



April 24, 2017

Via Electronic Submission

Oregon Public Utility Commission
Attention: Filing Center
PO Box 1088
Salem, OR 97308-1088

RE: Docket UM 1811 – In the Matter of Portland General Electric Company, Application for
Transportation Electrification Programs

Enclosed for electronic filing is the following:

Exhibit 100-Ashley

/s/ Thomas Ashley
Thomas Ashley
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Greenlots
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UM 1811
Witness Ashley

Before the Public Utility Commission of Oregon

Greenlots

Exhibit 100

Reply Testimony

1 **Q. Please state your name, occupation, and business address.**

2 A. My name is Thomas Ashley. I am the Senior Director, Government Affairs &
3 Public Policy for Greenlots. My business address is 925 N. La Brea Avenue 6th Floor,
4 Los Angeles, CA 90038.

5

6 **Q. What is the purpose of your testimony?**

7 A. The purpose of this testimony is to provide Greenlots' perspective on the value to
8 accelerating the market of Portland General Electric's Application for
9 Transportation Electrification Programs filed December 27, 2016 and revised March
10 15, 2017.

11

12 **Q. Why is accelerating the market, even with a limited pilot, so critical?**

13 Central to the Commission's consideration of PGE's application is the objective to
14 accelerate the market for transportation electrification. This objective underlies
15 PGE's application and program design, and is emerging as the central theme in the
16 development and evaluation of utility filings in this and other jurisdictions.

17

18 Recognizing that the business model for ownership and operation of charging
19 stations with the intent of developing a sustainable revenue model around charging
20 for charging has resulted in limited private investment, it is reasonable to conclude
21 that thus far, this has resulted in market failure. A primary element in this equation
22 is the level of utilization of charging infrastructure—a data point inherently affected
23 by the level of adoption of electric vehicles. Lower utilization equals a more

1 challenging business case, higher utilization equals a more attractive business case.
2 A useful analogy, at least as it regards DC fast charging, is one of load factor. System
3 efficiency (or in this case, business case viability) is only achieved at a load factor of
4 X%. In this case, while the load factor most critical to the charging station owner's
5 end calculus is the utilization of the charge station, the pool of vehicles in a given
6 geography that could use the charge station is the baseline.

7

8 Although often seen as a chicken v. egg situation, emerging industry experience
9 recognizes the need for a volume of infrastructure to be available in advance of the
10 purchase decisions of many drivers. As greater infrastructure in advance of
11 utilization decreases load factor—at least in the near term—at each charging
12 station, private investment to this end has been limited. This cycle of inadequate
13 investment in infrastructure to accelerate adoption, leading to inadequate adoption
14 of electric vehicles to attract investment in infrastructure, must be broken.

15 Although just a limited scale pilot, PGE has identified a strategy of breaking this
16 cycle in metro Portland by proposing to install, own, and operate a modest
17 backbone of visible, available, and reliable charging infrastructure to accelerate
18 electric vehicle adoption, and thereby move the market forward. In so doing, PGE
19 will signal (visibly) to prospective drivers that there is adequate (even if there isn't
20 in reality) visible charging infrastructure to positively inform their purchase/lease
21 decisions.

22

1 Accelerating adoption and breaking the infrastructure/adoption cycle referenced
2 above will help lead to greater opportunity for all market participants: from
3 prospective private owner/operators to service providers, installers, O&M
4 providers, etc. Intrinsicly, greater market opportunity will lead to increased
5 competition for owning and operating charging infrastructure, as well as between
6 software providers, hardware manufacturers, installers, etc.

7

8 Also essential to accelerating the market is repairing the perception of inadequate
9 reliability—locally stemming largely from the demise of Ecotality and the
10 proprietary communications of the Blink units and lack of uniformity of
11 maintenance agreements. In its application, PGE has taken steps to address this by
12 ensuring interoperable communications between software and hardware via the
13 Open Charge Point Protocol (OCPP), and installing multiple DC fast chargers. This
14 strategy will ensure that hardware assets will never be stranded due to software
15 challenges, and drivers will never be stranded due to one or even multiple chargers
16 in a given location requiring service. Additionally, as an extension of its distribution
17 system, PGE will strive to ensure reliability at a similar level to all other utility
18 owned grid assets.

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