PSE

TARGETED ELECTRIFICATION STRATEGY REPORT

JANUARY 2025

PUGET SOUND ENERGY

EXECUTIVE SUMMARY

Puget Sound Energy (PSE) developed the Targeted Electrification Strategy (TES) in response to the 2022 general rate case (GRC) Settlement Agreement approved by the Washington Utilities and Transportation Commission (UTC).[1] Stipulation O of the Settlement Agreement requires the use of an updated Decarbonization Study and a Targeted Electrification Pilot to inform the development of the TES. PSE details the specific requirements of the Settlement Agreement in Table 5 and states how it has addressed each provision within the report.

As required by the Settlement Agreement, the direction of the TES is driven in large part by the findings from the Decarbonization Study and Targeted Electrification Pilot, especially the following three takeaways.

1. The Decarbonization Study determined that fuel switching at scale is not currently cost-effective for PSE customers.
2. PSE customers are interested in learning more about:
    a. Fuel switching through Home Electrification Assessments (HEA), and
    b. Installing heat pumps with support from rebates.
3. Financial investment required to install a heat pump is the primary barrier for their widespread adoption; these challenges are heightened for low-income customers and customers located in named communities.

Based on these findings, PSE plans to pursue a portfolio of pilot initiatives (referred to herein as the "TES Program Portfolio") focused on achieving carbon emission reductions through providing targeted electrification rebates primarily for low-income and named community customers and for customers in gas-constrained areas where avoided costs can be captured through the deferral of gas infrastructure projects that are otherwise needed. The initiatives comprising the TES Program Portfolio include Targeted Electrification Pilot Phase 2 (pending approval in PSE's 2024 General Rate Case), Climate Commitment Act (CCA) Decarbonization Programs, and other planned/proposed initiatives. The initiatives comprising the TES Program Portfolio are summarized in Table 1. Greater detail on these initiatives is provided in Section 4.

[1] See page 40 of PSE's 2022 GRC Settlement Agreement filed on August 26, 2022 in Docket UE-220066 *et. al.*, approved by the UTC on December 22, 2022, located here: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=2671&year=2022&docketNumber=220066

Table 1: TES Program Portfolio Summary

PROGRAM	CATEGORY	TYPE OF PSE CUSTOMER	ELIGIBLE SEGMENT(S)	2025/2026 ESTIMATED SPEND ($)[2]
Low-Income Heat Pump Direct Installation Pilot	Targeted Electrification Pilot Phase 2	Dual-fuel	Single-family residential	$4.6 million
Small Business Heat Pump Pilot in Named Communities	Targeted Electrification Pilot Phase 2	Dual-fuel	Small businesses within a named community	$1 million
Multi-Family Heat Pump Rebate Pilot	Targeted Electrification Pilot Phase 2	Dual-fuel	Multi-family within a named community	$2 million
Targeted Electrification of Gas-Constrained Areas Pilot	Targeted Electrification Pilot Phase 2	Dual-fuel	Single-family residential within a gas-constrained area	$4 million[3]
Income-Qualified Heat Pump Rebate Pilot	Targeted Electrification Pilot Phase 2	Dual-fuel	Income-qualified (at or below 90% of area median income) single-family residential	$1.2 million
Commercial & Industrial (C&I) Targeted Electrification Grant	Targeted Electrification Pilot Phase 2	Dual-fuel	C&I	$6 million
Income-Qualified Rental Program (IQRP) Direct Installs	CCA Decarb Program (2025-26)	Gas-only	Low-income renters within Tacoma Power service territory	$1.6 million
Single-Family Decarbonization Grants	CCA Decarb Program (2025-26)	All PSE gas customers (Gas-only and Dual-fuel)	Low-income weatherization community action agency (CAA) partners or other organizations including community-based organizations serving single-family residential	$3.5 million

[2] Budget values for 2025-26 in Table 1 do not include PSE marketing, overhead, or evaluation.
[3] PSE has planned for a budget of $8 million over the 4-year lifetime of the program. However, PSE has requested just $4 million for 2025-26 as the first half of planned funding.

PROGRAM	CATEGORY	TYPE OF PSE CUSTOMER	ELIGIBLE SEGMENT(S)	2025/2026 ESTIMATED SPEND ($)[2]
			low-income customers (priority within a named community and for renters)	
Multi-Family Direct Installs	CCA Decarb Program (2025-26)	All PSE gas customers (Gas-only and Dual-fuel)	Multi-family premises with low-income owners and renters or within a named community	$2.8 million
Multi-Family Decarbonization Grants	CCA Decarb Program (2025-26)	All PSE gas customers (Gas-only and Dual-fuel)	Low-Income weatherization CAA partners or other organizations including community-based organization serving multi-family premises with low-income owners and renters or within a named community	$2.5 million
Small Business Direct Installs	CCA Decarb Program (2025-26)	All PSE gas customers (Gas-only and Dual-fuel)	Small business owners and renters within a named community	$2.9 million
Enhanced Hybrid Heat Pump (HHP) Offering	Other (Conservation Program)	Dual-fuel	Single-family residential	$1.1 million (2025)
Non-Pipe Alternatives (NPAs) to Address Integrity Issues	Other (Pipeline Integrity Management Program)	All PSE Gas Customers	Customer(s) served by a pipeline segment or equipment identified for integrity issue mitigation where an NPA is deemed suitable	TBD[4]

Given that fuel switching at scale is not currently cost effective, PSE plans to implement the initial TES Program Portfolio in 2025-26 before reevaluating targeted electrification and the development of future

[4] NPAs to Address Integrity Issues will be funded via the integrity management program. Estimated spend is not currently listed as it is heavily dependent on customer willingness to participate.

initiatives beyond the pilot scale as part of the Integrated System Plan (ISP).[5] Beyond the potential system-wide cost impacts of electrification at scale, other challenges include cost shifting from gas customers who depart from the gas system to the remaining gas customers, upward rate pressure due to declining gas system utilization, and the potential emergence of stranded assets from gas infrastructure that becomes no longer used or useful. These topics are discussed further in Section 5, but the actions PSE has already taken to support targeted electrification and those planned in 2025-26 through the TES Program Portfolio are not at a scale where these concerns would likely lead to meaningful impacts for PSE's customers at this time. PSE will further consider these challenges and strategies to address within the ISP and as a part of the implementation of the TES over the next two years.

[5] Puget Sound Energy is developing the first ISP in Washington state history pursuant to the Washington Decarbonization Act for Large Combination Utilities, codified as RCW 80.86.020. For information, see: https://www.cleanenergyplan.pse.com/

1. TARGETED ELECTRIFICATION STRATEGY (TES) BACKGROUND AND INTRODUCTION

1.1. POLICY CONTEXT AND INDUSTRY CHANGE

The energy industry has experienced significant change over the past two decades due to a variety of political, societal, economic, and technological factors. In particular, an increased awareness of the environmental and climate impacts of greenhouse gas (GHG) emissions has prompted actions from policymakers and utilities across the U.S. and globally to transform the way energy is produced and used in an effort to reduce GHG emissions and, in turn, enhance environmental sustainability and combat climate change. Most recently at the national level, the Inflation Reduction Act (IRA) and Bipartisan Infrastructure Law (BIL)[6] are making substantial investments in this energy transition by strengthening domestic supply chains, investing in clean energy technologies, and promoting an equitable energy transition.

Many U.S. states have taken action by passing clean energy legislation aimed at reducing GHG emissions across their state-wide economy. This includes Washington, which passed the CCA to establish a cap-and-invest carbon pricing mechanism which employs a decreasing cap on emissions and requires emitting entities to purchase allowances equal to their recorded GHG emissions through quarterly auctions. The intent of the cap-and-invest mechanism is to incentivize customers and entities to reduce emissions through price signals by putting a price on carbon emissions. At the same time, revenue generated from this policy is then invested into programs that seek to further reduce state-wide GHG emissions. Collectively, clean energy policies are expected to continue to drive transformation of our energy systems and necessitate electric and gas utilities such as PSE to develop strategies for adapting to these changes and supporting customer preferences for the type of energy they consume.

1.2. PSE'S COMMITMENT TO COST EFFECTIVELY REDUCING GHG EMISSIONS

PSE is committed to helping the State to achieve its near-term and long-term policy goals, which are consistent with its own aspirational goals. In 2021, PSE published "Pathway to Beyond Net Zero Carbon by 2045"[7] describing our initial aspirational plan to reduce carbon equivalent emissions to zero and ultimately go beyond net zero to help Washington reach its ambitious emission reductions targets. This plan identified an aspiration to reduce carbon emissions from natural gas sales while also

[6] Also known as the Infrastructure Investment and Jobs Act (IIJA).
[7] "Pathway to Beyond Net Zero Carbon by 2045." *Puget Sound Energy,* Jan. 2021, https://www.pse.com/-/media/PDFs/Press-release/7535_Pathway_to_Beyond_Net_Zero_Report.pdf?modified=20210319175313

identifying a number of challenges, unknowns and possibilities. Targeted electrification was presented as one of several possible alternatives that could assist in achieving this goal that needed further exploration.

