

November 20, 2020

Public Utility Commission of Oregon
Attn: Filing Center
201 High Street, SE, Suite 100
P.O. Box 1088
Salem, OR 97308-1088

RE: UM 1826: PGE 2021 Clean Fuels Program Plan

Portland General Electric Company (PGE) submits this filing pursuant to Public Utility Commission of Oregon (Commission) Order No. 18-376 in Docket No. UM 1826.

In October 2018, the Commission issued Order No. 18-376 providing broad guidance on how utilities should spend Clean Fuel Program funds and establishing a process for utilities to develop and file annual Clean Fuels Program Plans.

For the 2021 program year, following consultation with stakeholders, PGE plans a portfolio of programs (the Portfolio) in the following categories:

- **Infrastructure & Grants:** Programs that increase access to transportation electrification.
- **Education and Outreach:** Increase awareness of transportation electrification options across the state.
- **Emerging Technology:** Test and demonstrate emerging technologies that have an electric vehicle (EV) nexus and could scale to larger utility programs.

Included in this filing, as Exhibit A, is PGE's 2021 Clean Fuels Program Plan which provides more details on the planned programs.

Should you have any questions or comments regarding this filing, please contact Stefan Cristea at (503) 464-8033.

Please direct your communications related to this filing to the following email address:
pge.opuc.filings@pgn.com

Sincerely,

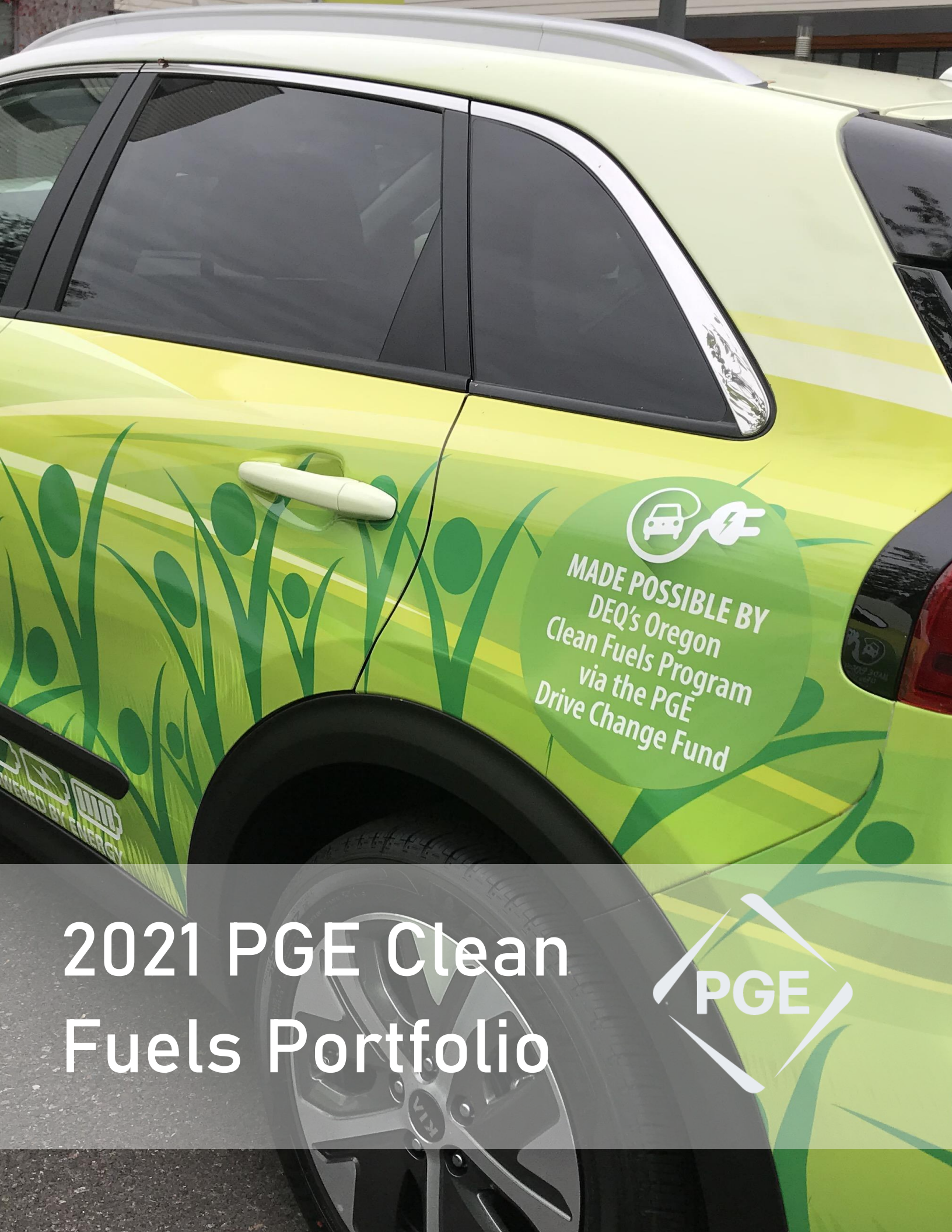
/s/ Robert Macfarlane


Robert Macfarlane
Manager, Pricing & Tariffs
Enclosures
cc: Service List – UM 1826

UM 1826

Exhibit A

PGE's 2021 Clean Fuels Program Plan




MADE POSSIBLE BY
DEQ's Oregon
Clean Fuels Program
via the PGE
Drive Change Fund



2021 PGE Clean Fuels Portfolio

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Executive Summary

Portland General Electric Company (PGE) is pleased to propose a programmatic structure for the 2021 Clean Fuels Program Portfolio. PGE will fund programs in the following categories:

- Infrastructure & Grants: Programs that increase access to transportation electrification.
- Education and Outreach: Increase awareness of transportation electrification options across the state.
- Emerging Technology: Test and demonstrate emerging technologies that have an electric vehicle (EV) nexus and could scale to larger utility programs.

