



Portland General Electric Company
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portlandgeneral.com

June 12, 2023

Via Electronic Filing

Public Utility Commission of Oregon
Attention: Filing Center
P.O. Box 1088
Salem, OR 97308-1088

Re: UM 2033 – In the Matter of Portland General Electric Company, 2019 Transportation
Electrification Plan

Dear Filing Center:

Enclosed for filing in the above-mentioned docket is Portland General Electric Company's (PGE) OPUC Workshop Presentation for June 15, 2023 for PGE Transportation Electrification Draft Plan.

Thank you in advance for your assistance.

Sincerely,

Danielle McCain

Danielle McCain
Office Administrator

Enclosure

OPUC Workshop PGE Transportation Electrification Draft Plan

June 15, 2023



Agenda

Transportation Electrification Plan: Overview

Equity Lens

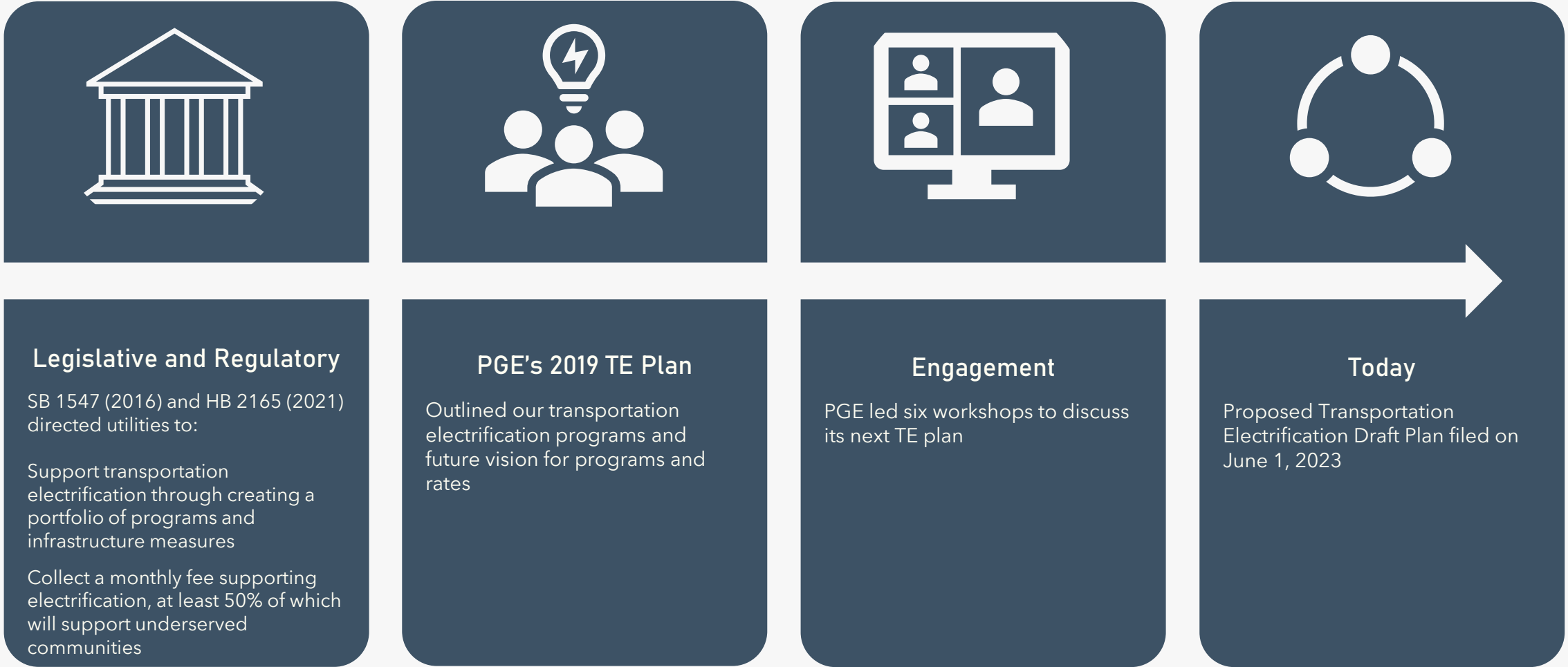
Programs Portfolio



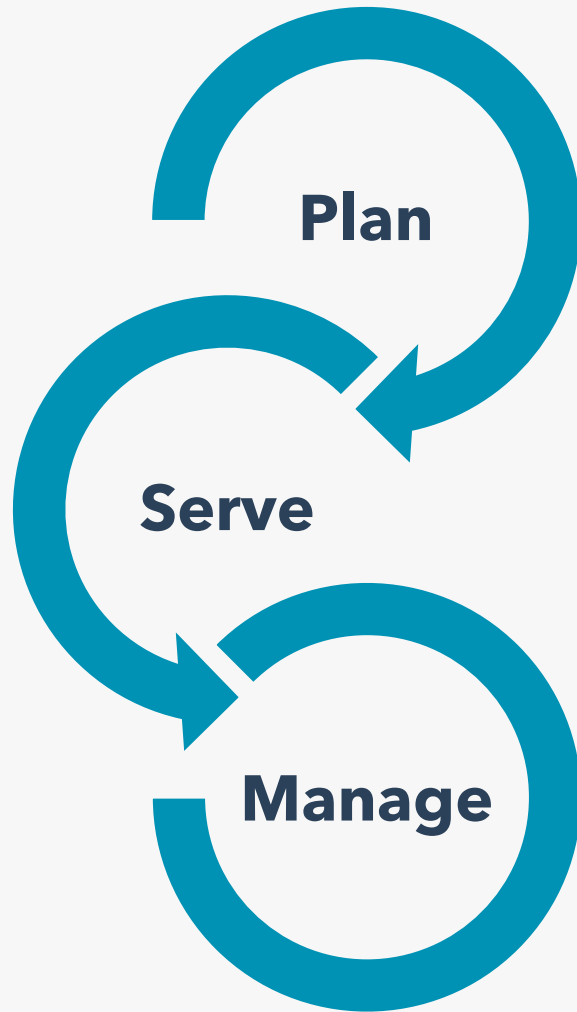
Transportation Electrification Plan Overview