While electrification has the potential to help reduce GHG emissions, the level of impact is largely dependent on the electricity production mix, how the existing supply transitions to zero carbon over time, and the ability to add even more zero carbon resources to meet increased peak electric demand. If electrification occurs at significant levels in the near-term, it could result in higher emissions until additional clean energy supply is obtained, a key finding from the Decarbonization Study discussed in Section 2.1.1 of this report. Further, offering incentives to electrify customers may not be the most cost-effective option to lower carbon emissions depending on the level of incentive provided relative to the expected impact.

In recognition of these complexities and the importance of ensuring the energy transition is both equitable and affordable, PSE has taken many actions over the past few years to better understand the potential impacts and costs of electrification. This includes analyzing different electrification scenarios through the Decarbonization Study and gaining learnings through a Targeted Electrification Pilot, two key inputs into the development of the TES presented in this report. Through study and piloting of targeted electrification, PSE has gained learnings that helped shape the development of this TES which is designed to continue to advance our understanding of the GHG emission reduction impacts, costs, and distribution of benefits across our customer base for targeted electrification programs.

1.3. TARGETED ELECTRIFICATION STRATEGY PROCESS, SCOPE, AND OBJECTIVES

In its 2022 GRC, PSE reached an agreement with the UTC staff and other Settlement Parties requiring PSE to:[8]

- Conduct an updated Decarbonization Study aimed at maximizing carbon reductions with more up-to-date assumptions on cold-climate heat pumps (ccHPs);
- Concurrently develop an electrification pilot that will evaluate a range of impacts to gas and electric delivery systems and PSE customers by deploying heat pump technologies, including high-efficiency electric-only solutions; and
- Develop a TES, based on the findings of the updated decarbonization study and targeted electrification pilot.

The TES presented herein is directly informed by the Decarbonization Study and the Targeted Electrification Pilot findings described in this report.[9] It is also directly guided by the language within

[8] See page 40 of the GRC Settlement Agreement filed on August 26, 2022 in Docket UE-220066 *et. al.*, located here: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=2671&year=2022&docketNumber=220066

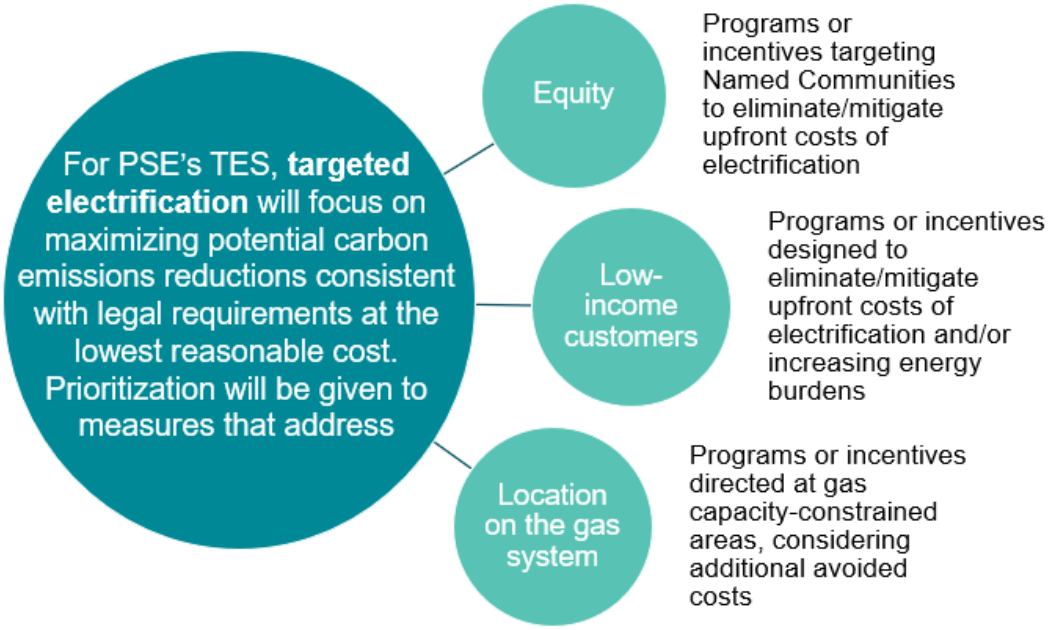
[9] The Decarbonization Study Summary Report and the Targeted Electrification Pilot Summary Report are filed separately from the TES Report.

Stipulation O of the Settlement Agreement. A summary of how the TES addresses each of the provisions of the Settlement Agreement related to the TES is provided within Table 5.

Stakeholder input has also helped shape the TES. Throughout the process of developing the TES, PSE met with Settlement Parties and the Conservation Resources Advisory Group (CRAG) to provide progress updates and receive feedback on the direction of the TES. A summary of the meeting topics and feedback provided is provided in Appendix A of this report.

Important to the development of the TES was first defining what targeted electrification means in the context of the TES. As discussed with Settlement Parties, PSE defines targeted electrification as is shown in Figure 1.

Figure 1: PSE's Definition of Targeted Electrification



Based on the findings of the Decarbonization Study, Targeted Electrification Pilot, and prior IRPs, the provision of incentives necessary to increase fuel switching adoption is generally not a cost-effective option today relative to other opportunities to reduce GHG emissions and meet energy resource planning needs, such as electric vehicle conversion and all electric new construction. Further, there are serious equity concerns associated with widespread fuel switching because those with the highest energy burdens are less able to afford or, in the case of renters, even access fuel switching incentives. Given the potential rate and bill increases that would occur to remaining gas ratepayers if electrification is adopted at significant levels, as fixed, sunk costs to operate the gas system are recovered through a smaller customer base, equity and cost effectiveness should be and are at the forefront of the TES.

In recognition of these challenges, PSE has developed a portfolio of near-term targeted electrification initiatives for 2025-2026, referred to as the TES Program Portfolio, that are primarily focused on taking a measured approach to targeted electrification through a pilot-first strategy that helps identify longer-

term strategies that can increase equitable access to fuel switching and minimize rate impacts to remaining gas ratepayers. To summarize, the TES Program Portfolio addresses targeted electrification through two critical and at times overlapping pathways:

1. Conducting pilots and efforts to learn more about the deployment, operation, and cost-effectiveness of various electrification initiatives; and
2. Prioritizing equity through initiatives that ensure named communities benefit from targeted electrification through incentives or offers designed to eliminate or mitigate the significant upfront investment costs of electrification and to mitigate an increasing energy burden on vulnerable customers.

The specific initiatives comprising the TES Program Portfolio are described in Section 4 of this report. These include a continuation of efforts from the Targeted Electrification Pilot through a collection of Phase 2 programs and several programs funded through PSE's CCA no-cost allowance revenues to expand access to disadvantaged populations. PSE will use the learnings from the TES Program Portfolio for the 2025-26 time period to inform the direction of targeted electrification beyond 2026 as part of its first ISP. PSE will also reassess cost effectiveness of broader electrification within the ISP. It is important to note that the Targeted Electrification Pilot Phase 2 efforts within the TES Program Portfolio are contingent upon the approval of funding authorized through PSE's 2024 GRC, discussed in greater detail in Section 4.1.

1.4. ORGANIZATION OF THIS REPORT

The remaining sections within the body of the TES Report are organized as follows:

- Section 2: Approach to Developing the TES – Describes the processes PSE used when developing the TES Report, including identification of key findings from the Decarbonization Study and Targeted Electrification Pilot to inform the direction of the TES Program Portfolio.
- Section 3: Actions PSE Has Taken to Advance Targeted Electrification – Describes the actions PSE has taken through 2024 to advance targeted electrification, which includes CCA Decarbonization Programs for 2024 and the Targeted Electrification Pilot.
- Section 4: Planned Targeted Electrification Actions for 2025-2026 – Describes the actions PSE plans to take in 2025-26 through the TES Program Portfolio, which includes CCA Decarbonization Programs for 2025-26 and the Targeted Electrification Pilot Phase 2.
- Section 5: Long-Term Challenges and Opportunities for Fuel Switching – Raises several challenges associated with fuel switching at scale that will need to be addressed to maintain customer affordability and promote equitable access. This section also identifies several potential strategies to help mitigate these risks.
- Section 6: Conclusion – Summarizes the TES Report and discusses the next steps for PSE as it considers targeted electrification beyond the TES.

2. APPROACH TO DEVELOPING THE TES

PSE applied a comprehensive approach to developing the TES, largely informed by results from the Decarbonization Study and Targeted Electrification Pilot. PSE also considered input through engagement with Settlement Parties and the Conservation Resources Advisory Group (CRAG) on the TES throughout its development as described in Appendix A. PSE used this collection of inputs to develop the TES Program Portfolio (see Section 4). PSE also identified challenges to fuel switching on a broader scale, and strategies to address those challenges (see Section 5).

2.1. KEY INPUTS TO THE TES

As noted above, the development of the TES was informed by findings from the Decarbonization Study and Targeted Electrification Pilot, among other inputs. A summary of the ways in which the TES was informed by these two efforts is detailed in Table 2. The remainder of this section provides greater detail on the findings of the Decarbonization Study and Targeted Electrification Pilot.

