas station model" fueling activity while grid integration opportunities continue to grow at more traditional long dwell time locations as well as these newer "gas station model" locations. Following the release of the Bolt is the market move to higher and higher power DC fast charging. Tesla is already in the range of 120-140kW. The current 50kW non-Tesla chargers will give way to 150kW and then 320kW and likely a few places in between. Heavy duty vehicle charging is already at or above these levels and represents an aspect of DC fast charging that the Commission should also adopt policy to allow utility incentive rate of return if the Commission does not already read RCW 80.28.360 Section 3 to provide this.

While there are many ways to approach growing EV equity, utility investment in electric bus (especially transit) infrastructure is one of the clearest. Others might include utility support for disadvantaged community electric vehicle car sharing or even providing incentives to low income ratepayers for leasing or buying a new or used electric vehicle. Other jurisdictions have approached this space in a basic but meaningful way by requiring or encouraging a percentage of overall EVSE deployments in disadvantaged communities.

Greenlots does not believe that the Commission needs to adopt policies to allow a competitive market for charging services (providing products and services to site hosts) to develop: it already exists, and is further enabled by utility and ratepayer investment in EV infrastructure. What does not clearly exist currently is a profitable market for providing charging services to drivers – hence the fundamental lack of infrastructure and limited private investment. Greenlots believes that

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utility cost recovery through ratebase opens the market by providing the utility a rate of return while simultaneously increasing the opportunity for EV charging service providers to sell products and services to the utility and beyond. Without the utility/ratepayer investment this opportunity would not exist.

Importantly, utility procurement is focused on features and functions and ensuring that investments don't result in stranded assets. Basing procurement on these elements presents opportunities for smaller innovative companies as well as larger market participants. Utility programs also by and large extend the same type of reliability to EV charging infrastructure that ratepayers expect for all other utility services. A badly undervalued aspect of the EV charging equipment and services market is the cost necessary for keeping equipment up and running and repairing or replacing it quickly if and when it encounters an issue. Utility program investment offers opportunity for electric vehicle service providers to benefit from a more accurately valued maintenance service that will not only improve reliability of EVSE within the utility program, but will likely extend beyond the bounds of the program to benefit EV charging equipment and service providers in the market as a whole – as well as the market as a whole. Beyond the very clear opportunity to sell products and services through a competitive process to the utility, the utility/ratepayer investment enables the market further by growing electric vehicle adoption and thereby scaling the market. It is only at a certain market scale where profitability for charging services outside of a utility program is more likely to be realized. In sum, utility investment in EV infrastructure fundamentally enables electric vehicle service providers and grows the market – which results in a virtuous cycle for electric vehicle charging equipment and service providers.

Thank you for your consideration and please do not hesitate to contact me should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Ashley', with a stylized flourish at the end.

Thomas Ashley
Senior Director, Government Affairs & Public Policy
Greenlots