Elyssia Lawrence, PGE

PGE's Transportation Electrification Journey



Transportation Electrification Portfolio Goals

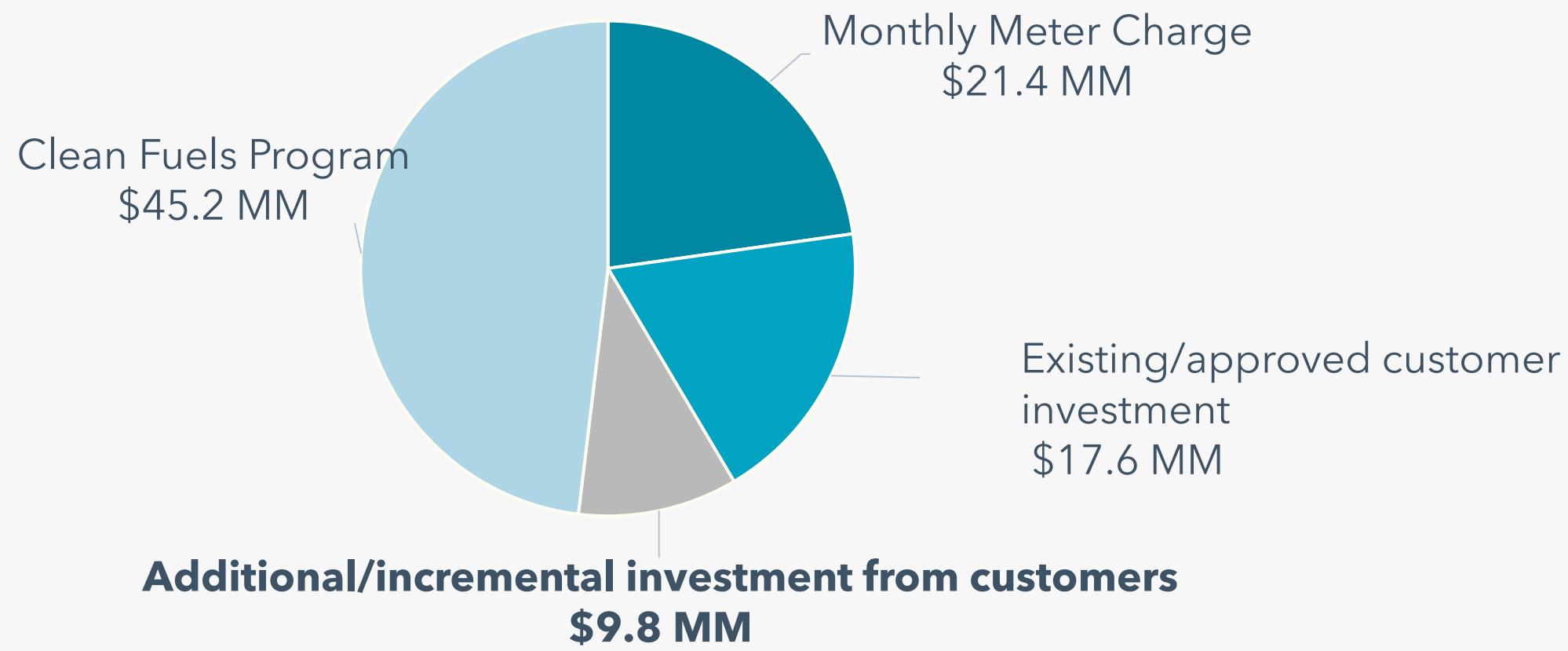


- Extend forecasting and influence where this load arrives on the electric system
- Coordinate with state, local and regional planning
- Control costs to build grid infrastructure to serve this load
- 58% of TE Plan investment to address the needs of underserved communities, with programs that equitably assist in the shift to electric vehicles
- Enable and scale managed charging in a “grid-friendly and customer centric” manner

Transportation Electrification | Funding



Our investments **utilize existing funding where possible** to minimize ratepayer investment, with an overall **0.15 percent ratepayer impact** across all rate classes



Transportation Electrification | Equity



PGE is committed to **equitably serving this load**

58% of the \$94 MM investments assigned to address the needs of underserved communities, with programs that equitably assist in the shift to electric vehicles

Business and Multi-family
150 make-ready ports in underserved communities

Municipalities
180 pole-mounted L2 ports and 60 curbside make-ready L2 ports

Clean Fuels Program
Long-term underserved community engagement
To-date funded micromobility, tractors, vehicles, 19 electric school buses

Residential
