



May 24, 2017

Via Electronic Submission

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

RE: Docket UM 1810 – PacifiCorp's Application for Transportation Electrification Programs

Enclosed for electronic filing is the following:

Exhibit 100-Ashley

/s/ Thomas Ashley
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UM 1810
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 Vice President, Policy for Greenlots. My
3 business address is 925 N. La Brea Avenue 6th Floor, Los Angeles, CA 90038.

4

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

6 A. The purpose of this testimony is to provide Greenlots' perspective on the value to
7 accelerating the market of PacifiCorp's Application for Transportation
8 Electrification Programs filed December 27, 2016 and revised April 12, 2017.

9

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

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

16

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

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

6

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

14

15 **Q. Why will PacifiCorp's approach effectuate results?**

16 PacifiCorp has identified a strategy intended to break this cycle by first better
17 understanding it and the barriers to private investment in charging infrastructure,
18 and then designing a broader program for investment in three years time.
19 Concurrently PacifiCorp proposes to install, own, and operate a modest backbone of
20 visible, available, and reliable charging infrastructure. In combination with the
21 pilot proposed by Portland General Electric, there will be a clear signal to drivers in
22 the greater Portland region that there will be a baseline of infrastructure to drive
23 their vehicle adoption decisions.

1

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

8

9 Also essential to accelerating the market is repairing the perception of inadequate
10 reliability—locally stemming largely from the demise of Ecotality and the
11 proprietary communications of the Blink units and lack of uniformity of
12 maintenance agreements. In its application, PacifiCorp has taken steps to address
13 this by installing multiple DC fast chargers with forward looking plans to
14 incorporate future charging technology and power levels. The expectation is that
15 PacifiCorp will strive to ensure reliability at a similar level to all other utility owned
16 grid assets.

17

18 PacifiCorp has also made a strong commitment to education and outreach. Utilities
19 are uniquely situated to deliver materials and reach all ratepayers through
20 traditional means (bill stuffers, emails, website, social media), but also through on
21 the ground events and coordination with other key stakeholders engaged in this
22 area, including automakers, Forth, etc. Although lack of infrastructure is a
23 fundamental barrier to growing adoption among drivers familiar with electric

1 vehicles, lack of awareness of and familiarity with electric vehicles remains the
2 primary barrier to adoption generally. Engagement by utilities in growing
3 awareness is a necessary and complementary strategy to any infrastructure
4 deployment.

5

6 In sum, PacifiCorp's suite of pilot concepts represent a measured, robust approach
7 built upon and girded by principles incorporating strong commitments to grid
8 integration, equity, innovation, and creative and competitive ideas and technology.

9 We believe this approach embodies the legislative directive to accelerate the market
10 for transportation electrification—both vehicles and infrastructure.