XX/XX/XXXX

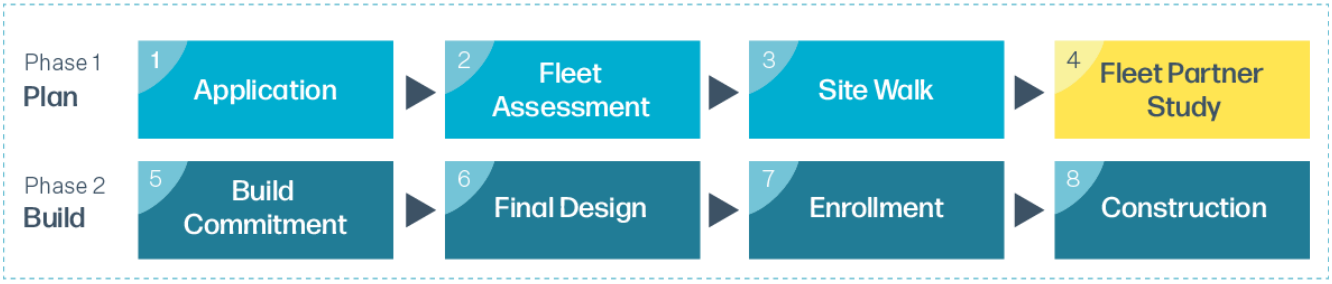
Fleet Partner Study

CUSTOMER XXX

Executive Summary

Portland General Electric's Fleet Partner program offers a comprehensive, end-to-end solution for businesses seeking to implement EV charging infrastructure. From technical planning and turnkey design to construction and custom cost incentives, we're your trusted partner throughout the entire process. The program is structured in two phases: **Plan** and **Build**, ensuring a streamlined and efficient experience from start to finish.

Figure 1: Fleet Partner Project Summary



This study marks the completion of the **Plan** phase for XXX's Project. It outlines the site-specific details, summarized in Table 1 below, to provide clear understanding of the preliminary scope and estimated costs for the upcoming **Build** phase.

Table 1

Fleet Partner Project Summary					
Site	**Make-Ready Ports**	**Energy Commitment**	**Infrastructure Cost***	**Fleet Partner Incentive****	**Net Infrastructure Cost**
Building 1	10 L2	175,032 kWh	$75,000	-$34,442	$40,558
Building 2	2 DCFC 40 L2	2,042,040 kWh	$485,000	-$401,822	$83,178

* Infrastructure cost includes all service line extension and make-ready infrastructure expenses.
** Fleet Partner Incentive encompasses a line extension allowance and a make-ready incentive (capped at $400,000), both based on the energy commitment.

This study summarizes the findings from the Fleet Assessment and Site Walk, which were informed by the application details and discussions with the project team. It includes a site-specific charging infrastructure design, cost estimate, estimated Fleet Partner incentive, charging analysis and projected annual electricity costs.

Preliminary Site Design

PGE conducted a site assessment at the Customer's facility on XX/XX/XXXX. Based on this assessment, charger selection and customer input (outlined in Table 2 below), PGE has developed a preliminary site design. The design is tailored to the planned charging solution. Should there be any changes to the chargers or operations, please inform the PGE Fleet Partner team, as these adjustments may require design revisions.

Table 2

Assumed Charging Solution			
	Building 1	**Building 2**	
Make & Model	ChargePoint CPF50 (32-Amp)	ChargePoint CPF50 (50-Amp)	ChargePoint CPE280
Configuration	Wall Mount Single Port	Pedestal and Wall Mount Single Port	Pedestal, All-In-One DCFC, Single Port
Nameplate Power	7 kW (32A at 208V)	10 kW (50A at 208V)	Output: 80 kW (Input: 100A at 480V)
Charging Software	ChargePoint		

The preliminary site design packages are provided at the end of this document and summarized here.

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 vehicles, and 10 ports for admin and training vehicles. The DCFCs are shown near the service gear and transformer on the east row of parking.

Table 3

Preliminary Site Design Summary			
Site	Make-Ready Ports & Assumed Chargers	Total Demand Load (kW)	Service Information
Building 1	10 L2 – CPF50 (32A)	70 kW	400A at 208/120 V
Building 2	40 L2 – CPF50 (50A) 2 DCFC – CPE280	576 kW	1000A at 480/277V

Cost Estimate & Fleet Partner Incentive

Based on the preliminary designs above, PGE has estimated infrastructure costs, which include utility line extension and make-ready infrastructure expenses. These costs cover project management, design, permitting services and construction costs for general site conditions, excavation, civil work, landscape and pavement restoration, as well as electrical equipment and associated circuits. Note that charger hardware and installation are the customer's responsibility and are not included in these costs.