Table 2: Summary of How the Decarbonization Study and Targeted Electrification Pilot Informed the TES

SOURCE OF FINDING	FINDING	IMPACT ON TES
Decarbonization Study	Electrification at scale is not cost effective	PSE is pursuing a pilot-first, measured approach to the TES for 2025-26, focused on opportunities with the greatest near-term value to generate additional learnings for future targeted electrification initiatives
Decarbonization Study	Economic signals do not sway customers to purchase a heat pump	Providing heat pump incentives for a targeted group of customers is a key element of the TES for 2025-26 to better understand current financial barriers to fuel switching
Decarbonization Study	Electrification at scale could result in an increase in near-term carbon emissions before renewable deployment increases and emissions ultimately decline and has the potential to cause pressure on reliability due to a significant increase in electric peak demand	PSE plans to continue to evaluate the gas and electric impacts, including emission impacts, for TES program participants who install a heat pump or other fuel switching technologies, but PSE does not expect the TES to result in higher carbon emissions in the near-term at the current scale of the effort
Decarbonization Study	A significant number of customers pursuing fuel switching may lead to some level of inter-rate class cost shifting, negatively impacting rate classes that electrify at slower rates than other rate classes	PSE designed the TES program portfolio to address a variety of customer segments where technologically feasible, including residential single family and multi-family, small businesses, and commercial and industrial (C&I) customers
Decarbonization Study	Upward rate pressure attributed to a significant number of customers fuel switching would be experienced by low-income customers at a level similar to residential customers, but low-income customers may be less equipped to afford increases in their energy bills	The majority of the TES programs are focused on low-income customers and customers in named communities to address cost barriers and impacts and equitable access to fuel switching
Decarbonization Study	Targeted electrification where the gas system is constrained may help avoid or defer infrastructure investments	PSE includes a pilot for targeted electrification of customers in a constrained area as part of the Targeted Electrification Pilot Phase 2, a key component of the TES Program Portfolio
Targeted Electrification Pilot	Heat pump rebate participants experienced small annual overall energy bill savings as a result of adopting a heat pump	While the upfront costs of heat pumps remain a barrier for broad adoption of heat pumps, this finding indicates that the bill impacts under existing rates could be minimal today for customers who fuel switch
Targeted Electrification Pilot	Pilot program participants who installed a heat pump were estimated to have reduced their CO_2 emissions by approximately 20% using regional	PSE can pursue pilot-scale targeted electrification with limited concern that near-term emissions will

SOURCE OF FINDING	FINDING	IMPACT ON TES
	EPA eGRID emission factors. PSE customer-specific emission impacts may vary	increase, as identified as a risk with large-scale electrification in the Decarbonization Study
Targeted Electrification Pilot	Almost 50% of HEA survey respondents said they would be very likely to pursue electrification if additional incentives were available and heat pump rebate program attribution was estimated to be 73-84%	Providing incentives for heat pumps is a key element of the TES programs as these findings indicate this will likely increase heat pump adoption
Targeted Electrification Pilot	46% of HEA survey respondents expressed concern about system cost/pricing, 32% expressed concern about understanding incentives, and at least 20% of expressed concern about five other aspects of installing a heat pump prior to their HEA[10]	PSE has considered marketing, education, and outreach tactics and strategies to address specific heat pump concerns identified from the Pilot survey results
Targeted Electrification Pilot	Environmental friendliness, rebates, desire to add cooling to homes, and federal tax credits were the primary motivators for adopting a heat pump identified by Pilot participants who installed a heat pump	PSE has considered marketing, education, and outreach tactics and strategies to highlight specific motivators to install heat pumps identified from the Pilot survey results

2.1.1. DECARBONIZATION STUDY

The Decarbonization Study sought to evaluate the potential impacts of four different building electrification scenarios on both the gas and electric systems and customers served by those systems. The study focused on better understanding the energy usage and bill impacts on customers and potential impacts on gas and electric infrastructure, with an overall goal to learn how total system-wide costs compare to the societal benefit of emission reductions over the lifetime of the analysis (i.e., 2024-2050).

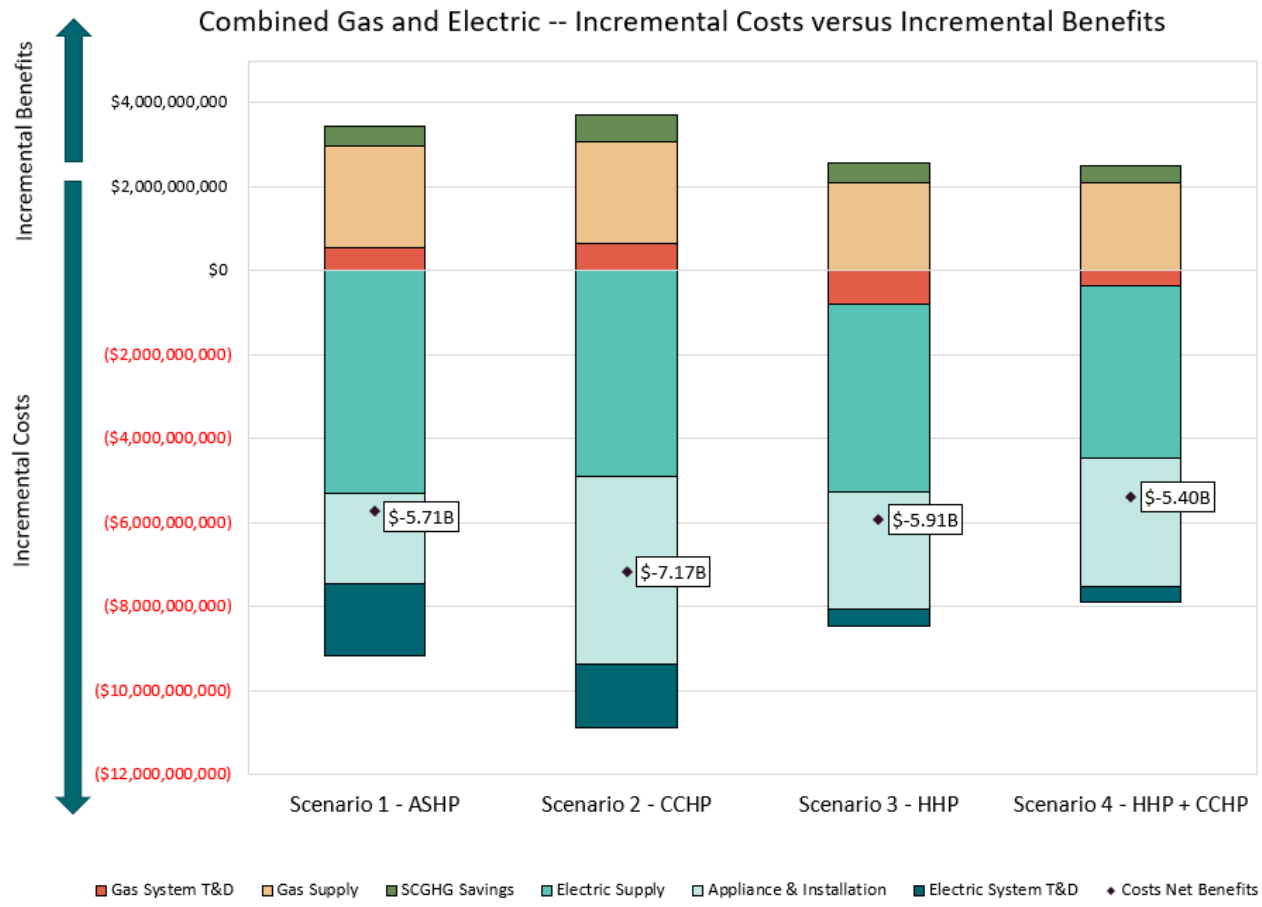
The electrification scenarios evaluated in the Decarbonization Study include:

1. **Full electrification with air-source heat pumps (ASHP)** – Existing residential customers are assumed to pursue end-of-life replacement of natural gas equipment with ASHPs, while new residential customers also install ASHPs
2. **Full electrification with ccHPs** – Existing residential customers are assumed to pursue end-of-life replacement of natural gas equipment with ccHPs, while new residential customers also install ccHPs
3. **HHP with ASHPs** – Existing residential customers are assumed to pursue end-of-life replacement of natural gas equipment with HHPs (i.e., ASHPs and a gas furnace backup), while new residential customers also install HHPs
4. **HHPs with ASHPs for existing customers and ccHPs for new customers** – Existing residential customers are assumed to pursue end-of-life replacement of natural gas equipment with HHPs, while new residential customers install ccHPs

[10] Additional detail regarding the full breakdown of responses to this survey question can be found in the Targeted Electrification Pilot Report.

The Decarbonization Study found that the total system costs of large-scale electrification far outweigh the total benefits through 2050 for all four of these scenarios, as shown in Figure 2 which depicts the net present value (NPV) of benefits and costs of each scenario through 2050. The total negative NPV of each electrification scenario is over $5 billion after considering the net of system and equipment costs and societal benefits from GHG emission reductions. The total NPV of the cold-climate heat pump scenario (CCHP) exceeds $7 billion in net cost due to higher equipment costs of ccHPs when compared with air-source heat pump (ASHP) alternatives. Regardless of the scenario, these findings suggest that pursuing electrification at scale is not a favorable strategy for PSE from a societal cost perspective at this time, given the current state of technology.

