

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**Docket No. UM 2056**

In the matter of

PACIFICORP,

DRAFT 2023 OREGON TRANSPORTATION  
ELECTRIFICATION PLAN

Comments of

Weave Grid, Inc.

**I. Introduction**

Weave Grid, Inc. (“WeaveGrid”) respectfully submits these comments on the Draft 2023 Oregon Transportation Electrification Plan (“TEP”) filed by PacifiCorp d/b/a Pacific Power (“Pacific Power” or “the utility”) to the Oregon Public Utility Commission (“Commission” or “OPUC”) on February 14, 2023.

WeaveGrid is a software company that helps utilities support increased adoption of electric vehicles (“EVs”) through greater understanding of customer charging behaviors, managed charging programs, and distribution-level optimization. WeaveGrid’s technology leverages utility and charging data, including the embedded vehicle telematics—data, controls, and communication systems—and the charging equipment to transform unpredictable and disaggregated EV charging loads into a cohesive network of controllable grid resources. We also support utilities in engaging their EV customers with personalized messages, insights, and notifications via the web, email, and text message. Our approach enables broad participation in utility programs, including vehicle-grid integration programs, while helping reduce the costs to serve EV loads. WeaveGrid is a market leader in providing these solutions, which we are deploying in utility programs across the United States, including in Oregon with Portland General Electric’s Residential EV Smart Charging Pilot and Test Bed EV Charging Study.

## II. Comments

WeaveGrid applauds Pacific Power for putting forth a comprehensive and innovative Transportation Electrification Plan for calendar years 2023 through 2025.

Transportation electrification plans are useful for utilities to plan the wide range of ways they help enable the transition to electric mobility and connect to other planning areas and practices, such as distribution system planning. TEPs address efforts across all classes of customers – residential, commercial, industrial, and mixed-use. Furthermore, we appreciate how these plans empower the utility to focus on wide range of transportation electrification considerations, including education and awareness, equity and access, infrastructure readiness and availability, and preparing the grid for high levels of EV adoption. Importantly, Pacific Power’s TEP can help Oregon meet its ambitious goal of 100% of passenger vehicle sales to be zero-emission by 2035.<sup>1</sup>

In particular, WeaveGrid appreciates the proposed Residential Managed Charging Pilot Program. Managed charging helps enable higher adoption of electric vehicles and reduce impacts of EV charging on the grid. In short, it delivers customer and grid benefits and is a keystone to transportation electrification plans. WeaveGrid appreciates many aspects of the proposed Residential Managed Charging Pilot Program and several of these details are incorporated best practices, including:

- **Targeting a significant portion of the total EV population for participation.** The pilot program description states targeting up to 1,500 participants, this would represent approximately 15% of EV drivers within Pacific Power’s service territory. Other utilities have similar goals and targets for their managed charging programs. For example, in the New York Public Service Commission's July 14, 2022 Order approving each utility's proposed managed charging programs, it envisioned two participation scenarios - a low participation scenario where only 5% of EV drivers participate, and a high participation scenario where 25% of EV drivers participate.<sup>2</sup>
- **Allowing customer participation through vehicle telematics or networked chargers.** Pacific Power’s proposal enrolls customers through qualifying vehicles and chargers. We support this program design. In Smart Electric Power Alliance’s

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<sup>1</sup> State of Oregon Department of Environmental Quality, Oregon Environmental Quality Commission adopts Advanced Clean Car II Rule, <https://deqblog.com/2023/01/17/oregon-environmental-quality-commission-adopts-advanced-clean-car-ii-rule/>.

<sup>2</sup> Case 18-E-0138 - Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure, Order Approving Managed Charging Programs with Modifications at 44-45 (July 14, 2022).

(SEPA) *The State of Managed Charging in 2021* Report, the organization identified allowing both vehicle telematics and networked (i.e., “smart”) chargers as a key recommendation to “maximize customer eligibility and enrollment figures, delivering a larger amount of [megawatts] for the utility to control.”<sup>3</sup> In our view, being technology agnostic increases access to the program and enables customers to have more choices. For instance, a customer with a non-networked charger can participate if they have a qualifying vehicle and can participate through the vehicle’s telematics. Similarly, a customer whose vehicle cannot participate may be able to participate in Pacific Power’s program with a qualifying networked charger.

