

**Exh. ASR-2
Dockets UE-220066, UG-220067,
UG-210918
Witness: Andrew S. Rector**

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

**DOCKETS UE-220066, UG-220067,
UG-210918 (consolidated)**

In the Matter of the Petition of

PUGET SOUND ENERGY

**For an Order Authorizing Deferred
Accounting Treatment for Puget Sound
Energy's Share of Costs Associated with
the Tacoma LNG Facility**

EXHIBIT TO TESTIMONY OF

ANDREW S. RECTOR

**STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

PSE Electric Vehicle Charging Pilot Programs July-December 2021 Update

July 28, 2022



July – December 2021 Update

Electric Vehicle Charging Pilot Programs

In its initial tariff filing of Puget Sound Energy’s (PSE) electric vehicle (EV) charging products and services under Docket UE-180877, PSE committed to provide progress reporting to the Joint Utility Transportation Electrification Stakeholder Group on specific items, which are represented below, as well as other measures and overall information on the program development and execution. This report provides updates on the specific metrics, as well as activities completed within each of the services under Schedule 551 (workplace charging products and services and public charging services), Schedule 552 (single and multi-family residential charging products and services, including the residential off-peak charging service incentive), Schedule 553 (education and outreach), and Schedule 554 (low income transportation electrification programs).

This is the fourth progress report and represents activities performed from June 1 through December 31, 2021. During this period, PSE and its partners focused on the operation and evaluation of the residential pilot and construction, installation, and operations of the other pilots.

Transportation Electrification Reporting Metrics

July 1, 2021 - December 31, 2021

Light Duty Electric Vehicles in PSE’s electric service territory as of January 24, 2022	57,658
Estimated annual light duty electric transportation load (MWh)	105,021 MWh
Percent of PSE total annual load in 2020* impacted by light duty electric transportation	0.39 %
Estimated coincident peak of electric transportation load, as compared to PSE’s system peak	32.4 MW estimated during PSE’s 2021 peak
Customer participation in pilot programs, in absolute numbers and as a percentage of electric vehicles in PSE’s service territory and geographically	At least 1,336, which is approximately 2% of the electric vehicles in PSE’s service area
Electric load served through Schedules 551 and 552 products and services	652,298 kWh
Transportation electrification products and services related program costs in 2021	Operating: \$2,700,732 Capital: \$1,717,628 For further detail, see last section of this report.
Load shifted to different times from pilot Schedules 551 and 552 charging products and	375,503 kWh

Estimated cost savings associated with shifting loads in pilot Schedules 551 and 552 charging products and services	*Too early to measure
Revenues from public charging services	\$7,895.68

**PSE establishing method for valuing shifted load.*

In addition to the metrics outlined above, Up & Go Electric chargers dispensed 623,421.69 kilowatt-hours (kWh) to electric vehicle drivers. This translates to 62,342.17 gallons of gasoline saved and 610.64 tons of avoided CO2.

Electric Vehicle Pilots Progress

PSE launched two more public charging stations and substantially completed construction of the remaining multifamily and workplace properties as well as an additional equity-focused projects, despite EVSE supply chain delays which continued to significantly impact the schedule. Progress and updates on specific pilots are outlined below.

Education and Outreach (Schedule 553)

PSE continued the digitally focused customer engagement tactics that were successfully implemented over the previous 15 months due to ongoing COVID-19 restrictions around in-person events. These online-only tactics, which are discussed further in this section, resulted in very high customer engagement numbers, including the program setting an all-time customer engagement record in July with over 101,000 total customer engagements that month. Additional numbers are outlined in the table below.

PSE’s interactive Electric Vehicle Guide web tool, which initially launched in January, was key to achieving higher engagement numbers in the second half of 2021. The EV Guide’s improved Search Engine Optimization (SEO), as compared to the EV Calculator tool it replaced, led to a 105% increase in organic search traffic over that of its predecessor.

The Education and Outreach program also saw continued success with its intender-focused “virtual events” in the back half of 2021. PSE hosted two live EV-centric webinars in Q2 and Q3 that were attended by over 550 customers, during which over 180 customer questions were answered. During these events, PSE EV experts and external EV owners presented information and answered attendee questions around the environmental benefits, cost savings, and fun of driving EVs.

Other highlights of the second half of 2021 included introducing a new instant-signup widget to most program emails, which more than tripled Up & Go Electric newsletter signups during Q3 and Q4; creating the first in a series of short animated videos highlighting the benefits of EVs; and executing a suite of digital marketing tactics to support the opening of Up & Go Electric public charging stations in Kent and Bellingham.