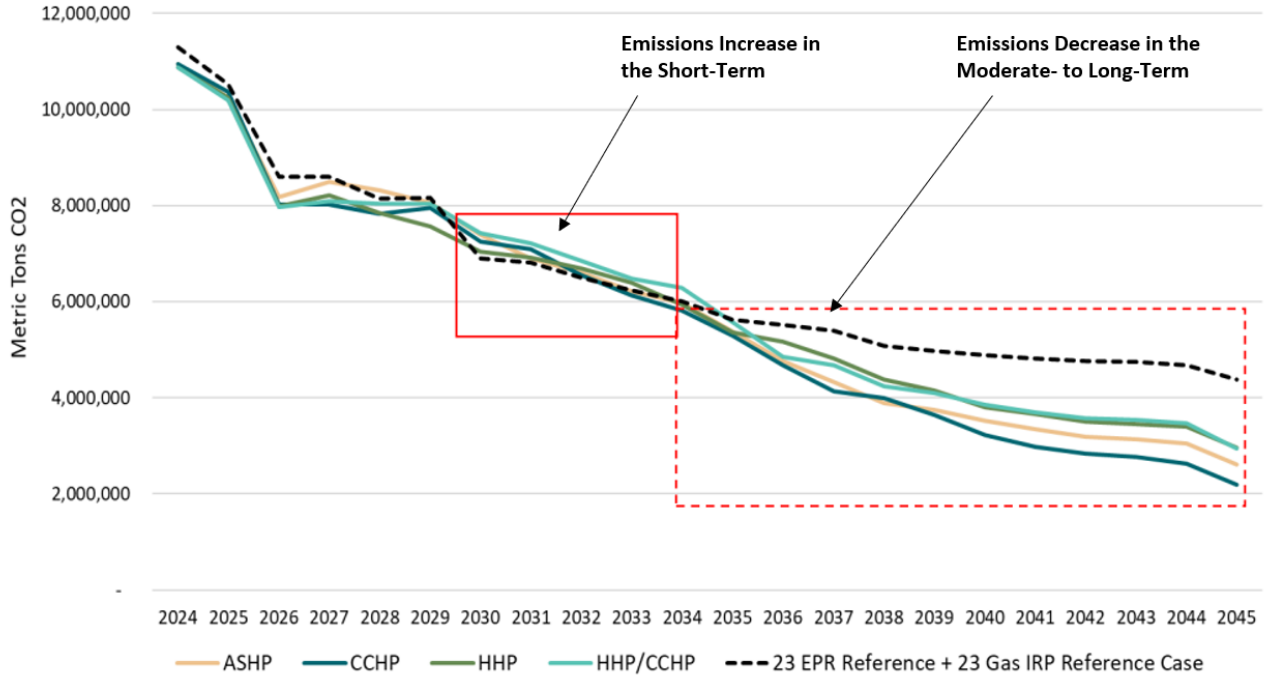
Figure 2: Total System Benefits vs. Costs from the Decarbonization Study[11]



[11] The chart in Figure 2 illustrates a refined version of the chart from the Decarbonization Study filing to clearly identify the sub-components of the overall benefits and costs of the electrification scenarios. This version of the chart was included with the revised pre-filed rebuttal testimony of Phillip Popoff located here: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=3008&year=2024&docketNumber=240004

The analysis additionally shows that while system benefits are positive by 2050, near-term carbon emissions could actually increase before declining in the moderate-to-long-term, as shown in Figure 3.[12] The first solid red box indicates that from 2029 through 2034, the reference case scenario actually results in fewer CO_2 emissions than the majority of electrification scenarios. By 2034, the electrification scenarios result in fewer CO_2 emissions through the remainder of the study to 2045, as is illustrated with the dashed red box below. This short- to moderate-term increase in emissions can be explained by the fact that increased dispatch of existing fossil-based electricity generation required to meet increased electricity demand outweighs the emissions reduction associated with less consumption of natural gas for building energy use[13]. As additional non-emitting resources come online to meet electric demand growth, emissions decline in the long-term.

Figure 3: PSE Gas and Electric Emissions Projections with Decarbonization Study Scenarios



Based on these findings, the TES focuses on targeted forms of electrification that can provide the greatest near-term benefits such as supporting vulnerable populations (i.e., named communities and low-income customers) and avoiding infrastructure costs for gas-constrained areas.

Further, annual customer cost analysis indicates that customers who choose to install heat pumps will likely face higher costs across all four scenarios than they would have if they were to replace their

[12] The Decarbonization Study leverages analysis from the 2023 Electric Progress Report (EPR) for the reference case, which may likely change in future ISPs as resource assumptions evolve. This is discussed in greater detail within the Decarbonization Study Summary Report.
[13] This study articulates the challenges with transforming the electric system to clean energy while simultaneously increasing the Electric Peak creates a number of challenges.

existing gas furnace with a new gas furnace to meet their space heating needs in 2030 and 2045. Other summarized takeaways from the Study are presented in Table 3 below.

Table 3: Summary of Key Findings from the Decarbonization Study

NUMBER	TOPIC AREA	DESCRIPTION
1	Customer Costs	Total annual heat pump electrification costs incurred by a residential customer are similar across all scenarios and are significantly higher than that of purchasing a new gas furnace.
2	Low-Income Customer Costs	Total annual heat pump electrification costs for low-income customers are close to, but still slightly higher than, the annual costs of purchasing a new gas furnace in 2045 considering available Inflation Reduction Act (IRA) incentives.
3	Costs / Environmental Impact	The total costs associated with the four study scenarios are currently estimated to be far greater than the societal benefits associated with carbon emission reduction attributed to electrification.
4	Environmental Impact	Electrification from all four scenarios increases carbon emissions in the near term, but carbon emissions decline over time once renewable resources are further deployed.
5	Electric & Gas Sales	On average, the four study scenarios resulted in a 25-30% increase in electricity sales and a 75-80% decrease in gas sales in 2050 relative to the reference case forecast depending on the electrification scenario; this includes all sectors analyzed (i.e., including C&I).
6	Technology Performance	Air-source heat pumps (ASHPs) are expected to have the greatest winter peak electricity demand increase of heat pump technologies followed by ccHPs; HHPs are expected to have near-zero impact on electric demand. This analysis also included electrification of other end uses such as cooking and water heating, these options are all-electric, hybrid solutions are not available. These additional end-uses can also contribute to annual and peak electric demand.
7	Next Steps	Targeted electrification on certain, gas-constrained portions of the system will be further considered within the TES.

2.1.2. TARGETED ELECTRIFICATION PILOT

The Targeted Electrification Pilot was also a requirement of the Stipulation O of the 2022 GRC Settlement Agreement. The Targeted Electrification Pilot, which was deployed in 2023 and continued through 2024, also helped inform the TES. Targeted Electrification Pilot offerings tested various approaches to providing incentives to encourage the adoption of electric home heating appliances (e.g., heat pumps) and to educate customers about the equipment and options available to them. HEAs were offered to PSE natural gas and dual-fuel customers to educate them on electrification opportunities and potential benefits from electric heat pump adoption. Heat pump rebates were then offered to PSE's dual-fuel customers through the Heat Pump Rebate component of the Targeted Electrification Pilot. The Heat Pump Rebate incentive amounts varied by the type of system installed and customer self-reported income levels, ranging from $2,400 to $4,000 per customer. While the Targeted Electrification Pilot was offered to PSE's broader customer base to capture learnings from a

variety of demographics and customer types, another electrification option was offered to low-income customers through the "Low-Income Track" of the program to ensure additional emphasis was placed on equity and learnings about low-income customer interaction with PSE's heat pump rebate offering. The Low-Income Track partnered with four local CAAs to provide qualifying customers with full-service whole-home weatherization and heat pump installations at no equipment or installation cost to the participant, also referred to as "Direct Install." PSE also sought to enhance heat pump accessibility for multifamily and small business customers located within named communities by providing no cost to customer electrification of space and water heating through the Multifamily Direct Installs and Small Business Direct Installs programs. These segments are also important to consider from an equity perspective and are not eligible for other initiatives from the Targeted Electrification Pilot.

PSE has identified several key findings through the Targeted Electrification Pilot, listed below in Table 4.

Table 4: Summary of Key Findings from the Targeted Electrification Pilot

NUMBER	TOPIC AREA	DESCRIPTION
1	Energy Impacts	Pilot participants who received heat pump rebates decreased natural gas use by 64% and increased electricity consumption by 51%. The combined energy use of both electric and natural gas resulted in a 30% average reduction in overall energy use.
2	Customer Cost	Customer feedback received during the pilot indicates that the primary barrier to heat pump installation is the upfront cost of installation. Almost 50% of HEA survey respondents said they would be very likely to pursue further electrification if additional incentives were available.
3	Customer Education	A majority of participants felt well-informed about heat pump technology after installation, but 25% still felt uncertain about some aspect of heat pump installation, indicating that customer education still represents a barrier.
4	Customer Communication	Participants generally reported that overall communication during the pilot was positive, but communication on rebates, in particular, has room for improvement with only 24% of HEA respondents feeling very confident in understanding them.
5	Customer Influences	Environmental friendliness, rebates, desire to add cooling to homes, and federal tax credits were the primary motivators for adopting a heat pump identified by pilot participants.
6	Customer DER Adoption	A majority of survey respondents said they have not incorporated distributed energy resources (DERs) such as solar photovoltaic panels into their homes, but they would be interested in this if PSE provided incentives.