While funding will shift from year to year, stakeholders may expect the approximate budget breakdown and percentages for the 2021-2023 Clean Fuels portfolio submissions.

Category	% Portfolio per Year
Infrastructure & Grants	70% - 80%
Education & Outreach	5% - 15%
Emerging Technology	5% - 15%
Est. Administrative Costs	5% - 10%

The 2021 budget totals \$6.5 million and will fund the programs at the amounts allocated below.

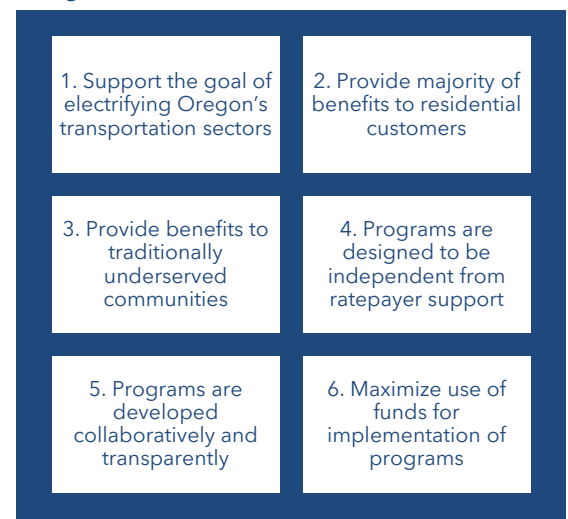
Program	Est Program Cost	Est Admin Cost	Total Cost	% admin
Drive Change	\$3,550,000	\$200,000	\$3,750,000	5%
Upgrades to Public Infrastructure	\$1,425,000	\$75,000	\$1,500,000	5%
Statewide Campaign	\$146,000	\$4,000	\$150,000	3%
Mobility Hub	\$350,000	\$ -	\$350,000	0%
Workforce Development	\$150,000	\$ -	\$150,000	0%
School Engagement	\$75,000	\$ -	\$75,000	0%
Home Vehicle to Grid	\$19,000	\$1,000	\$20,000	5%
Smart Charging Year 2	\$288,000	\$28,000	\$316,000	9%
CFP Program Management	-	\$200,000	-	100%
PORTFOLIO TOTAL	\$ 6,003,000	\$508,000	\$ 6,511,000	8%

Introduction

In 2009, the Oregon Legislature passed House Bill (HB) 2186, requiring a reduction in the average carbon intensity of Oregon's transportation fuels by 10 percent over a 10-year period.¹ In 2015, Senate Bill 324 allowed the Department of Environmental Quality (DEQ) to fully implement the Clean Fuels Program (CFP) beginning in 2016.² In March 2020, Governor Brown increased the CFP to 20 percent reduction in carbon intensity by 2030 and a 25% reduction by 2035.

The DEQ rules implementing the Program³ identified electric utilities as the first-choice entity to generate credits for all residentially-charged EVs registered in the utility's service territory. In July 2017, the Public Utility Commission of Oregon (OPUC) deemed that it is in the public interest that electric utilities aggregate and generate CFP credits on behalf of residential customers who drive EVs, and required PGE and PacifiCorp to register with the DEQ as generators and aggregators of CFP credits under the program.⁴ In October 2018, the OPUC issued Order No. 18-376, providing six broad design principals to guide utility CFP expenditures, shown in Figure 1.

Figure 1. OPUC Clean Fuels Guidance



Clean Fuels Program Moving Forward

This portfolio marks the third year PGE is participating as a residential aggregator on behalf of our customers. PGE pursued a diversity of projects during the initial two CFP cycles: we created strong programs benefitting underserved communities throughout our territory. We developed institutional capacity to monetize large quantities of CFP credits, comply with CFP reporting requirements, and actively engaged stakeholders along the way. At the same time, we learned how our role as a utility positions us to create partnerships that benefit Oregon, and attract additional local, state, and federal funding.⁵ Most importantly, the company gathered crucial insights into obstacles associated with EV adoption, with special attention paid to historically underserved communities and communities of color.⁶

Now that we have two program years behind us, we have an opportunity to consider what worked well and where we can improve. We have a better understanding of how rapidly the transportation electrification (TE) space is changing and how the sector will grow over the

¹ 75th Oregon Legislative Assembly, 2009 Regular Session. Chapter 724, 2009 *Oregon Laws*. Retrieved from https://www.oregonlegislature.gov/bills_laws/lawsstatutes/2009orLaw0754.html

² 78th Oregon Legislative Assembly, 2015 Regular Session. Chapter 4, 2015 *Oregon Laws*. Retrieved from https://www.oregonlegislature.gov/bills_laws/lawsstatutes/2015orLaw0004.pdf

³ Oregon Administrative Rules. Ch. 340 Div. 253. Retrieved from <https://secure.sos.state.or.us/oard/view.action?ruleNumber=340-253-0330>