Panel upgrades and charger rebates have a higher incentive for income qualified individuals



Equity efforts include those that benefit underserved communities

- targeted outreach
- incentives
- grants

Transportation Electrification | Flexibility

PGE has requested flexibility due to:

- A transportation electrification market which continues to change quickly
- A global economy still adjusting to post-pandemic norms
- Impacts of Federal policies such as the Infrastructure Investment and Jobs Act (IIJA), Inflation Reduction Act (IRA), and also expected EPA rulemaking
- Changes to Oregon EV rebates

Given the rapid pace of change in this market, if needed, PGE will return to the Commission and stakeholders mid-cycle for any necessary adjustments.

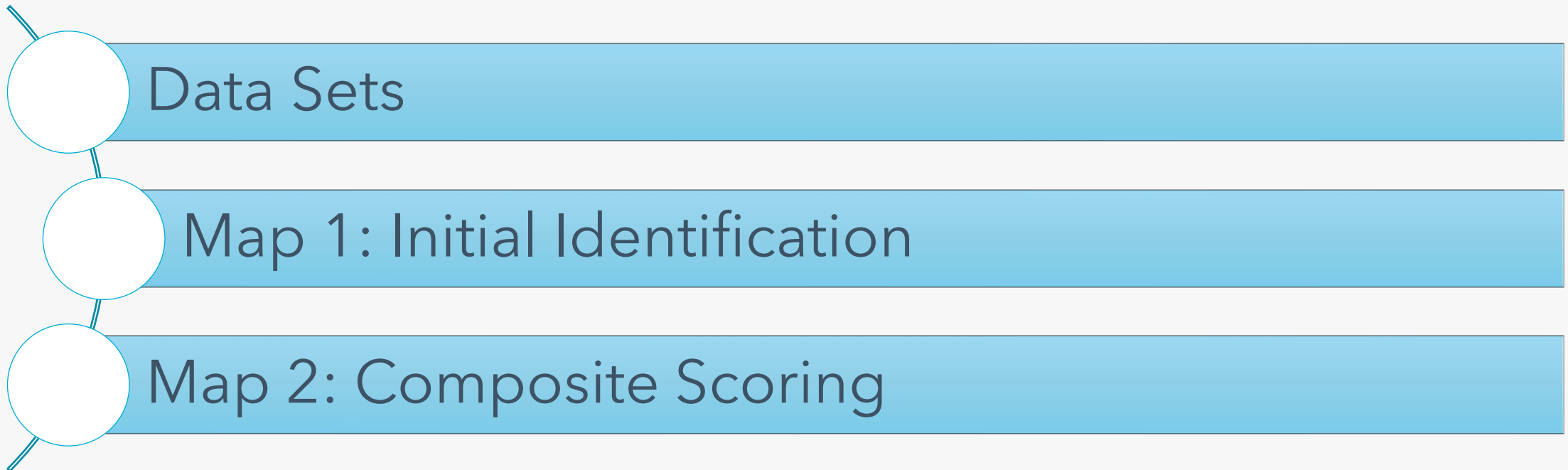


Equity Lens - Underserved Communities Maps

Eva DeCesaro, PGE



Informing Portfolio Programs Investments with an Equity Lens



Underserved Communities

HB 2165 Requirements and Definition

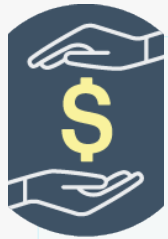


- HB 2165* requires that half the Monthly Meter Charge support transportation electrification in the following underserved communities:
 - Residents of rental or multi-family housing
 - Communities of color
 - Communities experiencing lower incomes
 - Tribal, rural, frontier, and coastal communities
 - Other communities harmed by environmental and health hazards