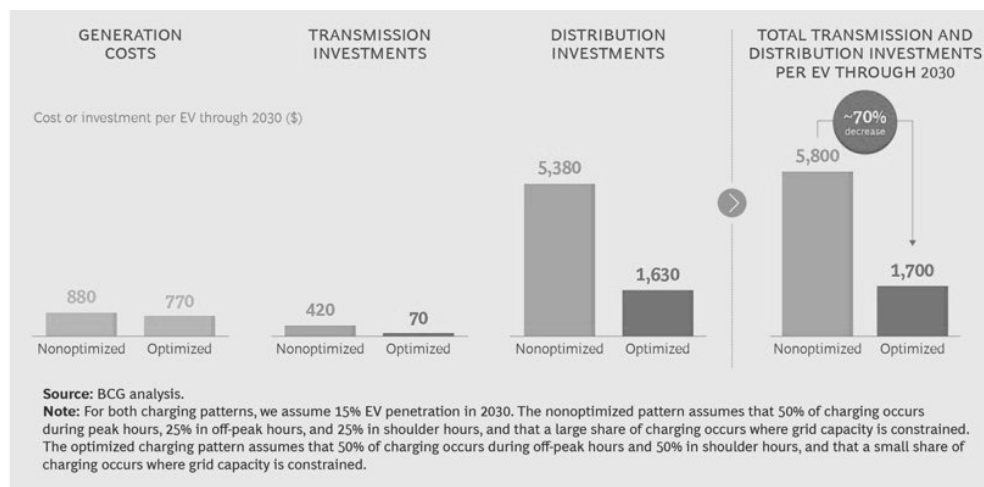
- **Providing upfront and ongoing incentives.** Incentive structures play a large role in determining customer engagement outcomes. Upfront incentives attract EV drivers to a program whereas ongoing incentives help retain customers and reduce program opt-outs. Both are important for maximizing customer participation, and, ultimately, maximizing customer participation delivers more load control. Multiple case studies in SEPA’s recent *Managed Charging Programs: Maximizing Customer Satisfaction and Grid Benefits* Report cite both of these incentive types being critical for achieving heightened customer engagement.<sup>4</sup> In our experience, the combination of incentives has helped encourage customers to enroll and continue to participate in the programs over time.
- **Leveraging data to support marketing efforts as an early step in pilot program implementation.** Pacific Power plans to leverage customer and energy data to identify EV drivers in the service territory. EV detection helps the utility understand where EVs are within its service territory. This can be very helpful from a marketing perspective whereby the utility can be more targeted and efficient in its outreach to augment participation. Also, EV detection provides a clearer look at where and how EVs are distributed locationally. Greater insight into the location of EV load can help with distribution system planning and proactive grid investments in areas of grid constraint.

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<sup>3</sup> SEPA, *The State of Managed Charging in 2021*, page 45, <https://sepapower.org/resource/the-state-of-managed-charging-in-2021/>.

<sup>4</sup> SEPA, *Managed Charging Programs: Maximizing Customer Satisfaction and Grid Benefits*, pages 13 and 15, <https://sepapower.org/resource/managed-charging-programs-maximizing-customer-satisfaction-and-grid-benefits/>.

- **Identifying important learning objectives to test and evaluate.** We appreciate that Pacific Power has detailed the various learning objectives for this pilot program.<sup>5</sup> The purpose of pilots is to capture lessons learned. We recommend flexibility for the utility to be able to incorporate these lessons learned over the program years and adapt properly. One particular learning objective that we think is important is “Investigate if managing EV load has impacts on distribution system planning and expenses.”<sup>6</sup> WeaveGrid agrees that this is a meaningful topic to investigate in the context of this pilot and looks forward to the forthcoming evaluations. We think that distribution grid component of managed charging can be valuable, creating a more favorable cost-benefit analysis, and studies corroborate this idea.



**Figure 1.** Boston Consulting Group report analysis highlighting the value of managed charging across generation costs, transmission investments, and distribution investments.<sup>7</sup>

Overall, WeaveGrid is impressed by Pacific Power’s proposed Residential Managed Charging Pilot Program. The proposed pilot program is appropriately scaled, provides customer choice and expanded customer eligibility, properly incentivizes for maximized customer participation, leverages technology to increase marketing and planning effectiveness, and is designed to produce robust learnings for future program design evolution. We recommend that the Commission approve the pilot program.

<sup>5</sup> PacifiCorp, Oregon Transportation Electrification Plan: Residential Managed Charging Draft Pilot Program Application, Page 25, <https://edocs.puc.state.or.us/efdocs/HAQ/um2056haq174652.pdf>.

<sup>6</sup> *Idib.*, Page 25.

<sup>7</sup> Boston Consulting Group, The Costs of Revving Up the Grid for Electric Vehicles, <https://www.bcg.com/publications/2019/costs-revving-up-the-grid-for-electric-vehicles>.

### **III. Conclusion**

WeaveGrid appreciates the opportunity to submit these comments recommending approval of Pacific Power's proposed Residential Managed Charging Pilot Program. We thank the Commission for consideration of these comments and look forward to continued engagement.

Dated: April 7, 2023

Respectfully submitted,

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