⁴ OPUC (2017). Order No. 17-250 *Public Utility Commission of Oregon Investigation into Utility Participation in Oregon Clean Fuel Programs*. Retrieved from <https://apps.puc.state.or.us/orders/2017ords/17-250.pdf>

⁵ DOE Grant with PacifiCorp & Electrify America RFP

⁶ Underserved defined as: Less than 60% of Oregon Median Income (@ \$40,000); A broad cross-section of race, ethnic background, language, employment & housing; Urban, suburban, and rural customers; Customers with significant transportation barriers or physical disabilities.

foreseeable future. Based on our market research and CFP participation, we plan to segment our operations plan for the clean fuels program into three areas of focus:

1. Infrastructure & grants to accelerate deployment of vehicles and charging across Oregon;
2. Education & outreach to increase awareness of TE, dispel existing misconceptions, and help create an ecosystem of support roles (EV/Charger maintenance job training, re-training, etc) that promote a dependable customer experience; and
3. Emerging technology to test new concepts that have an EV nexus and the ability to scale to larger utility programs.

This segmented approach will better manage stakeholder and community expectations from year to year, allow PGE to scale programs, and decrease administrative costs by streamlining annual ideation and reporting. Additionally, building flexibility into portfolio design will allow us to consider changing market conditions, such as federal, state, or local grant dollars which may materialize under a Biden/Harris Administration. Creating a transparent structure around the programs along with clear expectations around percentage of portfolio spend allows PGE to leverage the CFP to respond to these opportunities to benefit Oregonians.

Infrastructure & Grants

As we considered this structure, we checked in informally with myriad stakeholders, and we heard clearly that investments in infrastructure and continuation of TE grants benefitting underserved communities and communities of color were of paramount importance. For that reason, this segment will encompass the majority of Clean Fuels spending, making up approximately 70 percent of the portfolio for the next three years.

These funds support programs that will **increase access to electric transportation**. Grants will include programs with a strong equity lens, like the Drive Change Fund and funding for electric school buses, which both prioritize traditionally underserved communities. Infrastructure investments include programs like charging site upgrades that improve user experience, give customers' peace of mind, and make EV ownership easier for Oregonians. In all cases, funding targets underserved communities and efforts that provide adequate infrastructure access.

Education & Outreach

Research conducted in 2019 on behalf of PGE illustrates that we must continue to build awareness around TE if we are going to transform Oregon's transportation sector for all Oregonians. Data show that one in four customers is completely unfamiliar with EVs, and only one in five people know how affordable it is to operate an electric vehicle. Data also show that once people gain awareness of the savings, incentives, and benefits, they are significantly more likely to consider purchasing an EV. In conversations with underserved communities, we learned that misconceptions around product availability and EV infrastructure, and an association of EVs with privilege, are significant barriers to adoption.

Education and outreach funds will **dispel myths and educate all Oregonians that transportation electrification is here today and works for everyone**. This effort will encourage and support an equitable transformation of the transportation sector.

Emerging Technology

There are many exciting technologies on the horizon in the TE space. From software that tracks charging behavior to “smart” home panels that integrate a residential panel upgrade with a smart EV charger all in one, we know EVs and charging infrastructure technology will enhance customers’ value proposition, grid resilience, and interactivity. PGE plans to use technology funds to rapidly **test and demonstrate emerging transportation electrification technologies that could scale to larger programs.**

Approximate Budget Percentages

While funding will shift from year to year, Table 1 shows the approximate budget breakdown and percentages stakeholders may expect for the 2021-2023 Clean Fuels portfolio submissions.

Table 1. 2021-2023 CFP budget categories and approximate percentage of spend per year.

Category	% Portfolio per Year
Infrastructure & Grants	70% - 80%
Education & Outreach	5% - 15%
Emerging Technology	5% - 15%
Est. Administrative Costs	5% - 10%

2021 Plan

Budget

The 2021 budget totals \$6.5 million and will fund the programs at the amounts allocated below in Table 2.

Table 2. Clean Fuels Program 2021 Program Budget.

Program	Est Program Cost	Est Admin Cost	Total Cost	% admin
Drive Change	\$3,550,000	\$200,000	\$3,750,000	5%
Upgrades to Public Infrastructure	\$1,425,000	\$75,000	\$1,500,000	5%
Statewide Campaign	\$146,000	\$4,000	\$150,000	3%
Mobility Hub	\$350,000	\$ -	\$350,000	0%
Workforce Development	\$150,000	\$ -	\$150,000	0%
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PORTFOLIO TOTAL	\$ 6,003,000	\$508,000	\$ 6,511,000	8%

Infrastructure & Grants

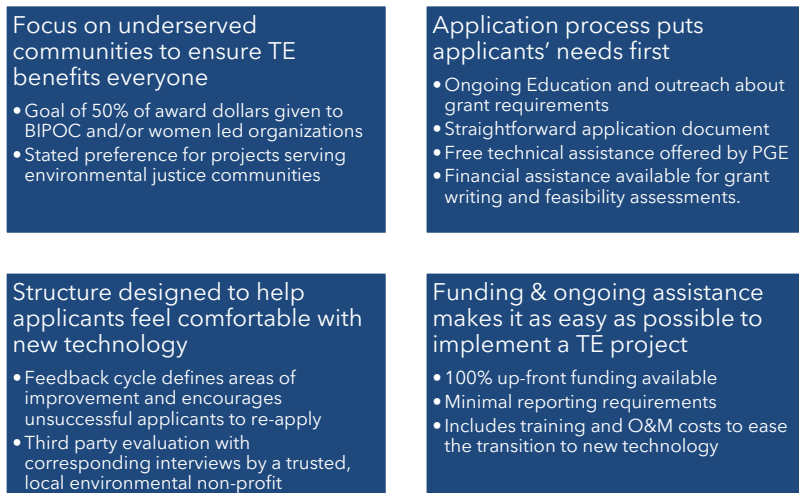
Below is PGE's 2021 plan for deployment of \$5,250,000 within the Infrastructure and Grants Category.