Transportation Electrification Fleet Outreach & Advisory

In addition to providing broad customer education, outreach and awareness, PSE also supported customers interested in transportation electrification through technical advisory services. Major activities in the past six months included:

- Cohosted a vehicle experience with Lion Electric in July where local fleet managers were invited to see, learn, and interact with a heavy-duty Lion electric truck. In total, there were up to 80 attendees from approximately 20 companies.
- Supported customer interest in electric fleets through direct conversations, working with 29 fleet operators/managers to help them understand the process and high-level benefits of electrifying. PSE’s total-cost-of-ownership calculator further supported two fleets in learning about the cost-savings benefits of transitioning to electric.

The results of these and other tactics from July through December of 2021 are summarized below:

Measure	Result
Electric Vehicle Guide	Over 135,000 unique page views -- more than 13 times the unique page views the old EV Calculator had during the same period in 2020.
Electric Vehicle Virtual Events	560 attendees across two virtual events. Answered 182 EV questions from attendees. On average, 94% of attendees rated the events as “excellent” or “good,” an improvement on the 93% who did so in Q1 and Q2. Over two-thirds of attendees said they were more likely to buy an EV after attending an event.
Up & Go Electric instant-signup widget	Call to action (CTA) that instantly registers customers for the Up & Go Electric newsletter added to most program emails starting in July. Average newsletter signups jumped from 128/month in Q1 and Q2 to 419/month in Q3 and Q4.
Social Media Marketing	1,741 engagements (likes, comments, shares, etc.). Plus, eight conversions (virtual event registrations).
Search Engine Marketing to attract potential car buyers to pse.com/electriccars	Accounted for 47.8% (14,836 unique pageviews) of traffic to the Up & Go Electric page and 16.6% (22,527 unique pageviews) of traffic to the EV Guide. The entire campaign over this time garnered 791,051 impressions with a 6.1% click through rate and \$0.62 cost per click. It led all PSE SEM campaigns in impressions while having a cost per click (CPC) well below company average.
Community Events	No metrics to share as planned events were cancelled due to COVID-19 related restrictions.
Ride and Drives	No metrics to share as planned events were cancelled due to COVID-19 related restrictions.
Monthly Electric Vehicle Email Newsletter	Enrollment in PSE’s electric vehicle newsletter increased by 2,515 with a total of 13,617 subscribers for the December edition. The average open rate in July-October was 44% -- up from 43% in Q1/Q2. (Due to changes to Apple Mail and how it counts opens, open rates jumped in November and December and are no longer a reliable metric.)

In the first half of 2022, PSE anticipates conducting the following education and outreach activities:

- Preparation for the launch of one PSE Up & Go Electric public charging station, including a potential public ribbon-cutting ceremony and digital promotion tactics.
- Two virtual events for PSE residential customers, as well as an additional virtual event for PSE employees and another for a PSE commercial partner.
- The return of our dealership test drive contest, which resulted in 95 PSE customers taking a test drive in Q2 of 2021 while COVID-19 continued to preclude the hosting of a Ride & Drive event.
- Creation of a new animated video focused on EV benefits.
- Continued social media and online search engine marketing to promote email newsletter sign-ups and drive engagement with PSE.com.
- Stepped-up outreach efforts to local EV dealerships for potential partnerships.
- The return of in-person community events promoting EVs and PSE EV programs.

Residential and Off-Peak Charging (Schedule 552)

PSE continued monitoring the operations of the off-peak load shifting study and charger performance in the second half of 2021. Attrition in the program continues to be lower than originally forecast, with only one customer notifying PSE of a move. Due to the nature of the program and in order to limit disruptions for participants, chargers that malfunction and cannot be fixed remotely are removed and replaced by PSE's service partner under established warranty provisions. There were only 15 chargers that needed replacement during the period covered by this report. In addition, PSE continues to have a lower number of participants leaving the program, due to moving or selling of a vehicle, than originally projected. As of December 31, there were still 491 out of the original 500 participants.