- With a focus on:
 - Those communities with a low density of public charging stations
 - Electric school and transit buses to benefit those communities

*<https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/HB2165/Enrolled>

Data Sets Used for Mapping



Federal Poverty Level
below 400%



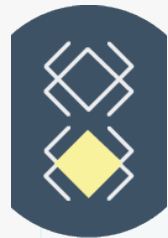
BIPOC



Renters



Single Family or Multi-
family Dwelling Types



Tribal Area

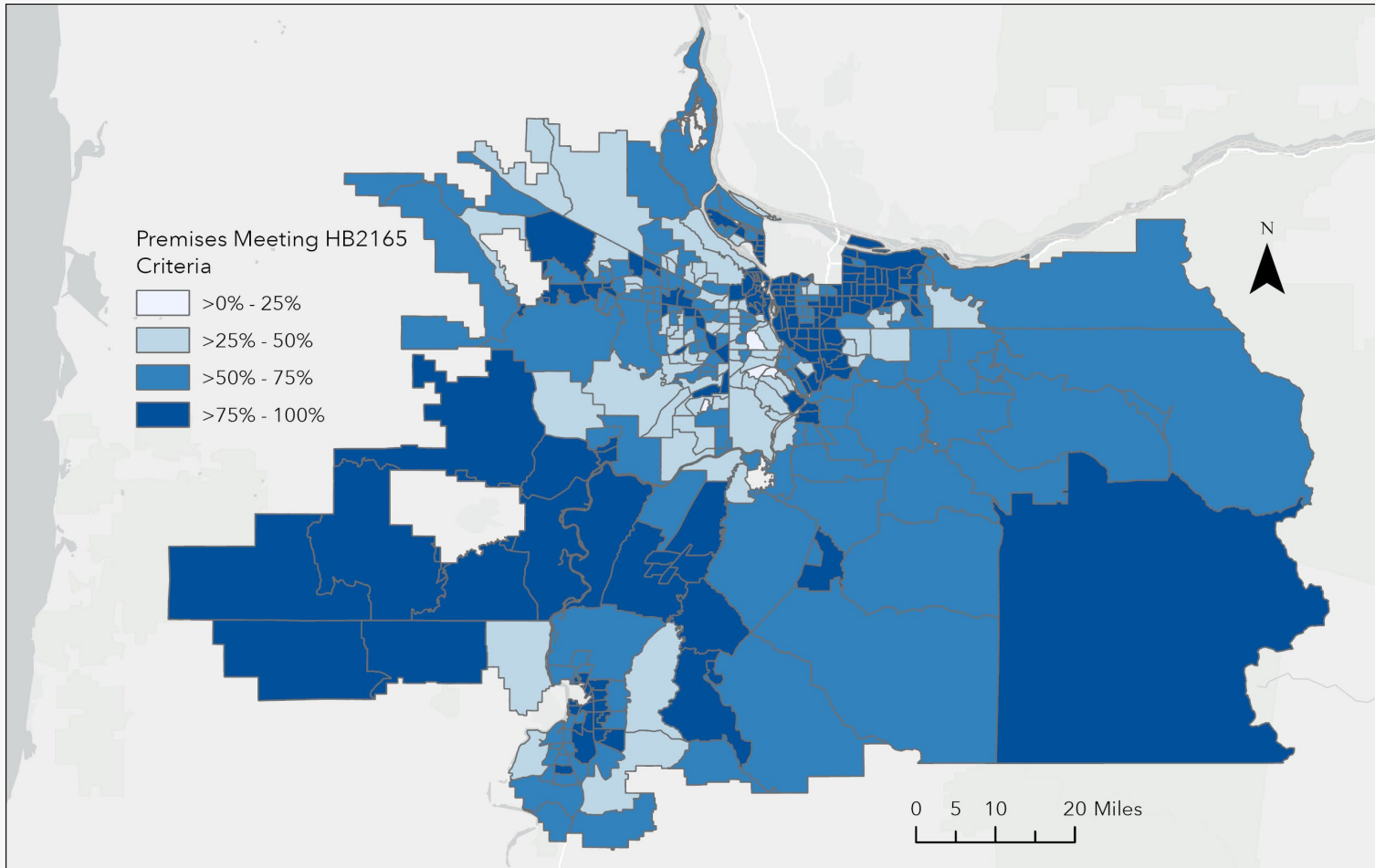


Rural-Urban
Commuting Area
(RUCA)