Drive Change Fund

Total Amount: \$3,750,000

PGE is excited to again offer the Drive Change Fund (DCF), the competitive grant fund for non-residential customers that prioritizes underserved communities, advances transportation electrification projects, and provides a benefit to residential customers. At its inception two years ago, the DCF sought feedback from myriad stakeholders and transportation electrification organizations to expand upon the OPUC's program design principles, with the goal of creating an equitable application, evaluation process, and fund deployment structure. Figure 2 highlights some examples of the ways the DCF took feedback into consideration.

Figure 2. Equity Considerations within the Drive Change Fund.



PGE will continue following the program design elements outlined in Table 3.⁷

Table 3: Drive Change Fund Program Design Elements.

Applicant Eligibility	<ul style="list-style-type: none"> • Applicants may be nonprofit, for-profit or government entities, with a preference for nonprofit and government; • Applicants need not be PGE customers; however, projects must provide a community benefit in areas PGE serves
Grant Scope	<ul style="list-style-type: none"> • Projects must advance TE and provide a benefit to residential customers, with priority given to projects that address the needs of underserved communities; • Funds may not cover projects that may be implemented through other PGE programs; • Any charging stations that are funded will be demand response enabled; • Where appropriate, PGE will claim Clean Fuels credits for funding of the DCF
Other Assistance	<ul style="list-style-type: none"> • Technical assistance will be offered to help applicants connect with vendors, assess project budgets and scope, navigate technical requirements, and prepare compelling applications; • Financial assistance will be offered to compensate qualifying applicants for staff time required to prepare an application • Where possible, PGE will highlight other funding streams for applicants and match application processes as much as possible
Process	<ul style="list-style-type: none"> • A third-party evaluator will evaluate and grade applications, with an internal PGE selection committee making final funding decisions.

Calendar and Process

PGE will follow the grant calendar shown in Figure 3.

Figure 3. Drive Change Fund calendar.

March <ul style="list-style-type: none"> • Educational sessions • Outreach and communications 	April <ul style="list-style-type: none"> • Q1 report due • Engage Selection Committee • Educational sessions 	May <ul style="list-style-type: none"> • Round opens • Educational sessions 	June <ul style="list-style-type: none"> • Educational sessions
July <ul style="list-style-type: none"> • Round closes • Evaluation begins • Q2 report due • Applicant feedback 	August <ul style="list-style-type: none"> • Update report templates and agreement • Continue evaluation 	September <ul style="list-style-type: none"> • Continue evaluation • Stakeholder engagement 	October <ul style="list-style-type: none"> • Q3 report due • Presentation & Selection • Educational sessions
November <ul style="list-style-type: none"> • Award agreements signed • Awards announced • Educational sessions 	December <ul style="list-style-type: none"> • First payment distributed 	January <ul style="list-style-type: none"> • Awardee feedback • Awardees webinar • Q4 report due 	February <ul style="list-style-type: none"> • Update outreach materials • Lessons Learned & Action Items

⁷ These design elements draw on the Program Design Principles and guidance from the Trust-Based Philanthropy Project: <https://trustbasedphilanthropy.org/>

School Bus Carve Out

PGE will reserve \$1,500,000 of DCF dollars to help school districts and/or school bus fleet operators acquire electric buses and demand response-enabled charging infrastructure. School districts may apply through the DCF process. PGE will provide technical assistance to the schools including site assessments, financial estimates, and vehicle and charger selection and procurement support. Where appropriate, PGE may leverage other funding sources to bring additional value for school districts and make these CFP funds go as far as possible. See Appendix 1 for an example of such an approach.

Public Charging Infrastructure

Total Amount: \$1,500,000

EV drivers must have peace of mind they will be able to charge their vehicles when and where they need it. EV Drivers want to know:

- *"There will be there enough charging to get me to my destination."*
- *"The chargers will be in working order when I need them."*
- *"How fast will the charger charge my vehicle?"*
- *"The charger will work for my vehicle's port."*

Unfortunately, many of Oregon's charging sites do not imbue confidence in EV drivers and this must be fixed. Many sites must be upgraded to ensure the availability of dedicated and dependable charging, and a positive user experience. Sites must have:

- High equipment up-time (equipment should not be down for maintenance or out-of-order)
- Appropriate number and speed of charging stations
- Additional charging ports at sites that see high utilization to minimize driver wait time to charge their vehicles
- Prominent or accessible locations that are easily located and utilized
- Upgrades related to visibility, customer experience, payments, safety, and security

Program Design Elements

Each site is unique with respect to equipment, ownership, branding, site host agreement terms, stakeholders, and configuration. PGE, therefore, aims to keep the program design flexible and rely on the use of signed agreements with electric vehicle service providers (EVSPs), site hosts, or customers to codify requirements. Broadly, PGE intends to adhere to the following design elements:

- Ensuring we have adequate public charging for our customers who own EVs.
- Requiring each site to meet technical requirements that support safety, reliability, interoperability, grid connectedness, and payment accessibility.⁸

⁸ PGE intends to use the technical requirements for public charging established for the Drive Change Fund as guidance. This will include PGE's claim of the Clean Fuels Credits from new/upgraded sites and direction of the proceeds back to the pool of funding governed by Docket No. UM 1826.