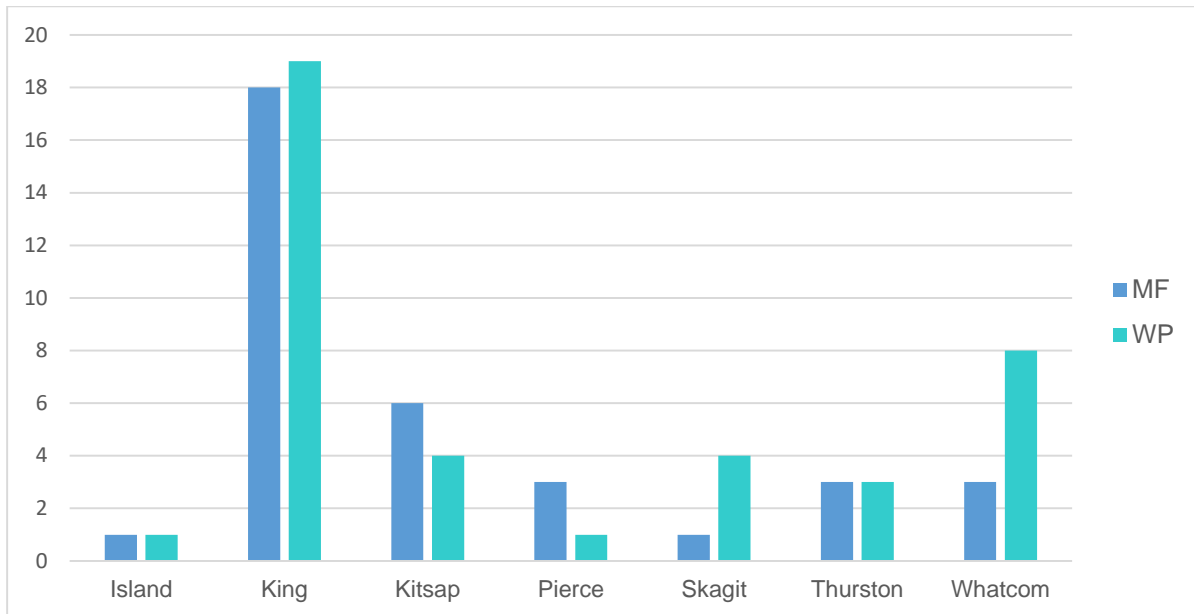
Upcoming activities in the residential and off-peak service from January – June 2022 are:

- *Release annual participant surveys.* PSE will release an annual survey to current participants in Q1 2022, analyze the data, and provide relevant results in the next report.
- *Analyze charging data.* PSE will conduct another analysis of charging data to assess how driver behavior may have changed due to easing of COVID-19-related restrictions.

Workplace and Fleet (Schedule 551) & Multi-Family (Schedule 552) Charging

PSE substantially completed installations for the workplace and fleet program during 2021, completing enrollment of 40 properties into the workplace & fleet pilot and 35 properties into the multifamily pilot. The majority of applicants to both services were located in King County, however, PSE increased outreach efforts in other counties to improve awareness and ensure installations were distributed throughout PSE's electric service area. The final breakdown of properties by county is in the table below.

Table 1. Property participation by county



After continued equipment delays, PSE made the decision to change manufacturers and went with companies that were able to deliver the chargers within PSE’s schedule while not compromising on requirements or quality. Including these new manufacturers also allowed PSE to learn about actual installation costs for different charger types and will assist in collecting lessons learned around charger reliability in the future. All of the information PSE collects from the pilot will be instrumental in developing the multifamily charging program described in the Transportation Electrification Plan.

As discussed in the previous report, PSE developed and posted a way for interested properties to put themselves on an “interest list” for notification of future multifamily and/or workplace EV charging programs before closing the pilot to new applicants. The form is available on PSE’s website. As of December 31, 45 properties have completed the form and are on the interest list.

Process development and improvement on the multi-family and workplace charging programs is generally completed in parallel due to the similar characteristics. Between January and June 2021, both programs focused on:

- *Refining enrollment, installation, and onboarding processes.* PSE collects feedback from participants as they are enrolled into the programs, and incorporates that information into improvements or learnings for future services.
- *Completing property installations.* Following the transition to a new manufacturer, PSE and its service provider ensured property installations were substantially complete by yearend.
- *Transition to new manufacturers.* When the previous manufacturers could not deliver chargers on time, PSE worked with its service partner, Greenlots, to find suitable replacements that matched the original chargers in technical specifications, price, and reliability. From there, PSE designed branded wraps or labels for the chargers so they are easily recognized as part of the Up & Go Electric program.

Upcoming activities in the multi-family residential and workplace pilots from January – June 2022 are:

- *Complete onboarding of properties.* Some properties did not complete the onboarding procedures before yearend due to holidays or construction delays. PSE and its service provider

will ensure these properties are fully enrolled and on-boarded in the program, which includes training on the charger management platform and advising on how to best set up the chargers.