PGE's Fleet Partner program can offset these costs with a custom incentive of up to $400,000. As part of this program, PGE designs, installs, owns and maintains the make-ready infrastructure. To participate, the customer must agree to the program terms, which include installing qualified chargers and ensuring they remain operational for a 10-year period. Additionally, the customer agrees to a specified energy commitment over the 10-year term (outlined in the "Energy Commitment" in Tables 1 and 4). The preliminary cost estimate and incentive calculations are provided at the end of this document and summarized below.

Table 4

Fleet Partner Incentive Summary				
Site	Energy Commitment*	Infrastructure Cost**	Fleet Partner Incentive	Net Infrastructure Cost
Building 1	175,032 kWh	$75,000	-$34,442	$40,558
Building 2	2,042,040 kWh	$485,000	-$401,822	$83,178

*Energy Commitment is based on calculations outlined in the following section.
** Infrastructure cost does not include chargers. The customer is responsible for purchasing and installing chargers through separate contracts, which are not part of the Fleet Partner program.

Energy & Rate Assessment

Energy Use & Energy Commitment

PGE's **Fleet Partner Total Cost of Ownership Tool** was used by the participant to develop a plan for the EV fleet vehicles, operations and charging systems. The outputs from this tool are provided at the end of this document for reference. The fleet operations plan was then used to estimate the energy consumption each year for the electrified portion of the fleet.

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.

At Building 2, there is a mix of light-duty admin vehicles, and SUVs up for replacement. The average daily mileage of these vehicles is 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.

The annual energy use estimate is used to calculate a preliminary energy commitment for six years of operation for the fully electrified fleet. A final energy commitment will be determined during the Enrollment phase, incorporating vehicle procurement timelines and forecasts to ensure the commitment is attainable.

Table 5A

Energy Use Analysis – Building 1					
Vehicle Type	Qty.	Avg. daily mileage	Operating days/week	Est. EV kWh/mile	Annual Energy Use (kWh/yr)*
Car/SUV	2	20	5	0.35	4,004
Pickup/Van	8	20	5	0.55	25,168
				Total (Annual)	29,172 kWh/yr
				Est. Energy Usage (10-year)	175,032 kWh**

Table 5B

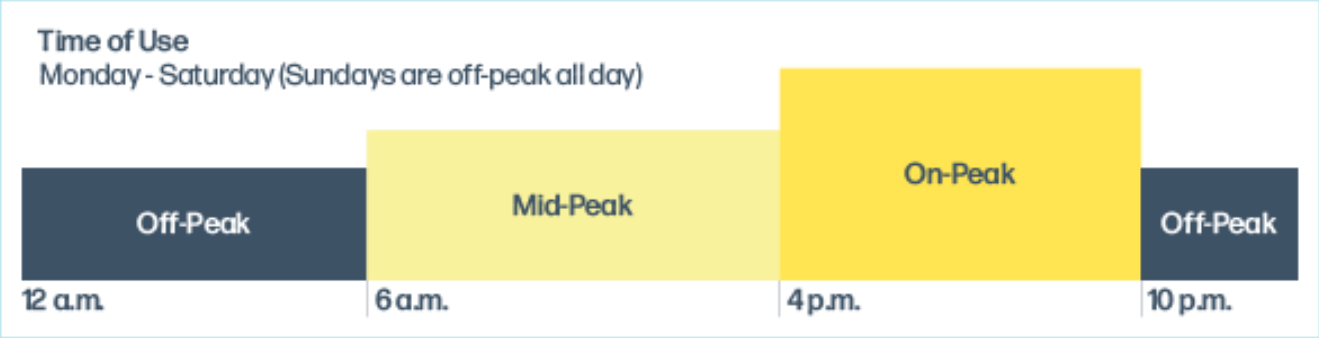
Energy Use Analysis – Building 2					
Vehicle Type	Qty.	Avg. daily mileage	Operating days/week	Est. EV kWh/mile	Annual Energy Use (kWh/yr)*
Car/SUV	40	75	75	0.35	300,300
Car/SUV	2	200	5	0.35	40,040
				Total (Annual)	340,340 kWh/yr
				Est. Energy Usage (10-year)	2,042,040 kWh**

*Includes standby power losses and an estimated 10% electrical losses during charging.
** Maximum Energy Use Commitment is 2,303,816 kWh to receive the full $400,000 Fleet Partner Incentive.