Community Targeting
Assessment
Environmental Index

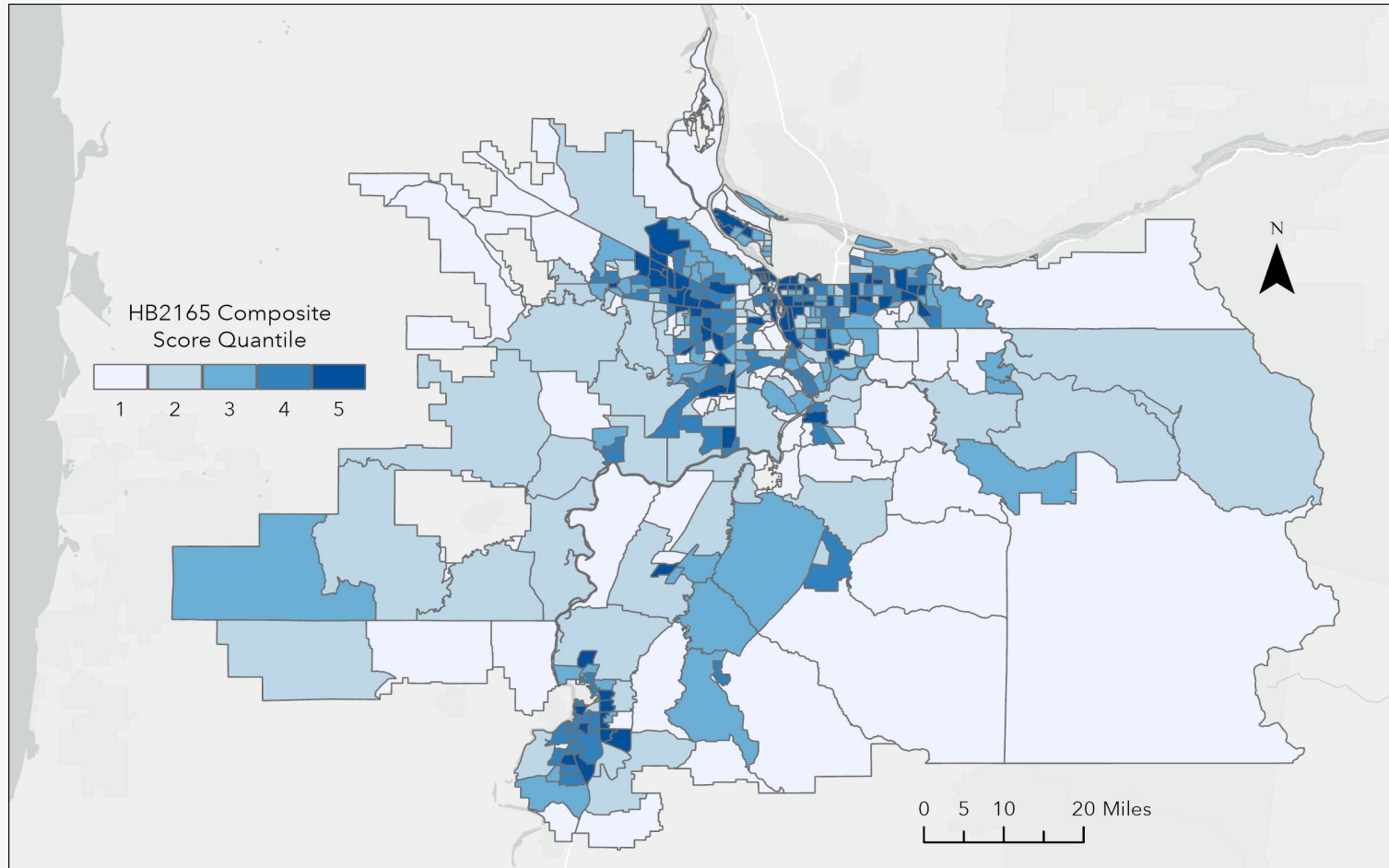
Map 1: HB 2165 Underserved Communities within PGE's Service Area



Percentage of premise IDs per census tract meeting at least one of HB 2165's definitions of underserved communities