- *Continue to refine processes.* PSE will continue to collect lessons learned to further refine site host onboarding for future programs.
- *Prepare annual surveys.* PSE plans to release annual surveys to participating properties this summer to allow properties who completed installations in December time to get familiar with the chargers.

Public (Non-Residential) Charging (Schedule 551)

PSE made significant progress on public charging projects during the second half of 2021, including the launch of two new charging locations, bringing the total to three operational sites. In addition, PSE received final design approval from property owners for two more locations and continued design work with two additional sites.

As with the workplace and multifamily pilots, PSE transitioned to new charger manufacturers for both level 2 and DC Fast Chargers for projects in 2022 and 2023 due to continuous equipment delays. These new manufacturers were finalized after reviewing comparable EVSE models and gathering feedback from other utilities. While supply chain shortages will continue to impact schedules, PSE is working with its service partner to reserve these new DC Fast Chargers so they are available by the time construction is scheduled to begin. This will decrease schedule uncertainty and allow for a more accurate construction and launch schedule.

Supply chain shortages are impacting expenditures as well as schedules. PSE's Service Partner has reported seeing significant material and labor cost increases, which are expected to last through at least 2022. For example, costs for steel and PVC materials have risen by a minimum of 70% to as much as 200%, depending on the item. Aluminum, another component used in these projects, has increased by approximately 60%. PSE is working with its Service Partners to find cost savings where possible while still meeting product goals.

The public charging pilot key activities between July 1 and December 31, 2021, included the following:

- *Kent Public Charging Station Launch.* PSE held a socially-distanced, outdoor launch event on September 17th for the completed Kent site. The Mayor of Kent attended the event and provided some brief remarks regarding her support for the project and how its presence will have a positive impact on the surrounding area, which includes several multifamily properties located in the immediate area, in addition to its proximity to highways.
- *Bellingham Public Charging Station Launch.* PSE originally planned to launch the Bellingham public charging station in the summer of 2021. Unfortunately, equipment issues and delays pushed the launch date into December. Despite this schedule impact, PSE held a successful launch event in partnership with the Community Food Co-op on December 9th.
- *Kirkland and Bremerton Public Charging Stations.* The new DC Fast Charger, discussed above, caused some changes to the original designs for these locations due to larger power demands and different equipment footprints. PSE worked with the property owners of these locations to

ensure they were still amenable to the new designs and obtained approval of the final site design.

- *Renton Public Charging Station.* After extended lease and easement discussions with the property, PSE was informed that the owner, for personal reasons, was uncertain when or if a final agreement could be reached. Due to this complication and other negotiation delays, PSE determined it would be best to find an alternative location. After reviewing potential locations in areas identified by the siting model, PSE found that going further south would result in locations too close to existing DC Fast Charging facilities and going further north would push PSE out of Renton. Because of these limitations, PSE decided to move away from finding a location in Renton and began researching the possibility of siting in Anacortes as it was the highest ranked area in Skagit County in the siting model.
- *Olympia and Sumner Public Charging Stations.* PSE made significant progress in these two locations. For Olympia, PSE obtained business points and the 50% site design approval with a new property owner. In Sumner, PSE engaged with City staff to provide background on the project, then contacted a property that had previously indicated interest in hosting a public charging station. Since the first contact, PSE has been able to secure business points and 50% site design approval for the Sumner location as well.

Upcoming activities in the Schedule 551 public charging station programs for January through June of 2022 are:

- *Kirkland and Bremerton charging stations.* PSE is currently working through lease and easement discussions with property owners as well as engaging with the jurisdictions to complete the permitting process. Once this is complete, PSE will finalize the construction schedule for both charging stations. Currently, PSE is tentatively targeting to begin construction for Kirkland in late Q2.
- *Olympia and Sumner charging stations.* PSE is working with the properties to finalize site designs. Once completed, PSE will work with the properties to complete lease and easement documents and develop a construction schedule that works for both parties.
- *Anacortes charging station.* PSE is initiating discussions with the City of Anacortes and other stakeholders in that area. Once stakeholders have had a chance to provide input, PSE will begin seeking a property in Anacortes that meets siting requirements.