Rate Schedules & Charge Management

Commercial Services, such as those in the Fleet Partner program, are automatically enrolled in the time-of-use rate schedule that best matches their load. During the **Build** phase, participants will have the option to opt-in directly to the recommended Schedule 38, a standard TOU rate designed to accommodate large, dedicated EV services.

Figure 2: Time-of-Use Peak Time Windows



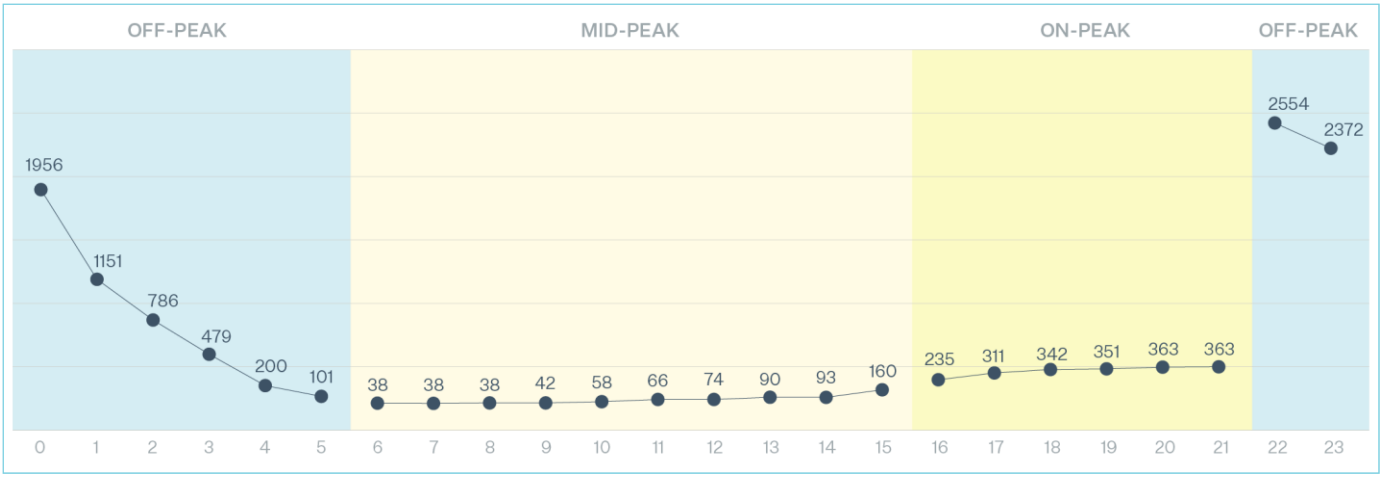
TOU rate schedules enable energy savings by shifting charging to off-peak periods, as defined by the rate schedule. Figure 2 illustrates the three Peak Time Windows and their associated energy costs. Charging during off-peak hours – between 10:00 p.m. and 6:00 a.m., Monday through Saturday, or at any time on Sunday – will result in lower energy costs. Additionally, minimizing charging during peak times helps support a more resilient, reliable and cost-effective grid.

If EVs are plugged in and immediately begin charging during the on-peak window, on-peak energy charges will apply – this is referred to as unmanaged charging. In contrast, a managed charging approach optimizes the charging schedule according to the TOU rate, helping to minimize the energy costs associated with on-peak charging. An example of an optimized charging profile is shown in Figure 3 below, where vehicles are plugged in at the end of their workday, but charging is delayed until the off-peak charging window begins.

There are several ways to implement charge management in an EV fleet. One of the most straightforward methods is programming the Charge Management System software or EV telematics to schedule, delay or throttle charging based on the time of day. Using programmed CMS software offers greater control and visibility at the site level, while onboard EV telematics allows for vehicle-by-vehicle programming – ensuring that "emergency" vehicles can always charge at full speed.

For the service size and operational needs of the proposed fleet, a rate plan that includes demand charges, such as Schedule 85, may be more cost effective in specific circumstances. Schedule 85 offers lower energy costs but includes a demand charge, which is absent from Schedule 38. The demand charge is based on the peak power during the on-peak and mid-peak windows each month. When a fleet's charging load is well managed to minimize peak-time charging, this rate can be less expensive than a standard TOU rate. However, there is significant risk that even minimal charging during peak windows could increase electricity costs, negating potential savings. To mitigate this risk, it is recommended that all Fleet Partner customers begin service on Schedule 38 and consider Schedule 85 only after charging operations and controls are fully established.