- Using the prioritization framework developed for the 2020 direct current fast charging (DCFC) upgrades list to inform site selection. (See appendix 2 for framework)
- Encouraging collaboration by partnering with other utilities to provide all customers with a seamless and positive user experience, given that people do not limit their travel within a utility's territory.
- Working with current owner or site host to upgrade the equipment to PGE's standards or to evaluate ownership of electric vehicle service equipment (EVSE).⁹
- To the extent available, PGE may pursue grant dollars to reduce the cost of public infrastructure.
- PGE's customers drive across the state, and as such, in certain applications we may look to deploy infrastructure beyond our traditional service area if it supports a better driver experience for our customers.¹⁰

Education & Outreach

Below is PGE's tentative 2021 plan for deployment of \$725,000 within the Education & Outreach category.

Continuation of Statewide Campaign

Total Amount: \$150,000

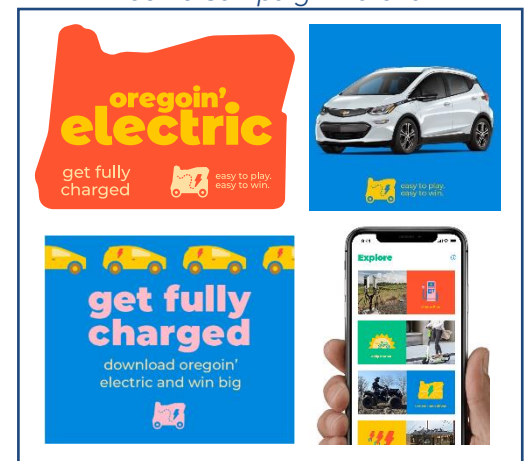
PGE will continue working with PacifiCorp to build upon Oregon' Electric, the brand neutral statewide transportation electrification campaign kicked off as part of the 2020 portfolio.

The goals of the campaign are to engage and educate all Oregonians on transportation electrification and accelerate transportation electrification in the state, in line with the Oregon Electric Vehicle Collaborative's recommendations. We know that electric transportation is available statewide, from electric buses in Josephine County, e-tractors in Grants Pass, wheelchairs in Pendleton and e-bike wine tours in Hood River. Oregon' Electric aims to educate about the ways Oregonians can embrace electric transportation in their everyday lives, from emerging innovations to daily activities.

Funds will cover purchased media, earned media outreach, narrative development, storytelling, creative assets, social media management, and dealership engagement. The campaign will continue to deliver the following messages:

- Electric transportation options are here today
- Electric Transportation is available in multi-modal applications that meet a variety of transportation needs including rural, urban, on-farm, on-road, off-road, micromobility and public transit applications

Figure 4. Sample Oregon' Electric Campaign Material.



⁹ In applications where PGE is the operator of the charging infrastructure, PGE will tariff energy sales (i.e. Schedule 50). CFP will cover O&M; new CFP credits generated will go back to UM1826.

¹⁰ For example, of visitors to Central Oregon, 31% of trips started in Portland.

<https://industry.traveloregon.com/wp-content/uploads/2018/10/OR-2017-Central-Region-Visitor-Report.pdf>

- Transportation electrification is a critical piece of meeting the state’s environmental and climate goals

Where possible, we will continue to work with industry, dealerships, advocacy groups, state agencies and other utilities to add to the overall budget and extend reach of the campaign.

Mobility Hub at SE 8th and Stark, Portland

Total Amount: \$350,000

In our 2020 CFP Plan, PGE proposed plans to design and create a demonstration electric mobility hub in inner Southeast Portland. PGE canceled the project due to the global pandemic and ensuing restrictions on public gatherings. PGE proposes reviving the mobility hub, if restrictions are lifted in time. It will include public Wi-Fi, public tablet/phone charging, power wheelchair charging, community space coupled with micromobility options and active modes of transportation, and possibly electric car share in the adjacent right-of-way.

Figure 5. Rendering of Mobility Hub.

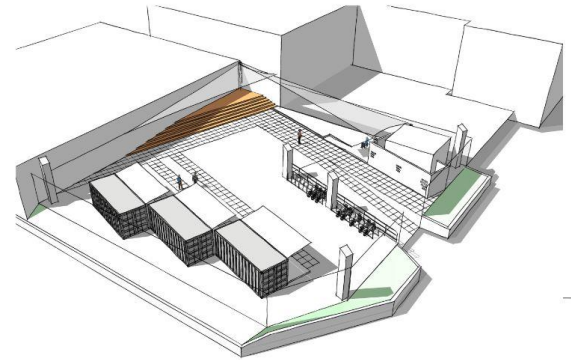


Figure 6. Location of Mobility Hub at SE 8th & Stark



PGE worked closely with the City of Portland, Multnomah County, TriMet and local businesses within the Central Eastside to identify transportation priorities for the mobility hub, which include decreasing parking demands in the neighborhood, providing mode-share options for nearby employees, and decreasing instances of trespassing on private property for the purposes of device

charging and use of public Wi-Fi. This project will leverage a \$150,000 Department of Energy grant received by Pacific Power and PGE to be used towards enhanced electric transportation options.