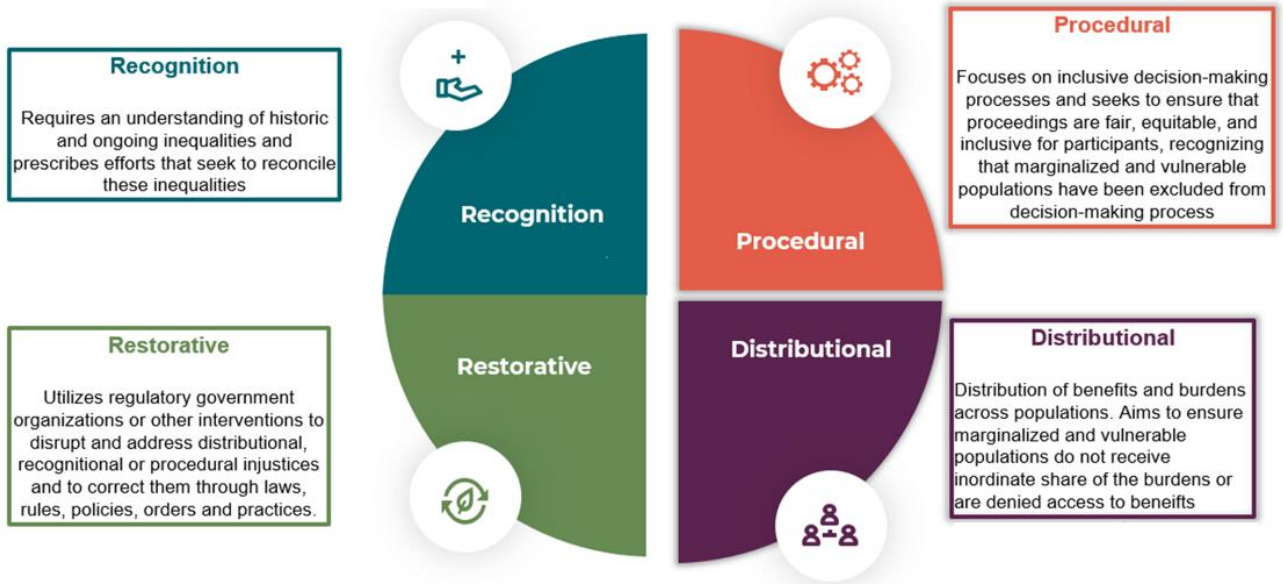
2.2. OTHER INPUTS TO THE TES

PSE places emphasis on vulnerable populations for all initiatives it pursues when possible, and this section describes the key equity frameworks it leveraged in developing the TES.

2.2.1. PSE'S EQUITY FRAMEWORK

In developing the TES, PSE applied its energy equity framework as it does for its conservation programs. This framework is designed to ensure that all PSE customers, including historical marginalized communities, can access the benefits of our clean energy transition. PSE's goal is to identify inequities across our energy system, reducing barriers and burdens, and prioritizing the needs of Named Communities (including highly impacted communities and vulnerable populations) who have been historically overlooked. Figure 4 illustrates the key considerations of this framework: (1) Recognition, (2) Procedural, (3) Restorative, and (4) Distributional.[14]

Figure 4: PSE's Framework to Proactively Consider Equity



PSE's TES Program Portfolio is designed with this equity framework in mind. The majority of the TES programs prioritize expanding equitable access to fuel switching technologies such as heat pumps to vulnerable populations such as low-income[15] customers and those that are recognized as distributionally disadvantaged customers within named communities.[16] The TES Program Portfolio

[14] To learn more, visit PSE's Energy Equity website: https://www.pse.com/en/about-us/energy-equity
[15] Pursuant to Clean Energy Implementation Plan (RCW 19.405.020(25)), the definition of "low-income" is the higher of either 80 percent AMI or 200 percent federal poverty level, adjusted for household size. https://app.leg.wa.gov/RCW/default.aspx?cite=19.405&full=true#19.405.020
[16] Named communities are defined by RCW 19.405.020 as either a highly impacted community or vulnerable population. PSE's 2021 Clean Energy Implementation Plan (CEIP) (Chapter 3, available at: https://www.cleanenergyplan.pse.com/library) provides the following definitions:

- Highly Impacted Communities (HIC): A community designated by the Department of Health based on the cumulative impact analysis required by RCW 19.405.140 or a community located in census tracts that are fully or partially on "Indian country," as defined in 18 U.S.C. Sec. 1151.

leverages the procedural opportunity of the TES to establish restorative solutions through a combination of financial incentives and education of customers on the potential benefits of switching their appliances to electricity.

2.2.2. EQUITABLE BUILDING ELECTRIFICATION FRAMEWORK

In addition to considerations PSE made by applying its own equity framework, the TES Program Portfolio was also developed with consideration of Greenlining's Equitable Building Electrification Framework (EBEF).[17] The EBEF framework for advancing electrification and fuel switching initiatives equitably and efficiently is organized into the following five components:

1. Assess community needs
2. Establish community-led decision-making
3. Develop metrics and a plan for tracking
4. Ensure funding and program leveraging
5. Improve outcomes

PSE's emphasis on learning from the TES Program Portfolio considers the importance of assessing community needs, developing tracking mechanisms, and identifying program improvement opportunities. PSE also values the importance of community-led decision making, as exemplified by the four partnerships developed with Community-Based Organizations (CBOs) for the Targeted Electrification Pilot. PSE plans to continue to pursue CBO engagement throughout the implementation of the TES Program Portfolio, such as the partnership with Energy Smart Eastside described in greater detail in Section 3.2.3.

2.3. TES PROGRAM PORTFOLIO DEVELOPMENT

The TES Program Portfolio for 2025-26 comprises Targeted Electrification Pilot Phase 2, CCA Decarbonization Programs, and other targeted electrification initiatives.[18] These efforts all provide near-term value by piloting different strategies to:

1. Promote equitable access to fuel switching for vulnerable populations

---

- Vulnerable Populations (VP): Communities that experience a disproportionate cumulative risk from environmental burdens due to: Adverse socioeconomic factors, including unemployment, high housing and transportation costs relative to income, access to food and health care, linguistic isolation, and sensitivity factors, such as low birth weight and higher rates of hospitalization.

[17] "Equitable Building Electrification: A Framework for Powering Resilient Communities." *The Greenlining Institute,* 1 Oct 2019*,* https://greenlining.org/publications/equitable-building-electrification-a-framework-for-powering-resilient-communities/

[18] Other efforts include the enhancement of a small-scale HHP measure offering from PSE's conservation program portfolio in 2024 and a joint pilot between PSE and Seattle City Light to install heat pumps in 20 homes through the Low-Income Weatherization Program.

2. Target electrification in areas of the system that help avoid gas infrastructure upgrade costs; and
3. Gain learnings on fuel switching initiatives and concepts.

2.3.1. TARGETED ELECTRIFICATION PILOT PHASE 2

The Targeted Electrification Pilot Phase 2 initiatives intend to sustain current customer offerings, assess whether targeted electrification can alleviate the need to expand the natural gas delivery system in a capacity constrained area, and broaden the customer reach of the first phase.[19] In other words, PSE plans to use the Targeted Electrification Pilot Phase 2 to expand the successful offerings from Phase 1 of the pilot and test new fuel switching offering approaches that promote equitable access and capture avoided system upgrade costs.

2.3.2. CCA DECARBONIZATION PROGRAMS

The CCA Decarbonization Programs[20] are focused on decarbonization projects for low-income customers and residential and small business customers located in named communities. Program design details were developed through a collaborative process with PSE's Low-Income Advisory Committee (LIAC) and other interested parties and advisory groups, such as PSE's Equity Advisory Group (EAG), in the first quarter of 2024. Program design was informed by and leveraged learnings and experiences from the Targeted Electrification Pilot. PSE launched seven CCA Decarbonization Programs and partnerships in the second half of 2024. PSE plans to implement five CCA Decarbonization Programs and partnerships in 2025-26 which will be core components of the TES Program Portfolio and build upon the efforts that began in 2024. PSE completed the 2024 Q3 CCA Decarbonization Program Report in November, which includes further detail about the approach used to develop the CCA Decarbonization Programs, implementation to date, future plans for completing 2024 projects, and program design and budgets for 2025-26.[21]

---

[19] For additional discussion on this, see page 15 in the Prefiled Direct Testimony of John Mannetti filed on February 15, 2024 in Docket 240004:
https://apiproxy.utc.wa.gov/cases/GetDocument?docID=802&year=2024&docketNumber=240005

[20] In December 2023, the Washington Utilities and Transportation Commission approved setting aside $7.7 million in estimated CCA no-cost allowance auction proceeds for targeted decarbonization projects (Docket UG-230968). The Climate Commitment Act (CCA) provides natural gas utilities no-cost allowances that decrease over time "[f]or the benefit of ratepayers," which must be in addition to existing legal requirements, or requirements found in other statutes or rules. An increasing portion of no-cost allowances must be consigned by utilities to auctions, and revenues generated from the sale of no-cost allowances at auctions may be used to prioritize low-income customers or minimize cost impacts on low-income, residential, and small business customers through weatherization, decarbonization, conservation and efficiency services, bill assistance, and other actions.