- **Darker blue:** represent a higher proportion of underserved communities
- **Lighter blue:** represent a lower proportion of underserved communities

Map 2: HB 2165 Composite Scoring of Underserved Communities within PGE's Service Area



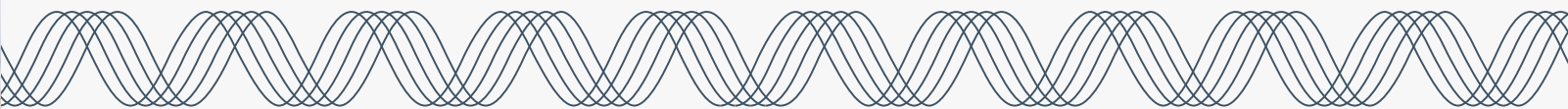
Composite HB 2165 score in quantile distribution

- The seven indices were selected for each HB 2165 criterion. A straight sum of scores across the indices was taken to create a single composite scoring variable
- The sum produced an equally weighted value based on distribution for each index at census tract level
- **Lighter Blue:** Lower scoring
- **Darker Blue:** Higher scoring



Transportation Electrification Program Portfolio

Elyssia Lawrence, PGE



Cost Benefit Portfolio Analysis

Our investments **utilize existing funding where possible** to minimize ratepayer investment, with an overall **0.15 percent ratepayer impact** across all rate classes

Rate Impact Measure Test Primary Cost and Benefit Input Variables for TE Programs

Costs	Benefits
<ul style="list-style-type: none"> • Program delivery costs (admin, outreach and education, incentives, EM&V) • Utility O&M on investments • PGE capital carrying costs • Increased energy supply costs (including energy and capacity) 	<ul style="list-style-type: none"> • Revenue gained from increased sales • Revenue gained from Clean Fuels Credits (where applicable) related to PGE charger ownership or allocated through PGE's Clean Fuels Program

TE Portfolio (2023-2025)



TE Activities	Incremental Spend (\$MM)	Total Spend (\$MM)
Public Charging - Electric Ave and Municipal Charging Collaboration	\$6.3	\$11.6
Residential Smart Charging Pilot	\$4.1	\$6.5
Business EV Charging Rebates		\$2.8
Business & Multi-Family Make-Ready Solutions	(see Clean Fuels)	\$2.6
Heavy Duty Charging Pilot		\$3.6
EV Ready Affordable Housing Grants		\$1.0
Fleet Partner Pilot	\$9.5	\$18.1
Portfolio Support	\$0.9	\$2.7
Customer Rate/MMC Subtotal	\$20.7	\$48.8
Grants/Infrastructure		\$30.3
Business & Multi-Family Make-Ready Solutions	\$4.6	\$4.6
Education and Outreach		\$4.5
Emerging Technology		\$2.3
Admin		\$3.6
Clean Fuels Program Current + Forecast		\$45.2
Total TE Program Spend + CFP Forecast	\$54.1	\$94.0

CFP forecast for 2024-2025

Strategy to move from a programs-based approach to a long-term rates and tariffs structure.

PLAN



Coordination and Partnership

Coordinate investment to leverage federal funding. Seek private and public partnership to lessen cost and risk



Utility Infrastructure Role

Equitably provide the necessary service infrastructure to safely and reliably deliver transportation electrification



Planning

Update forecasting capability to provide more granular insight into load, location, and impact by feeder and customer type

SERVE



Coordinate Load Siting

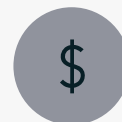
Work with customers to plan, coordinate, and site larger loads (e.g., medium-to-heavy duty and fleets) at feeders and substations with headroom



Meet the Needs of Underserved Communities

Fund activity designed to accelerate adoption and equitable access in underserved communities

MANAGE






Structure TE Rates/Tariff







Develop rates that incent charging behavior that supports grid health, coordinates load siting, and meets state and commission policy













Manage TE Load

Assure smart and managed charging. Furthers PGE's flex load investment, operationalizes within Virtual Power Plan (VPP)