Workforce Development

Total Amount: \$150,000

The Seattle Jobs Initiative conducted an analysis titled *Drive Clean: The Electric Motor Vehicle Industry in Oregon and Washington* and found specific training to prepare the workforce for the electrification of transportation is needed. The study also found the region, "...need(s) interventions that aim to ensure that women and people of color have opportunities to upskill or gain additional training that prepare for economic trends in the EV fields. Policies and initiatives can increase access for women and people of color into fields they are currently

underrepresented in and that are economically promising.” We also know that the Biden/Harris Administration will advocate for workforce training towards a clean energy future, including training and retraining for the electric vehicle ecosystem.¹¹

To ensure underserved communities can and do avail themselves of this emerging workforce ecosystem, the region must prepare training opportunities with an eye towards equity. This includes wrap around services such as childcare, transportation costs and scholarships, developing certifications that lead to prevailing wage jobs, and multipronged partnerships with the private sector.

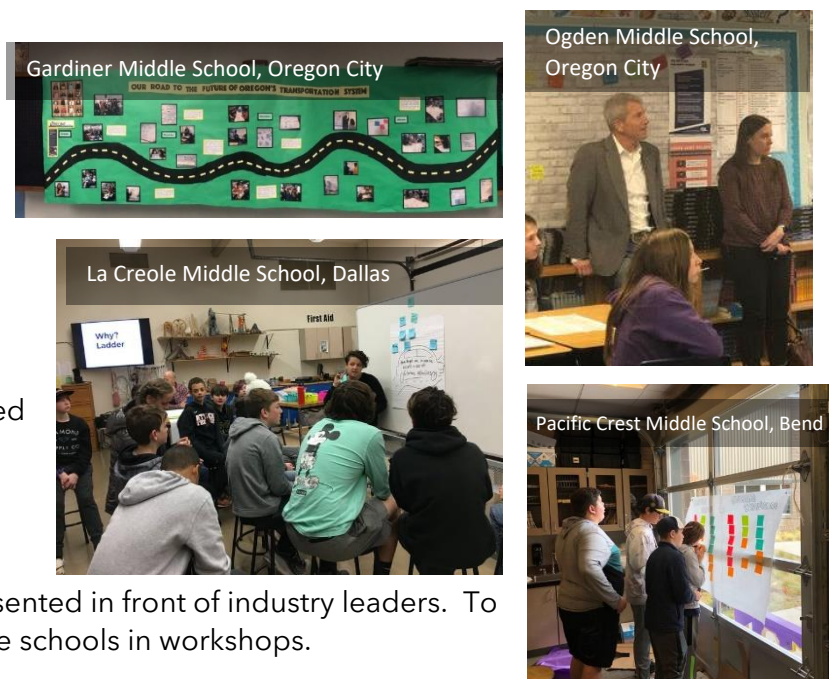
Funding from this program will go towards developing a collaborative statewide approach to EV and infrastructure training, starting with an inventory of key classes currently available within the state’s community colleges, identifying gaps, and determining which courses and certificate programs should be offered. In parallel, best practices for training program design will be identified by engaging community-based organizations, culturally specific nonprofits, local economic development organizations, unions, and community colleges.

Student Engagement

Total Amount: \$75,000

For the 2020 CFP Plan, PGE partnered with PacifiCorp and TriMet to engage middle schoolers across the state in a design/build challenge to develop solutions toward a low-carbon transportation future for the next generation. Six middle schools from the across the state spent several months learning about the opportunities and challenges around transportation electrification in Oregon. They interviewed local elected officials, car dealerships, subject matter experts, and myriad other people to develop a deep understanding of the landscape. Then, they created prototypes for creative solutions and presented in front of industry leaders. To the right are a few snapshots of four of the schools in workshops.

Figure 7. Transportation Electrification Workshops in progress



The program was very successful, and we propose building on it to create a digital tool that can be shared with schools across the state. This would further democratize this information and would enable teachers to engage students within a virtual learning environment. Additionally, it may be possible to leverage Oregon’s Electric platforms toward this goal.

¹¹ Biden’s platform states: “Auto Industry: Create 1 million new jobs in the American auto industry, ... from parts to materials to electric vehicle charging stations, ... and invest in U.S. auto workers to ensure their jobs are good jobs with a choice to join a union.” <https://joebiden.com/clean-energy/>

Emerging Technology

Below is PGE's tentative 2021 plan for deployment of \$336,000 within the Emerging Technology Category.

Smart Charging Pilot – Year 2

Total Amount: \$318,000

This three-year program – approved as part of the 2020 portfolio – leverages a vehicle telematics tool to track EV driver habits in the test bed to understand how pricing signals can shift EV charging behavior.¹² This knowledge is crucial in order to bring the full cost benefits of EV ownership back to the EV owner, as well as the grid benefits of EVs to all customers across the PGE system.

Driving and charging data is collected via a customer-installed device in the On-Board Diagnostic port or through integration with auto manufacturers. EV data collected includes charging time, location, and consumption, as well as travel distances and times. Data will be available to PGE for tracking and analysis in near real-time frequency via a dashboard. Additionally, we will track monthly cumulative data/participant rewards. Customers also have access to a dashboard with charging/vehicle information.