[21] See page 15 of the CCA Decarbonization Programs 2024 Annual Report filed on November 15, 2024 in Docket UG-230968:
https://apiproxy.utc.wa.gov/cases/GetDocument?docID=428&year=2023&docketNumber=230968

2.3.3. ADDITIONAL TES PROGRAMS

Two additional TES initiatives were identified through the TES development process, an enhancement to the existing HHP measure offering and an NPAs approach to retire a pipe instead of replacing it when deemed a suitable solution to resolving an integrity issue. In order to pursue such an effort, all customers served by the pipeline segment must be willing to voluntarily terminate natural gas service.

PSE's HHP measure offering was piloted in 2023 and incorporated into its conservation program portfolio in 2024. Initial findings indicate there is value in having this measure expanded to additional customers through more proactive marketing and outreach.

Under its pipeline integrity management program, PSE may offer incentives to customers to replace their natural gas equipment with other alternatives and terminate their natural gas service where it can enable a segment of pipeline or equipment to be retired rather than replaced as a cost-effective alternative. This approach is intended for small projects concerning just a few customers, as industry success is yet to be seen when applying this approach to larger numbers of customers served by a common segment of gas distribution infrastructure. The only way to retire a segment of pipeline in lieu of replacement is for all customers served by that pipeline to completely leave the natural gas system. Any such project will require voluntary participation by all customers involved – PSE will not initiate projects that compel any customer to terminate gas service. PSE's approach is seeking to understand the right processes that may be successful to avoid such infrastructure investments in the future and is modeled after Pacific Gas and Electric's Alternative Energy Program.[22]

2.4. ENSURING THE TES ADDRESSES ALL RELEVANT PROVISIONS OF THE SETTLEMENT AGREEMENT

In addition to deploying a program portfolio that maximizes the near-term value of targeted electrification, PSE has developed the TES in a manner that addresses each Settlement Agreement provision related to the TES. Table 5 summarizes how PSE has addressed each of these provisions.

Table 5: How PSE Has Addressed Each Settlement Agreement Provision

PROVISION	DESCRIPTION	HOW PSE ADDRESSED
Introductory paragraph	PSE will use the information and analysis from the Targeted Electrification Pilot together with the updated Decarbonization Study to develop a Targeted Electrification Strategy for its electric service territory and will file the Targeted Electrification Strategy as a	- The Decarbonization Study and Pilot Phase 1 directly informed the TES as discussed in Section 2 of this report - This report will be filed as a compliance filing in Docket Number UE-220066 *et. al.* by January 31, 2024

[22] See page 38 of the pre-filed rebuttal testimony of David J. Landers on September 18, 2024 in PSE's 2024 GRC in Docket UE-240044 *et. al.*: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=2679&year=2024&docketNumber=240004

PROVISION	DESCRIPTION	HOW PSE ADDRESSED
	compliance filing in this docket by January 2025.[23] The Targeted Electrification Strategy will be based on findings from the Decarbonization Study, and the Targeted Electrification Pilot.	
A	The Targeted Electrification Strategy will focus on maximizing carbon emission reductions consistent with legal requirements at the lowest reasonable cost, which includes consideration of adverse rate impacts to remaining gas customers and avoidance of inter-rate class cost shifting.	- The TES Program Portfolio is guided by the objective of maximizing carbon emission reductions at the lowest reasonable cost within legal confines - PSE's targeted electrification definition aligns with this language - Rate impacts and cost shifting are discussed in Section 5 of this report
B	The Targeted Electrification Strategy shall consider a comprehensive set of strategies to minimize inter-class cost shifting, including the potential use of regulatory assets to shift rate base if the proposed strategy would create stranded assets.	- The TES Program Portfolio investment for 2025-26 will have minimal impact on customer costs and is not expected to result in any stranded assets as demonstrated in Section 5 of this report - A discussion of potential strategies to minimize inter-class cost shifting and stranded assets with electrification at scale is covered in Section 5 of this report
C	The Targeted Electrification Strategy shall consider a comprehensive set of strategies, programs, incentives, promotional materials, and other measures to encourage electrification for new and existing customers.	- The TES Program Portfolio is comprised of a wide range of initiatives to test different strategies for promoting targeted electrification including incentives, promotional materials, and other measures as described in Section 4 of this report
D	The Targeted Electrification Strategy shall provide for a fuel switching rebate that incentivizes gas customers to install electric-only appliances, to the extent that fuel switching to high-efficiency electric appliances is determined to be a cost-effective method to decarbonize gas utility service. This fuel switching rebate will provide an additional financial incentive to existing energy efficiency appliance rebates to promote rapid fuel switching to high-efficiency electric only appliances.	- Findings from the Decarbonization Study and the most recent IRP indicate that fuel switching for the broader PSE customer base is not cost effective at this time as described in Section 2 of this report - PSE is instead pursuing fuel switching rebates for a targeted portion of its customer base including vulnerable populations (e.g., low-income, named community) and customers in gas-constrained areas where avoided infrastructure costs add value as described in Section 4 of this report - Several initiatives provide fuel switching rebates in conjunction with energy efficiency rebates
E	In consultation with the CRAG, PSE will integrate fuel switching concepts from gas to electric into its conservation planning for the next Biennial Conservation plan following the completion of the Targeted Electrification Strategy. In developing these concepts, PSE's approach will be informed by the steps outlined in the Equitable Building Electrification Framework.	- PSE met with the CRAG on August 7, 2024 to discuss the approach to fuel switching and the CRAG expressed support for PSE's TES to be separate from the BCP given various barriers to integration with the BCP - The EBEF informed the TES as discussed in Section 2 of this report
F	The Targeted Electrification Strategy shall include a proposed budget, and plan for implementing the measures and strategies that were studied in the electrification pilot and described in item b. above, a proposal to limit or phase out incentives for new gas appliances, based on an evaluation of their continued cost-effectiveness and risk to ratepayers. This strategy	- The budget for the TES Program Portfolio is identified in Section 4 and 50 of this report - Section 4 of this report also discusses the continuation of the Targeted Electrification Pilot Phase 1 measures and strategies in the TES Program Portfolio for 2025-26 - A proposal to limit or phase out incentives for new gas appliances is not included in the TES at this time

[23] In PSE's 2022 GRC Docket UE-220066 *et. al.* Order 33/19 (July 11, 2024), the UTC approved PSE's petition requesting that Section 68 of Final Order 24/10 (Dec. 22, 2022) of this Docket be amended so as to eliminate references to the 2025 Gas IRP, which has been consolidated into a 2027 Integrated Resource Plan in the wake of the passage of the Washington Decarbonization Act for Large Combination Utilities, and amended Section 68 of Order 24/10 accordingly.

PROVISION	DESCRIPTION	HOW PSE ADDRESSED
	will also set annual targets to continue reducing new gas customer additions in future years.	given that fuel switching is not cost effective for PSE's broader customer base
G	PSE agrees to work with the CRAG on developing educational and communications materials encouraging customers to fuel switch to electric-only appliances in line with PSE's conservations targets, if the Targeted Electrification Strategy provides a fuel switching rebate to customers, per sub-item (d).	PSE met with the CRAG on October 9, 2024 to discuss general fuel switching and TES Program Portfolio communication material strategies and messaging; the CRAG expressed support for the proposed strategies
H	The funds for the Targeted Electrification Strategy will be recovered from the class benefiting from the program.	- Cost recovery for the TES program portfolio for 2025-26 is discussed in Section 5 of this report
I	PSE agrees to phase out promotional advertising specific to connecting new customers to the gas system or encouraging customers to switch to gas utility service away from other forms of energy service, as described in WAC 480-90-223 (including mailers to customers, promotions on PSE's website and social media, print, digital, television, and radio advertisements, etc.) by January 1, 2023.	- PSE has phased out any promotional advertising specific to connecting new customers to the gas system or encouraging customers to switch to gas service in all channels described within provision I

3. ACTIONS PSE HAS TAKEN TO ADVANCE TARGETED ELECTRIFICATION

This section of the report discusses the key initiatives PSE has already pursued related to targeted electrification. All efforts described in this section were pursued prior to 2025 to advance targeted electrification and helped inform how the TES Program Portfolio for 2025-26 was constructed.

