Date XX/XX/XXXX

Fleet Partner Study

CUSTOMER XXX

Executive Summary

Through the Fleet Partner program, PGE provides technical planning services, turnkey design and construction of charging infrastructure, custom cost incentives, and a trusted partner throughout the process. The program consists of two phases: Plan and Build.

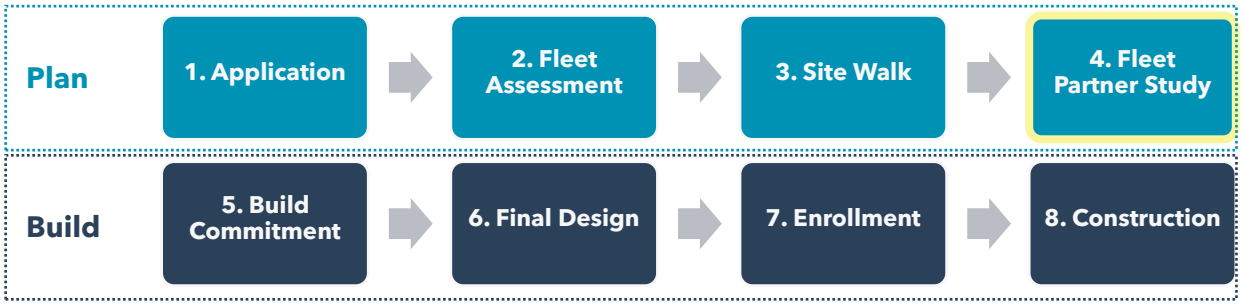

Figure 1

This study concludes the Plan phase and provides the site-specific information needed to understand the scope and costs associated with the Build phase. That information is summarized in Table 1 below.

Table 1

Fleet Partner Project Summary					
Site	Make-Ready Ports	Energy Commitment	Infrastructure Cost	Fleet Partner Incentive	Net Customer Cost
Building 1	10 Level 2	300,000 kWh	$75,000	-$62,400	$12,600
Building 2	40 Level 2 2 DCFC	2,400,000 kWh	$417,000	-$335,400	$81,600

This study details the preliminary results of the fleet assessment and site walk, based on information provided in the application and discussions with the project team. This includes electric vehicle feasibility, charging analysis, fuel cost analysis, a summary of incentives, and a preliminary site design and cost estimate.

Electric Vehicle Feasibility

At Building 1, the company is looking to replace 2 cars/SUVs and 8 Pickup/Vans with electric vehicles over the next 5-7 years. A common fleet EV replacement for a car or compact SUV is the Chevy Bolt, due to its long range, low price, and it comes from a traditional fleet brand, General Motors. If AWD is needed, the Ford Mustang Mach-E could be an option. The options for an EV pickup are quickly growing with the Ford F150 Lightning coming out in 2022, and a Chevy Silverado EV coming shortly thereafter. The Ford E-Transit is coming even sooner as a viable option for an electric cargo van. All of these EVs will have the capability and range needed for the Customer's operations, based on the information provided.

At Building 2, there are a mix of light-duty admin vehicles, and SUVs. For the light-duty admin vehicles, consider the same options provided for Building 1 – the Chevy Bolt or Ford Mustang Mach-E. The Customer already has a Nissan Leaf at the facility, which would also be an option for admin-type vehicles. The average daily mileage of these vehicles is certainly within the range of the EVs, but in the rare cases with long distance travel, public DC fast charging can be used, just as retail gas stations are used today.

Charging Analysis

PGE considered the proposed electric vehicle's battery size, charging capabilities, daily mileage, and available charging time when determining the appropriate charging speed. PGE determined that Level 2 charging is sufficient for vehicles at both sites, with the exception that Building 2 will need supplemental DC fast charging (DCFC) for take-home vehicles and opportunity charging. Another difference is that 32-amp charging is sufficient at Building 1, while 50-amp charging is recommended at Building 2. This is due to the fact that some of the vehicles travel more miles and have less downtime to recharge.

Table 2

Charging Solution			
	Building 1	**Building 2 (Level 2)**	**Building 2 (DCFC)**
Model	ChargePoint CPF50 (32-amp)	ChargePoint CPF50 (50-amp)	ChargePoint CPE250 62.5 kW
Type/Configuration	Level 2, wall-mounted	Level 2, pedestal- & wall-mounted	DCFC, integrated, pedestal-mounted
Nameplate Power	7 kW (32A at 208V)	10 kW (50A at 208V)	62.5 kW (75A at 480V) (up to 125 kW paired)
Average Recharge Time*	~1-2 hours	~1-4 hours	~30 min @ 62.5 kW ~15 min @ 125 kW

**Not a full charge. Estimated time to recover energy consumed by average daily mileage. DC fast charging times vary by state of charge, temperature, and other factors.*

Fuel Cost Analysis

Electricity costs were estimated based on the charging solution described in the Charging Analysis section and assumes all EVs have been acquired and 100% of charging happens on-site. Based on the Charging Analysis for Building 1, PGE estimated that the total charging site demand will be 70 kW, which meets Fleet Partner's minimum site size requirement. It also makes it eligible for PGE's "EV-friendly" rate schedule 38. This rate schedule does not have demand charges and results in an estimated savings of $4,891 per year over the standard rate schedule 83.