The pilot is scoped for 400 EVs in the Smart Grid Testbed, and 100 control EVs outside the testbed, though final numbers will depend on interest from targeted groups. If these targets are not reached, we may explore different ways to engage customers towards similar outcomes. Enrollees are sorted into four groups. All participants received a \$100 enrollment reward, and a \$10 monthly participation. See Table 4 for the incentive structures being tested.

Table 4. Smart Charge Incentive Structures.

Test Group	Incentive Structure	Details
Control Group		
Time of Use	Off-Peak Rewards, Mid-Peak/On-Peak Penalties	Debits and credits to the \$10 monthly base, up to \$25
Flex Time of Use	Off-Peak Rewards, On-Peak Penalties	Debits and credits to the \$10 monthly base, up to \$25
Renewable EV Rate	Off-Peak Rewards	Debits and credits to the \$10 monthly base, up to \$25

Registration is active at the time of this filing and will close on December 31, 2020. For the 2021 Portfolio, the Smart Charge pilot will continue collection and analysis of EV charging and driving data, build out an analytics framework and begin reporting.

¹² PGE's Smart Grid Test Bed is a first-of-its-kind-project that integrates smart grid technology at scale. The Test Bed spans three distinct neighborhoods within PGE's service area, in Hillsboro, Milwaukie and North Portland. Through the Test Bed, the company works with 20,000 customers to take advantage of special demand-response signals as well as incentives for using smart-home technologies, giving them greater control over their energy use and carbon footprint.

The goals of the program are to gain insight into the EV driver's charging habits, and test messaging and incentive structures, in order to encourage shifting EV charging to specific locations and times to support demand response. This data will help inform transportation electrification planning, including customer load shapes, geographic charging requirements, and smart charging opportunities. We expect that more informed program design, will enable us to fully realize system-wide benefits for all customers.

Vehicle to Grid Demonstration

Total Amount: \$20,000

PGE seeks to examine Vehicle-to-Grid (V2G) technology that can not only charge a Plug-In Electric Vehicle (PEV) but utilize the PEV's battery to supply power back to the home and the grid. This technology is promising because the PEV can act as a battery storage device and supply power back to the grid like other stationary energy storage devices. As vehicles are typically parked 95% of the time,¹³ PEVs could be available to charge or discharge at a similar rate as stationary energy storage devices. Households and businesses could also avoid purchasing and installing a stationary energy storage device and instead rely on their parked vehicle for their energy storage needs. We believe that home V2G has the potential to enhance the residential customer value proposition of getting an EV by: (1) reducing a customer's total cost of ownership and (2) enabling enhanced home reliability.

PGE will test V2G technology at a PGE site and potentially one or more field sites. The program team will assess the reliability, system flexibility realized and ease of use. The team would also further investigate cost effectiveness, safety considerations, and standards for the technology. The application of the device, if proven successful, could be rolled out into the larger test bed or into other residential offerings around EV charging, energy storage, or decarbonization.

Conclusion

PGE is excited to continue working on the Clean Fuels Program on behalf of residential customers. We hope this new structured approach provides stakeholders with more certainty from year to year on PGE's philosophy around this fund, and the role it can play in accelerating Oregon's transition to electric vehicles. We look forward to continuing our partnerships with Pacific Power in our joint effort to approach this issue in a consistent, equitable, and statewide manner. Finally, we remain committed to prioritizing equity and ensuring underserved communities benefit from transportation electrification through program design and implementation.

Principle Alignment

The PUC's first three principles are addressed individually in Table 5 below. The remaining three principles - (independent from ratepayer support; Programs developed collaboratively and transparently; Funds maximized for program use- are addressed across the entire portfolio and within the stakeholder process.

¹³ <https://usa.streetsblog.org/2016/03/10/its-true-the-typical-car-is-parked-95-percent-of-the-time/>