3.1. TARGETED ELECTRIFICATION PILOT

The Targeted Electrification Pilot, which ran from January 1, 2023 through 2024, was designed to test different approaches to education and incentives that could encourage PSE customers to adopt electric home heating equipment and appliances. Specific goals and objectives for the Targeted Electrification Pilot, as stated in the 2022 GRC Settlement Agreement,[24] include:

1. Engage 10,000 customers through at least two measures across:
    - Home Electrification Assessments
    - Heat Pump Rebates
    - Education on qualified installers and incentives for Low-Income Upgrades
2. Integrate the following elements to advance electrification efforts:
    - Identify DER investments for load shifting
    - Identify barriers to heat pump adoption and develop recommendations for heat pump penetration
    - Identify barriers to low-income and vulnerable populations for heat pump adoption
    - Develop policies and programs to support adoption of heat pumps by low-income and vulnerable populations
    - Provide education and outreach on qualified installers and utility incentives
    - Evaluate if financial incentives for fuel switching increases adoption of electric appliances

3.1.1. HOME ELECTRIFICATION ASSESSMENTS (HEA)

The HEA component of the Targeted Electrification Pilot provides PSE single-family residential gas customers with access to electrification coaches, education regarding electrification benefits, connections to qualified installers, and information about available utility, regional, state, and federal incentives. The HEA captures data about customer motivations and barriers to fuel switching to electric-only appliances. PSE planned to reach 10,000 assessments by the end of 2024 with a minimum of 30% participation from customers identified as low-income or located in a named

[24] Additional detail on the TES requirements and program overview can be found beginning on page 40 of the GRC Settlement Agreement filed on August 26, 2022 in Docket UE-220066 *et. al.*: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=2671&year=2022&docketNumber=220066

community. PSE has exceeded these goals by completing 11,915 HEAs by the end of 2024, with 32% representation from low-income and/or named community customers.

To be eligible for an HEA, a customer must have an active residential PSE gas or combination electric and gas account and be an existing single-family dwelling or attached housing with four units or less that are attached by a contiguous roofline. After completing the assessment, customers received a custom HEA report and a $50 gift card.

Table 6 summarizes key components of the HEA program.

Table 6. Summary of Home Electrification Assessments Program

Pilot Description		
Free in-home, 60-minute assessment by an Electrification Coach. The Electrification Coach performs a walkthrough of customers' homes, answers customer questions, and provides a list of electrification, efficiency, and bill-support recommendations. After completing the Home Electrification Assessment (HEA), customers receive an HEA report and a $50 gift card.		
Eligible Customer Segments	**Number of Participants**	**Estimated Spend**
Participants must: • Be residential single-family customers; and • Be PSE natural gas customers. A minimum of 30% of participating customers must be identified as low-income or be located in a named community. (Achieved)	Goal of 10,000 by the end of 2024 (Achieved) 11,915 completed by December 31, 2024	$4,756,308

3.1.2. HEAT PUMP REBATES

Heat Pump Rebates were offered to PSE dual-fuel residential customers willing to remove or decommission existing natural gas heating systems. In 2023, qualifying customers could receive a $2,400 rebate for a ducted/ductless heat pump to replace their gas heating system. Alternatively, qualifying customers could receive a $4,000 rebate for a Consortium for Energy Efficiency (CEE) rated cold climate heat pump that replaced their gas heating system. Either rebate required the equipment to be IRA Tax Credit eligible. In 2024, qualifying customers could receive a $3,000 rebate for a ducted/ducted heat pump to replace their gas heating system. Income-qualified customers (less than or equal to 90% of the area median index, or AMI) were eligible to receive a $4,000 rebate for a heat pump to replace their gas heating system. Either rebate required the equipment to match just the

Heating Seasonal Performance Factor 2 (HSPF2) component of the IRA Tax Credit requirements to be eligible.

Table 7 summarizes the key components of the Heat Pump Rebates program.

Table 7. Summary of Heat Pump Rebates Program

Pilot Description		
Rebates for dual-fuel residential customers who replace their existing natural gas heating system with a ducted or ductless heat pump system. Rebates varied between $2,400 and $4,000 depending on application year, system type, and income-based eligibility.		
Eligible Customer Segments	**Number of Participants**	**Estimated Spend**
Participants must: • Be residential single-family customers; • Be dual-fuel PSE customers; and • Currently use natural gas for heating.	1,737 rebates completed by September 2024	$5,478,000

3.1.3. LOW-INCOME UPGRADE TRACK

The Low-Income Upgrade Track targeted PSE residential, single-family dual-fuel customers participating in PSE's Home Weatherization Assistance (HWA) program. This offering was an add-on to the HWA program in which a participating CAA would identify an electrification candidate, install a heat pump system, and fully weatherize the customer's home. This offering covered all equipment and installation costs for the customer, also referred to as a direct install incentive.

Table 8 summarizes the key components of the Low-Income Upgrade Track.

Table 8. Summary of Low-Income Upgrade Track

Pilot Description
Whole-home weatherization combined with space and water heating fuel switching for income eligible customers. Participants must completely remove or decommission their existing natural gas heating systems and replace them with a new ducted or ductless heat pump system at no cost. PSE is leveraging its existing HWA program, with the pilot adding the fuel switching rebate as an add-on feature.

☑ Eligible Customer Segments	Number of Participants	$ Estimated Spend
Participants must: • Be residential single-family customers; • Be dual-fuel PSE customers; • Have an income at or below 80% of the area median income (AMI); • Currently use natural gas for heating; and • Participate in the HWA program.	37 projects completed and paid by December 31, 2024 12 additional projects completed in December 2024 will be paid out in 2025 once final invoices are received	$1,709,548

3.1.4. MULTI-FAMILY DIRECT INSTALL

PSE initially engaged two multi-family complexes that provided low-income transition housing for unhoused individuals and families through the Multi-Family Direct Installs Program. The first project consisted of 20 ductless heat pump units converted from hydronic systems. However, upon further assessment, it was determined that a service upgrade was required to support the new heat pump systems. PSE is working with the customer and contractor to navigate and pay for the service upgrade in addition to the 20 heat pump systems in 2025 through PSE's Climate Commitment Act (CCA) Decarbonization Program.[2] The second project that was completed as part of the pilot consisted of four ducted heat pump units and six heat pump water heaters. The costs for this project were shared with the CCA Decarbonization Program to maximize available resources. Table 9 summarizes the key components of the Multi-Family Direct Install program.

Table 9: Summary of Multi-Family Direct Installs Program

Pilot Description		
Enables select dual-fuel multi-family customers located in named communities to participate in the Targeted Electrification Pilot. All equipment and installation costs will be covered for the customer, integrating funding for energy efficiency and other decarbonization measures when possible.		
☑ Eligible Customer Segments	Number of Participants	$ Estimated Spend
Participants must: • Be residential multi-family customers; • Be dual-fuel PSE customers;	One multi-family complex	$75,000 from the Targeted Electrification Pilot $49,195 from the CCA Decarbonization Program

• Be located in a named community; and • Currently use natural gas for heating.		

3.1.5. SMALL BUSINESS DIRECT INSTALLS

The Small Business Direct Installs Pilot component sought to enable PSE dual-fuel, small business customers located in named communities, as well as any small businesses operating with non-profit status, to participate in electrification projects for space and/or water heating. Weatherization and other energy efficiency measures are implemented at the same time, when possible. As of December 2024, two customers completed their installation, including a community center and a non-profit property development & management organization, the latter of which is also pursued weatherization.

Table 10 summarizes the key components of the Small Business Direct Installs program.

Table 10: Summary of Small Business Direct Installs Program

Pilot Description		
Enables small business customers located in named communities (or non-profits in all parts of PSE's service territory) to participate in the Targeted Electrification Pilot. All equipment and installation costs will be covered for the customer, integrating funding for energy efficiency and other decarbonization measures when possible. Up to $50,000 was provided per business.		
Eligible Customer Segments	**Number of Participants**	**Estimated Spend**
Participants must: • Be small business customers; • Be dual-fuel PSE customers; • Be located in a named community; and/or • Serve as a non-profit entity.	Two participants	$92,000

3.2. CCA DECARBONIZATION PROGRAMS (2024)

The 2024 CCA Decarbonization Programs help enable decarbonization projects that benefit PSE's natural gas customers (gas only and dual-fuel), low-income residential customers, multi-family premises with low-income customers or in named communities, and small business customers in

named communities by assisting customers with the upfront costs of electrification. These programs cover electrification of space heating and water heating, as well as weatherization and health and safety measures. They aim to enable the electrification transition for customers who would otherwise not likely be able to afford it. The UTC approved the allocation of $23 million of no-cost allowance auction proceeds over three years for the CCA Decarbonization Programs between 2024 and 2026, with up to $7.7 million in 2024.[25] Subject to UTC approval, PSE plans to utilize the same amount of no-cost allowance revenue on decarbonization programs for 2025[26] and 2026.

Program deployment procedures were undertaken in the second and third quarters of 2024 before the 2024 programs launched in the second half of 2024. While much of 2024 was spent preparing for the launch of the CCA Decarbonization Programs, PSE was able to allocate 80% of the budget for implementation of projects by the end of Q3 2024. Notably, 13% of the 2024 implementation budget was allocated to support capacity building at CAA partnership organizations in staffing and resourcing electrification projects, helping them overcome typical resource constraints. This funding will enable CAAs to scale their decarbonization efforts and serve customers more effectively.