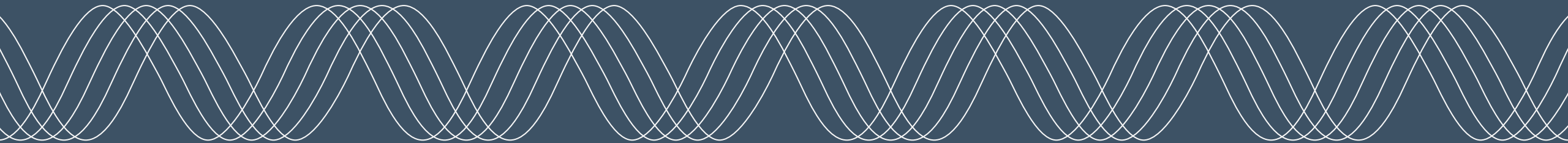
Activity	Residential EV Smart Charge Pilot			
Strategic Alignment	 Structure TE Rates/Tariff  Manage TE Load  Equity			
Description	<ul style="list-style-type: none"> \$300 rebate towards purchase and installation of qualified L2 at-home charger (\$1,000 income-qualified rebate) \$50 rebate for Tesla drivers with non-qualified chargers 			
What has changed	<ul style="list-style-type: none"> Pilot extended; enrollment cap expanded Charger incentive decreased from \$500 to \$300 Change of funding source in 2024: from deferral funded to MMC funded as of 2024 Creation of future managed charging program 			
Load management	<ul style="list-style-type: none"> \$25 seasonal incentive (six-month season; Oct-Mar, Apr-Sep) for allowing PGE to pause EV charging during peak loads 			
Target market	<ul style="list-style-type: none"> Residential EV drivers residing in single family homes 			
Funding (\$MM)		Previously approved	Requested with 2023 TE Plan	Total
	Total	\$2.4 MM	\$4.1 MM	\$6.5 MM
	2022 MMC funds panel upgrade rebates and trade ally network development			

Activity	Public Charging - Electric Avenue & Municipal Charging Collaboration			
Strategic Alignment	 Coordination/ Partnership  Equity  Structure TE Rates/Tariff  Coordinate Load Siting  Manage TE Load  Utility Infrastructure Role			
Description	<ul style="list-style-type: none"> Collaborate with municipalities on equitable access to public L2 charging infrastructure in underserved communities Deploy chargers more cost-efficiently via existing utility right-of-way assets. Informs potential private partnerships 			
What has changed	<ul style="list-style-type: none"> Refocus from broader ownership of L2 infrastructure to helping provide infrastructure in underserved communities Remove DCFC ports 			
Load management	<ul style="list-style-type: none"> Schedule 50 rate, with time of use and +\$0.19/ kWh at peak usage (3 to 8 PM weekdays, like TOD rate) 			
Target market	<ul style="list-style-type: none"> +80 L2 ports focused on underserved communities (additional to 60 and 100 ports in the 2022-3 MMC budgets) Total 240 L2 ports = 12 percent of the total public L2 ports TEINA3 indicates needed by 2025 			
Funding (\$MM)		Previously approved	Requested with 2023 TE Plan	Total
	Total	\$5.3 MM	\$6.3 MM	\$11.5 MM

Activity	Business & Multi-family Make-ready Solutions				
Strategic Alignment	 Equity  Coordination/ Partnership  Structure TE Rates/Tariff  Utility Infrastructure Role				
Description	<ul style="list-style-type: none"> Support EV ownership and charging access for business and multi-family properties PGE constructs make-ready Customer owns/maintains chargers and receives rebate on purchase of qualified chargers 				
What has changed	<ul style="list-style-type: none"> More support for EVSE deployment to the underserved MF segment Reduced ports from +1,000 to 200 based on PGE and TEINA data showing that demand in underserved/low-to-medium income multi-family market is still developing Focus on workplace, commercial, and multi-family segments (funded by 2023 MMC, with additional funding in this proposal for multi-family) 				
Load management	<ul style="list-style-type: none"> Chargers able to respond to pricing or DR signals, but not subject to Schedule 50 Provides data on multi-family charging profiles to develop the appropriate rate or future load management offering 				
Target market	<ul style="list-style-type: none"> Workplace/commercial: 60 ports Multi-family: 140 ports 				
Funding (\$MM)			Previously approved	Requested with 2023 TE Plan	Total
	Total		\$2.6 MM	\$4.6 MM	\$7.1 MM

Activity	Fleet Partner			
Strategic Alignment	 Coordination/ Partnership  Structure TE Rates/Tariff  Coordinate Load Siting  Utility Infrastructure Role  Manage TE Load  Planning			
Description	<ul style="list-style-type: none"> • Provide free upfront planning and technical services to reduce the complexity of planning for fleet electrification • Provide custom incentives to help lower the costs of building electric fleet depots • Better understand how fleet size and load profiles impact the grid • Networked EV charging for future managed charging and demand response programs 			
What has changed	<ul style="list-style-type: none"> • Reduce incentives by 50 percent, bringing the multiplier down from 15x to 7.5x in the following formula: Year 5 usage x LEA x multiplier • Lower maximum incentive cap from \$750K to \$400K • The above changes improve cost effectiveness and allow the pilot to reach more customers, sites, and ports while still providing an incentive to help overcome initial cost barriers faced by customers 			
Load management	<ul style="list-style-type: none"> • Require installed chargers be qualified & networked, with ability to perform demand response • Participants expected to participate in future PGE demand response programs 			
Target market	<ul style="list-style-type: none"> • Non-residential fleets, with ~450 ports (2021-24), an additional ~500 ports (2024-2025), for a total of ~950 make-ready ports 			
Funding (\$MM)		Previously approved	Requested with 2023 TE Plan	Total
	Total	\$8.7 MM	\$9.5 MM	\$18.1 MM