Table 5. PUC Principle Alignment

	Support the goal electrifying Oregon's transportation sector	Provide majority of benefits to residential customers	Provide benefits to traditionally underserved communities	Metrics
Drive Change Fund	Provides funds to groups that would be traditionally unable to access TE vehicles, infrastructure and training	Organizations receiving funds must serve residential customers	<ul style="list-style-type: none"> - Goal of 50% of award dollars given to BIPOC and/or women led organizations; Stated preference for projects serving environmental justice communities - Equity Structures in place within application & grant process (Education and outreach, Free technical assistance, Financial assistance, Third party evaluation, 100% up-front funding, Minimal reporting requirements, training and O&M) 	<ul style="list-style-type: none"> - Percentage of funds benefitting underserved communities - GHG emissions displaced/ Fossil fuel savings - Recipient experience
Public Charging Infrastructure	Public charging must be prevalent, accessible, and dependable in order for Oregonians to consider electrifying their vehicles	Many customers rely solely on non-home charging units; PGE's customers travel around the state and rely on public charging	Preference given to sites in areas underserved by public charging	<ul style="list-style-type: none"> - Devices are current and meet customer expectations
Campaign Continuation	Data show many people lack knowledge about TE or have unhelpful misconceptions.	Focuses on residential customers	Goal of campaign is to demonstrate the TE works for everyone. It includes public transit, micromobility, power wheelchairs, and EVs.	<ul style="list-style-type: none"> - Increasing awareness of transportation electrification - Decreased misconceptions of transportation electrification
Workforce Development	Creating workforces to support Transportation electrification to build confidence that electric vehicles will be supported	As residential customers rely on EVs and chargers for their travels, we must have a workforce that provides maintenance.	Program focuses on training underserved communities	<ul style="list-style-type: none"> - Recipient experience - Jobs in TE filled
Mobility Hub	Facilitate the adoption of electricity as a transportation fuel for customers who do not or cannot drive, offer a way to decrease passenger vehicle trips, encourage transit ridership, and provide alternate options for midday errands for those working in inner Southeast Portland	Focuses on residential customers	Program focuses on serving underserved communities	<ul style="list-style-type: none"> - Learn how mobility hubs interact with mode share as a first/last-mile solution; - Whether/how mobility hubs can help decrease parking demands and SOV trips
Student Engagement	PGE's market research shows many people lack knowledge about TE or have unhelpful misconceptions. Starting education with a younger audience ensures more Oregonians are aware of transportation electrification and likely to adopt EV's when they come of age and/or push their parents to do the same.	Focuses on students, who are residential customers	Program focuses on educating youth statewide, including those who are traditionally underserved.	<ul style="list-style-type: none"> - Increasing awareness of transportation electrification - Decreased misconceptions of transportation electrification
Smart Charging Pilot	Better understanding of this technology has the potential to enhance customer value proposition of getting an EV by reducing operating costs.	Pilot targets residential customers and enhancing the value proposition of EVs to that group. Data gathered will inform distributed energy program creation for residential EV owners	At scale, this program could put downward pressure on rates by decreasing utility operating costs. This is good for all customers, but especially underserved and low income communities.	<ul style="list-style-type: none"> - Successful completion of program - Catalogued learnings of charging behavior
V2G Pilot	Better understanding of this technology has the potential to enhance customer value proposition of getting an EV by reducing operating costs and increasing value stream to the customers (e.g. enhanced home reliability).	Though this technology could be used on the fleet or residential side, this pilot will only test technology that would be deployed on the residential side.	At scale, this program could put downward pressure on rates by decreasing generation and utility operating costs. This is good for all customers, but especially underserved communities.	<ul style="list-style-type: none"> - Successful completion of pilot - Catalogued learnings of charging behavior

Appendix 1: VW Mitigation Fund & PGE's Clean Fuels Program

All Oregon School Districts Eligible for Funds to Electrify Buses

Opportunity: PGE seeks to leverage funds available through the Department of Environmental Quality diesel school bus replacement program by partnering with districts to electrify school buses.

Beginning October 1, 2020 DEQ will open the grant program to all previously non-selected school districts to award the unused dollars from the VW Settlement. If your district wins funds through DEQ's program, PGE will provide charging infrastructure and dollars towards electric buses at no cost to the district. This program is first-come/first-served, and funding is limited.

Benefits of Electric Buses: Electric school buses save districts money in reduced fuel and maintenance costs and have myriad environmental and health benefits: they do not emit greenhouse gases or harmful pollutants that cause asthma and heart disease.

Value: An electric bus and charging infrastructure are approximately \$300,000 more expensive than a traditional diesel bus. However, under this program, DEQ will provide up to \$50,000 to replace a scrapped model year 2006 or 2007 diesel bus. PGE will cover any additional expenses for the electric bus and charging infrastructure.

Total Cost of Electric School Bus + Charging	\$425,000
DEQ Diesel School Replacement Program	- \$50,000
PGE Programs	- \$250,000
Oregon Dept of Education Reimbursement*	- 87,500*
TOTAL COST TO DISTRICT	\$37,500

**Assumes 70% reimbursement of typical \$125,000 diesel bus*

How to Participate: Complete the VW School Bus Application Form [here](#) and let us know you've applied. If your district is chosen to receive this funding and is within PGE's service territory, you will not have to apply for additional funds – PGE will waive application requirements to make it as easy as possible on your district.

We have the opportunity today to partner with our schools and help clean up the air our children breathe. We hope you'll join us!

For more information please contact:
Shanna.Brownstein@pge.com • (610) 304-0118



Appendix 2: DCFC Site Selection/Prioritization Criteria

The table below is an example of how previous sites have been evaluated using Clean Fuels Program Design Principles 1 - 3 and PGE's Transportation Electrification Plan.

Criteria	Criteria (ranking)	Sort order
<i>PUC Principle 1: Support electrifying Oregon's transportation (bring sites up to current standards/customer expectations)</i>	CHADeMO only DCFC ("yes" upgrade, "no" don't upgrade)	1
	Lack of credit card reader ("yes" upgrade, "no" don't upgrade)	2
	Existing equipment requires service (priority order "all the time," "sometimes," "rarely")	3
<i>PUC Principle 2: Benefits residential customers</i>	Current usage (prioritize higher usage)	4
	Amenities nearby (prioritize "yes")	5
<i>PUC Principle 3: Benefits traditionally underserved communities</i>	Proximity to low-income communities (prioritize # of premise within 5 miles radius)	6
	Proximity to multi-family housing (prioritize # of premise within 5 miles radius)	7
	Limited public charging nearby (prioritize low #units, high miles)	8
<i>Insufficient available public charging</i>	In high-need zip code defined in Navigant study (prioritize high number of needed DCFC ports)	9