Low Income (Equity-focused) Electric Vehicle Transportation Pilot Projects (Schedule 554)

In the second half of 2021, PSE continued to launch pilot projects designed to promote equitable access to electric mobility and the distribution of resulting environmental, social and economic benefits. As service providers' roles in their community normalize and members of the community become more comfortable with shared transportation models, usage patterns of the EVSE and corresponding EVs may continue to be different in the near term than PSE expects to see in the future. While PSE has begun

tracking benefits, a more accurate picture of these benefits may start to form in 2022. After hearing additional feedback on the pilot titles, PSE has begun titling its products and services that serve highly impacted communities, vulnerable populations, and their service providers as 'Equity-focused' as opposed to the terms 'DEI' or 'Low-income'.

Key activities for the Equity-focused pilots between July 1 and December 31, 2021 included the following:

- Successfully negotiated a grant contract with Washington State Department of Commerce for installation of a dual port L2 charger at Fairfield Residential Auburn Court location. In addition to this EVSE, PSE will provide funding for a shared electric vehicle to be managed by Community Life Foundation (formerly Senior Housing Assistance Group) and utilized by residents who are predominantly income-eligible individuals who are 65 years and older or 50 years and older with a disability.
- Installed a dual port L2 charger at Housing Authority of Skagit County and provided grant funding to assist the purchase of a Kia Niro for use during the course of delivering weatherization projects to low-income households.
- Began installation of a dual port L2 charger at Opportunity Council's East Whatcom Regional Resource Center in Maple Falls for future use by a co-funded Type A electric school bus. This installation was expected to be complete in 2021 but major weather events in the region delayed construction.
- Continued preliminary benefits tracking strategies with equity-focused project participants. In July through December 2021, participants reported the following metrics:
 - Opportunity Council reported:
 - 69 trips totaling 1,115 miles. Trip purposes spanned weatherization, conservation education, home repair and administration.
 - One additional staff member was trained on the EV and EVSE and staff have been finding it more feasible to use the EV for post-project inspections than previously expected.
 - HopeSource reported:
 - 113 trips totaling 3,691 miles. Trip purposes spanned weatherization, housing and homelessness outreach, youth scholarship trips, food bank trips, and other support service outreach.
 - The vehicle (dubbed EVie) is used slightly less in the winter because it is not all-wheel drive nor does it have snow tires. Given weather conditions in Kittitas County, vehicles with those features are used more often but increased usage of the vehicle is expected as weather improves.
 - King County Metro reported (for Q4 only due to staffing turnover):
 - 26 trips over 359 miles
 - The Community Vans in Pacific and Algona were utilized in a number of creative outreach events. For example, the EV was decorated as Rudolf and driven through the Tree Lighting Parade.
 - Muckleshoot Transportation Department reported (for Q4 only due to operations schedule):

- 68 community members transported in the shuttle over a total of 582 miles
- 8 drivers or staff trained on EV and EVSE usage
- 15 minutes of reduced rider wait times during the lunch hours
- Zero pedestrian-vehicle safety incidents along shuttle route
- Continued membership in Hopelink's South King County Mobility Coalition to stay apprised of emerging and existing community mobility needs.
- Conducted community engagement with 34 community based organizations, government agencies and tribal entities and over 100 residents relating to the design of future multifamily and fleet-commercial TE programs and services. PSE used learnings from these pilots to help inform questions posed to community engagement participants and will utilize learnings from that process in continued pilot execution as well as in future tariff and program design.

Upcoming activities in the Schedule 554 projects during January through June 2022 are:

- Complete installation of a dual port L2 charger at Fairfield Residential's Auburn Court location, assist Community Life Foundation in EV procurement, and help socialize the electric care share program with residents.
- Complete installation of dual port L2 charger at Opportunity Council's East Whatcom Regional Resource Center in Maple Falls. Once the Blue Bird Type A electric school bus has been delivered, Opportunity Council will begin transportation of income-eligible children.
- Continue tracking benefits quarterly as projects come online.
- Continue to participate in Hopelink's local mobility coalition meetings and conversations with mobility service providers to stay apprised of the evolving mobility landscape, community needs and preferences, and potential future partnerships.

Transportation Electrification Products and Services Costs

Total operating expense in 2021 was \$1,717,628. Costs included in this area included PSE labor, overhead costs, outside services, and matching funds for DEI pilot projects. Operating expenses also included work related to the education and outreach program.

Capital expenditures in 2021 were \$2,700,732 and include installation and charger costs for public, multifamily, workplace, and DEI pilot projects; costs related to developing projects for the public program; and applicable PSE labor, outside service contractors, and labor overheads.