At Building 2, the total site demand is estimated to be 333 kW, putting it on rate schedule 85. This rate has demand charges, so using a charging vendor's fleet management software may result in cost savings if charging sessions are managed dynamically to keep the total demand low. Even without charge management, electric fuel is estimated to reduce fuel costs at the site by 64%, or $109,125 per year.

Additionally, PGE estimated the expected revenue through the Oregon Clean Fuels Program. This program allows fleets to generate Clean Fuels Credits (CFC) from charging their electric vehicles and sell those credits on the market to earn revenue every year. This is typically done through a broker registered with Oregon DEQ. If the electricity used for charging is offset by onsite renewables or renewable energy credits, additional credits (and therefore revenue) can be generated.

Table 3

Annual Fuel Cost Analysis						
Site	Total Demand	Rate Schedule	Electricity Use (kWh/yr)	Electricity Cost	Standard CFC Revenue	Renewable CFC Revenue
Building 1	70 kW	38	18,304	$3,167	$1,512	$2,489
Building 2	333 kW	85	396,396	$60,742	$32,745	$53,907

Figure 2 shows a comparison of estimated annual fuel costs at Building 2 for the existing fleet (fossil fuel), an electric fleet, an electric fleet with standard CFC revenue, and an electric fleet with CFC revenue using renewables. This represents a potential savings of $163,032 per year in fuel costs, which can help justify the additional cost of EVs and charging infrastructure. Although it's not included in the analysis, EVs also have the potential to reduce maintenance costs by as much as 50%.

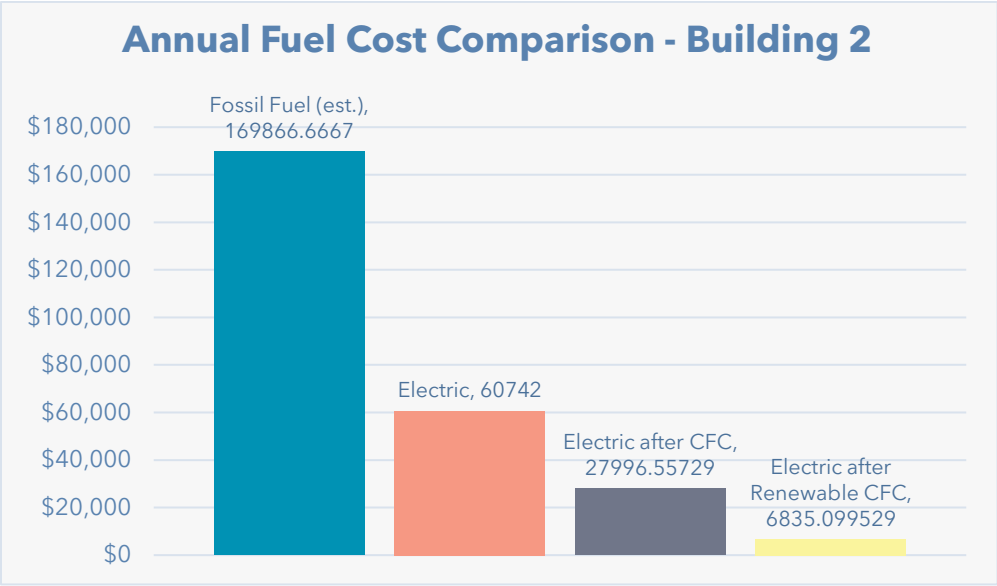

Figure 2

Transitioning the fleet to electric has environmental benefits in addition to financial benefits. Electric Vehicles have zero tailpipe emissions which helps to improve local air quality and reduce the greenhouse gas (GHG) emissions that cause climate change.

Table 4

Emissions Reduction				
Site	GHG Emissions Reduction (2021 grid mix)		GHG Emissions Reduction (100% renewable)	
	Metric Tons CO_2e/yr	**%**	**Metric Tons CO_2e/yr**	**%**
Building 1	12.6	59%	21.2	100%
Building 2	272.9	59%	459.1	100%

Site Assessment

PGE conducted site walks at both locations on XX/XX/XXXX. Using information from the site assessment and the charging analysis, PGE developed a preliminary site design and cost estimate for each site.

The design for Building 1 was based on installing a new meter and service gear in the parking garage's electrical room and running conduit up to the 4th floor where the fleet vehicles park. A small step-down transformer and electrical panel would be placed by the elevator on the 4th floor. Conduit would be run along the wall to junction boxes where wall-mounted chargers could be installed (by Customer.)