Next Steps & Closing Remarks



Next Steps



PGE will hold “Office Hours” for stakeholders to ask clarifying question on our TEP Draft to inform their comments on:

Tuesday June 20 | 3-4pm | via [Zoom](#)

Monday June 26 | 1-2pm | via [Zoom](#)



Stakeholders can also ask clarifying questions via email via TEP@pgn.com



Stakeholders should submit their comments via [Docket UM 2033](#) by **Thursday July 13,2023**

An

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kind of energy

A photograph of an electric vehicle charging station. In the foreground, a black charging cable is plugged into a silver charging port. The background shows several white electric vehicles parked in a row, with their charging cables connected. The scene is outdoors on a paved area, possibly a parking lot, with a building visible in the distance under a bright sky.

Appendix

Key Terms



- **Capital Expenditures (CapEx)** - the company's capital expenditures
- **Deferral** - a regulatory filing made for the purpose of tracking costs associated with A) an unusual or extraordinary event that is not otherwise addressed within PGE's cost structure, or B) an approved or acknowledged program or pilot
- **Demand response (DR)** - Changes in [energy] usage by end-use customers from their normal consumption patterns in response to changes in the price of [energy] over time, or to incentive payments designed to induce lower [energy] use at times of high wholesale market prices or when system reliability is jeopardized.
- **Electric load** - total usage of electricity on PGE's system at any point in time
- **Electric Vehicle (EV)** could be passenger vehicles to medium- or heavy-duty vehicles
- **Flexible load (Flex Load)** - a dynamic form of DR capable of providing valuable grid balancing services. Grid balancing services are necessary for integrating high levels of renewable or variable energy resources. To supply grid balancing services, these demand-side resources must be available to grid operators throughout the day and capable of supplying several different types of energy products beyond peak load shifting.
- **Load** - combined demand for electricity placed on the system
- **Load growth** - increase in use of electricity on PGE's system (e.g., due to population growth, or adoption of EVs)
- **Load shape** - how electricity use changes throughout the day, which can change by customer type, season, type of load (e.g., EV)
- **Load shift** - shifting usage from on-peak to off-peak periods
- **Make-ready** - infrastructure to connect EVSE to the electric grid
- **Managed charging** - extension of smart charging scheduling at desired times to reduce cost and grid impacts
- **Non-wires Solutions (NWS)** - using distributed energy resources (e.g., EVs) grid constraints s reliably, resiliently, and affordably while also supporting environmental and energy justice goals, particularly for historically underrepresented communities
- **On-peak** - the period when customer demand is higher than normal. System costs are higher than average and reliability issues may be present
- **Operations and Maintenance (O&M)** - the company's operations and maintenance expenses
- **Pricing signal** - change in price of good or service (e.g., electricity) which indicates that supply or demand should be adjusted
- **Smart charging** - remote management of EV charging
- **Tariff** - a listing of the rates, charges, and other terms of service for a utility customer class, as approved by the regulator
- **Telematics** - a method of monitoring and managing cars by using data from vehicle onboard diagnostics and GPS vehicle tracking. Allows operational decision-making based on historical data and the dispatch of vehicles using real-time vehicle data
- **Time-of-Day (TOD)** the price of energy varies based on the time of day. Peak hours vary by rate class but are generally defined as the hours between 4-9PM. By shifting some electricity usage to non-peak hours when energy costs less (and is typically less polluting), you can lower your bill and support a healthier environment.

Terms adapted from various internal sources, as well as:

- *The Regulatory Assistance Project. Electricity Regulation In the US: A Guide Second Edition*, available here: <https://www.raonline.org/wp-content/uploads/2016/07/rap-lazar-electricity-regulation-US-june-2016.pdf>
- *PGE's DSP: Part Two filing*, available here https://downloads.ctfassets.net/416ywc1laqmd/2Fr2nVc4FKONetiVZ8aLWM/b209013acfedf1125ceb7ba2940bac71/DSP_Part_2_-_Full_report.pdf