Figure 3: Example of a Well-Managed Load Profile



Estimated Electricity Costs

Electricity costs were estimated based on the charging solution outlined in the Preliminary Design section, assuming all EVs have been acquired and that 100% of charging occurs on-site. The analysis provides estimates for both an unmanaged solution – based on vehicle return times – and a managed solution – designed to fully charge vehicles before departure while maximizing off-peak charging.

Table 6

Annual Electricity Cost Analysis						
Site	Total Load (kW)	Electricity Use (kWh/yr)	TOU Rate		Demand Charge Rate	
			Unmanaged Electricity Cost*	Managed Electricity Cost**	Unmanaged Electricity Cost*	Managed Electricity Cost**
Building 1	70	29,172	$7,005	$6,130	$20,100	$7,775
Building 2	576	340,340	$74,050	$63,839	$167,377	$65,786

* Charging begins as soon as the vehicle is plugged in and is charged to full as quickly as possible.
** Charging is optimized through a CMS or vehicle telematics to prioritize off-peak charging.

Other Incentives

A range of incentives from the Federal Government, Oregon DEQ and PGE are available to support the purchase and operation of electric vehicles and charging infrastructure. For the most up-to-date list of programs you may qualify for, use PGE's Total Cost of Ownership Tool (TCO).

Oregon Clean Fuels Program

The Oregon Clean Fuels Program allows fleets to generate Clean Fuels Credits by charging electric vehicles and selling those credits on the market for annual revenue. This is typically managed

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. Use PGE's Total Cost of Ownership Tool (TCO) for estimates on credit and revenue generation.

Conclusion & Next Steps

This study marks the conclusion of the **Plan** phase of the Fleet Partner program, and provides a preliminary scope, estimated costs and incentives for the installation of make-ready infrastructure during the **Build** phase. The project details are summarized in the table below.

Table 7

Fleet Partner Project Summary					
Site	Make-Ready Ports	Energy Commitment	Infrastructure Cost	Fleet Partner Incentive	Net Infrastructure Cost
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PGE is excited to welcome XXX to continue through the Fleet Partner Program and move into the **Build** phase. Below are the next steps to continue progressing through the program:

1. **Select chargers:**
   Research charging hardware and software options from PGE's qualified chargers list and select your preferred chargers. Obtain a quote from the vendor for the selected chargers.

2. **Confirm the preliminary site design & program terms**:
   Engage internal stakeholders to review and agree to the program requirements (listed below), the charger layout, the number of ports and other site design elements. If revisions are needed, contact the Fleet Partner team for adjustments to the preliminary design. Once confirmed, sign and return the Reservation form, along with the quote for your chargers, to move into the **Build** Phase of the Fleet Partner program.

Program terms:

- PGE will design and construct the make-ready infrastructure.
- PGE will own and maintain the make-ready infrastructure.
- Participant will cover any make-ready infrastructure costs not covered by the incentive, prior to PGE starting construction.
- Participant commits to forecasted energy use of the chargers (preliminary estimate shown in table above).
- Participant will purchase, install and register at least one PGE-qualified charger within 6 months of construction completion.
- Participant will cover any charger software fees and maintenance costs to ensure chargers remain operational and continue sharing data with PGE for 10 years.

- Participant will keep the chargers in service and on a cost-of-service (non-Direct Access) rate schedule for 10 years.
- Site property owner must sign an easement covering PGE-owned infrastructure.
- Participant agrees that no other active construction is occurring at the site (the **Build** phase cannot start until all other construction is complete).

Other EV Fleet Considerations:

Whether you decide to electrify your fleet through Fleet Partner or independently, follow these steps to ensure your project's success.

1. **Research vehicle incentives**:
   Explore and apply for available incentives, rebates and grants to help cover the costs of electric vehicles.
2. **Order electric vehicles**:
   Place orders so that the electric vehicles are expected to arrive after the charging site construction is complete. The design, permitting and construction of a charging site can take 6–18 months.
3. **Prepare**:
   Assess any operational impacts of electric vehicles and collaborate with your team to prepare for the transition to electric.
4. **Testing, training, and optimization**:
   Test the new electric vehicles with the chargers, train drivers on EV charging and driving, track charging data, and optimize charging times to minimize on-peak charging and reduce demand where possible.

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