The Building 2 design is based on 40 Level 2 ports and 2 DCFC ports, with specific requirements on which parking spaces the chargers need to be placed at to align with each department's existing parking arrangement. 20 ports dedicated to admin vehicles were placed under the solar canopy with surface-mounted conduit and junction boxes for chargers on the posts. In the row of parking behind the solar canopy, the design includes 10

ports for additional XXX vehicles, and 5 ports for admin and training vehicles. The DCFCs are shown near the service gear and transformer on the east row of parking.

Based on the preliminary designs, PGE estimated infrastructure costs including the line extension and make-ready infrastructure costs. In addition, the cost of chargers was estimated based on indicative pricing from vendors (contact the vendor for final pricing).

Table 5

Preliminary Cost Estimate			
Site	Make-Ready Ports	Infrastructure Cost	Charger Cost*
Building 1	10 Level 2	$75,000	$26,000
Building 2	40 Level 2 2 DCFC	$417,000	$191,000

**Includes estimated installation costs. Based on total number of chargers.*

The preliminary site designs and cost estimates are provided on the following pages.

Incentives

Fleet Partner Build

PGE's Fleet Partner program may be able to provide an incentive towards the make-ready infrastructure cost. In Fleet Partner Build, PGE would design, install, own, maintain, and help pay for the make-ready infrastructure. Participants must agree to the program terms, including committing to installing the chargers and using a minimum amount of energy over the 10-year term. A summary of the incentive and requirements are shown below.

Table 6

Fleet Partner Build Incentive				
Site	Energy Commitment	Infrastructure Cost	Make-Ready Incentive	Net Customer Cost
Building 1	300,000 kWh	$75,000	-$62,400	$12,600
Building 2	2,400,000 kWh	$417,000	-$335,400	$81,600

Program requirements (not an exhaustive list):

- Participant pays any make-ready infrastructure costs not covered by the incentive
- Participant purchases, installs and registers PGE-approved, networked chargers within six months of completed construction
- Participant keeps chargers operational and shares charging data with PGE for 10 years
- Charging must be on new meter and a cost-of-service (non-Direct Access) rate for 10 years
- Site property owner must sign an easement covering PGE-owned infrastructure
- Participants commits to forecasted energy use of the chargers (shown in table above)
- Participants pays an upfront refundable deposit if outside engineering is required during the final design phase (typically only for large, complex projects).

Level 2 EV Charger Rebate

In addition to the Make-Ready Incentive, Customer may be eligible for PGE's Level 2 EV Charging Rebate program. This program provides a $1,000 per port rebate to businesses installing qualified Level 2 EV chargers. The ChargePoint chargers assumed in this study qualify for this rebate.

Electric Vehicle Incentives

Federal EV Tax Credit – Up to $7,500 tax credit for purchase of most light-duty electric vehicles (GM and Tesla vehicles excluded)

Oregon Clean Vehicle Rebate – Up to $2,500 rebate on light-duty electric vehicles with a base MSRP below $50,000. Businesses can receive up to 10 rebates per calendar year.

Oregon Clean Fuels Program: Advance Crediting – Provides up to 6 years' worth of clean fuels credits upfront to transit agencies, school districts, public fleets, and fleets that are contracted with those entities. Credits can be sold upfront to help cover the cost of EVs.

Oregon Diesel Emissions Mitigation Grant Program – A competitive grant program for replacing older diesel vehicles (2009 or older) with new cleaner vehicles, like EVs.

PGE Drive Change Fund – A competitive grant program for transportation electrification projects that benefit the community. Funds can cover the cost of electric vehicles, but preference is given to public or non-profit organizations.

Next Steps

1. **Participate in Fleet Partner Build.** Let PGE handle the dirty work of getting the infrastructure fully designed, permitted, and built. Plus, participants receive an incentive towards the costs. Email fleetpartner@pgn.com for more information.
2. **Research vehicle incentives.** Research and apply for incentives, rebates, and grants to help with the costs of the electric vehicles.

3. **Order electric vehicles.** Place the order so that the electric vehicles are expected to arrive after the charging site construction is complete. It can take 4-9 months to design, permit, and construct a charging site.
4. **Prepare.** Evaluate any operational impacts of electric vehicles and work collaboratively within your organization to prepare for an electric transition.
5. **Testing, training, and optimization.** Test the new electric vehicles with the chargers and train drivers on charging and driving an EV. Track charging data and optimize charging times to charge mostly off-peak and reduce demand if possible.

Please contact the PGE Fleet Partner team with any questions:
fleetpartner@pgn.com

Disclaimer: This is a preliminary report intended to be used for information purposes only. This preliminary report is an approximation and is subject to change. PGE makes no warranty, representation or undertaking, express or implied, as to the accuracy, reliability, or completeness of the preliminary report. PGE does not endorse any particular manufacturer, contractor, or product.