Section 4.2 addresses CCA Decarbonization Programs planned for 2025-2026. Some CCA Decarbonization Programs, namely Income Qualified Rental Program Direct Installs partnership with Tacoma Power, Multi-Family Direct Installs, and Small Business Direct Installs, were launched in 2024 and are planned to continue into 2025-2026 as part of the TES Program Portfolio.

3.2.1. HIGH POINT (HOMEWISE) DIRECT INSTALLS

Table 11: Summary of High Point (HomeWise) Direct Installs Program

Program Description
PSE partnership with HomeWise, a City of Seattle program office that serves low-income customers in Seattle, to provide free home energy assessments, weatherization, home repair services and direct install of decarbonization measures, including space and water heating and health and safety

[25] In December 2023, the Washington Utilities and Transportation Commission approved setting aside $7.7 million in estimated 2024 CCA natural gas no-cost allowance auction proceeds for targeted decarbonization projects (Docket UG-230968). The CCA provides natural gas utilities no-cost allowances that decrease over time "[f]or the benefit of ratepayers," which must be in addition to existing legal requirements, or requirements found in other statutes or rules. An increasing portion of no-cost allowances must be consigned by utilities to auctions, and revenues generated from the sale of no-cost allowances at auctions may be used to prioritize low-income customers or minimize cost impacts on low-income, residential, and small business customers through weatherization, decarbonization, conservation and efficiency services, bill assistance, and other actions.
[26] On November 15, 2024, PSE filed a proposal to set aside $7.7 million from estimated 2025 CCA natural gas no-cost allowance auction proceeds to continue the CCA Decarbonization Program launched in 2023. See Docket UG-240884 for more information here: https://www.utc.wa.gov/casedocket/2024/240884.

equipment, for income income-qualified households and apartment buildings with low-income tenants.		
☑ Eligible Customer Segments Participants must: • Be low-income and/or located in a named community; • Be owners or renters; and • Be PSE gas customers (gas-only or dual-fuel customers).[27]	Targeted Market Size 53 homes in 2024	$ Estimated CCA Spend $2,760,000

3.2.2. INCOME QUALIFIED RENTAL PROGRAM (IQRP) DIRECT INSTALLS

Table 12: Summary of Income Qualified Rental Program Direct Installs Program

Program Description PSE partnership with Tacoma Power through their IQRP to provide free home energy assessments funded by Tacoma Power and direct install of decarbonization and conservation measures including heat pumps for space and water heating (PSE-funded) as well as high efficiency windows and improved insulation (Tacoma Power-funded).		
☑ Eligible Customer Segments Participants must: • Be low-income and/or located in a named community; • Be single-family renters (as IQRP is a renter-focused program); and	Targeted Market Size 25 homes in 2024	$ Estimated CCA Spend $360,000

[27] Customers here are PSE's gas only because the partnership is for the premise within Seattle City Light's electric service territory.

• Be PSE gas customers (gas-only or dual-fuel customers).[28]		

3.2.3. ENERGY SMART EASTSIDE DIRECT INSTALLS

Table 13: Summary of Energy Smart Eastside Direct Installs Program

Program Description		
PSE partnership with Energy Smart Eastside, a climate initiative of Bellevue, Issaquah, Kirkland, Mercer Island, Redmond, and Sammamish funded by these cities and various grants,[29] to provide low-income households with direct installation of space heat decarbonization measures, namely conversions from natural gas space heating systems to ccHPs.		
☑ Eligible Customer Segments	Targeted Market Size	$ Estimated CCA Spend
Participants must: • Be low-income and/or located in a named community; • Be owners or renters; and • Be PSE gas customers (gas-only or dual-fuel customers.[30]	32-36 homes in 2024	$850,000

3.2.4. COMMUNITY ACTION AGENCY CAPACITY SUPPORT

Table 14: Summary of Community Action Agency Capacity Support Program

Program Description
PSE's CCA Decarbonization Program provided CAA capacity support funding that went towards agency staff and contractor education, as well as agency decarbonization program staffing in preparation for decarbonization projects in 2024-2026.

[28] The IQRP partnership is available for PSE gas-only customers since this is a partnership with Tacoma Power for Tacoma Power's electric customers.
[29] *Energy Smart Eastside,* 2024, https://www.energysmarteastside.org/about-us
[30] Customers here are PSE's dual gas and electric because the partnership is with ESE which serves East side cities which are served by PSE for both electricity and natural gas.

Eligible Customer Segments	Targeted Market Size	Estimated CCA Spend
N/A	N/A	$997,000

3.2.5. PENN HALL APARTMENTS (HOMEWISE)

Table 15: Summary of Penn Hall Apartments (HomeWise) Program

Program Description		
PSE partnership with HomeWise and Seattle City Light (SCL) to replace two central gas boilers with two heat pump water heating systems serving low-income and named community renters within the Penn Hall Apartment building.		
Eligible Customer Segments	**Targeted Market Size**	**Estimated CCA Spend**
Participants must: • Be low-income and/or located in a named community; • Be renters at Penn Hall; and • Be PSE gas customers (gas-only or dual-fuel customers).[31]	30 units in 2024	$65,000

3.2.6. MULTI-FAMILY DIRECT INSTALLS

Table 16: Summary of Multi-Family Direct Installs Program

Program Description
PSE provided building owners a free home assessment and direct install of heat pumps for space and water heating, as well as applicable efficient windows, insulation, and health and safety measures.

[31] Customers here are PSE's gas only because the partnership is for the premise within Seattle City Light's electric service territory.

☑ Eligible Customer Segments	Targeted Market Size	$ Estimated CCA Spend
Participants must: • Be low-income and/or located in a named community; • Be owners or renters; and • Be PSE gas customers (gas-only or dual-fuel customers).[32]	Two buildings in 2024	$510,000

3.2.7. SMALL BUSINESS DIRECT INSTALLS

Table 17: Summary of Small Business Direct Installs Program

Program Description		
PSE provided a free business assessment and direct install of heat pumps for space and water heating.		
☑ Eligible Customer Segments	Targeted Market Size	$ Estimated CCA Spend
Participants must: • Be small businesses; • Be owners or renters; • Be located in a named community; and • Be PSE dual-fuel customers.[33]	10 businesses in 2024	$180,000

[32] Customers here are either PSE's dual gas and electric or PSE's gas only customers, depending on the premises that indicate interest. The projects selected from the interested pool depend on various prioritization factors such as housing low-income or named community customers. For 2024, the two MFDI projects that were identified, selected, and funded are within PSE's dual fuel service territory. The projects were partially funded by both PSE's CCA Decarbonization Program and partially by PSE's Targeted Electrification Pilot, which is for PSE's dual-fuel customers only.

[33] Program design for 2024 focused on dual-fuel small business customers as partnerships with electric peer utilities within PSE's gas only service territory needed time to be developed – planned for 2025-26.

3.3. OTHER TARGETED ELECTRIFICATION ACTIVITIES

3.3.1. LOW-INCOME DIRECT HEAT PUMP INSTALLATION JOINT PILOT WITH SEATTLE CITY LIGHT

PSE and SCL deployed a joint pilot to provide direct installation of whole-home weatherization and heat pumps in 12 low-income homes in Bryn Mawr-Skyway through the Low-Income Weatherization Program. Prior to installation of equipment, customers received a custom usage analysis that describes the individual and combined impacts to their energy costs if they were to install a heat pump, install weatherization measures, and/or participate in the PSE Bill Discount Rate.

This initiative closely aligns with PSE's Low-Income Upgrade Track within the Targeted Electrification Pilot, which was a full-home electrification program targeted to low-income customers in dual-fuel areas. The joint pilot was designed to better understand the challenges and opportunities for fuel switching when multiple utilities are involved. Costs for the joint pilot will be recovered as part of the Low-Income Direct Heat Pump Installation budget item in the Targeted Electrification Pilot.[34]

3.3.2. NON-PIPELINE ALTERNATIVES (NPAS)

Historically, PSE has defined NPAs as "any targeted solution that may reduce, defer, or eliminate the need for a capital pipeline solution."[35] Examples of NPAs include targeted demand side management (DSM), peak shaving/injection, system pressure increases (temporary and permanent), and pipeline retirements. To date, PSE has pursued gas energy efficiency and demand response (DR) using smart thermostats in an effort to evaluate their effectiveness in reducing peak demand on the gas delivery system, specifically in the Duvall area through the FlexSmart Plus program.

FlexSmart Plus was launched in November 2022 and provides enhanced incentives over the standard FlexSmart program for customers in Duvall to help reduce the gas capacity constraint within the area.[36] Participants in FlexSmart Plus enroll a qualifying thermostat and allow PSE to occasionally adjust their gas usage on especially hot or cold days, referred to as "flex events," to shift system peaks and potentially manage local system energy use. FlexSmart Plus provides an additional one-time $75 incentive in addition to the one-time $50 incentive and recurring annual $40 incentive for the standard FlexSmart program to encourage elevated participation within these areas. The participating customer is also eligible for exclusive savings on energy-efficient home upgrades such as heat pumps, water

---

[34] The budget line item for the joint pilot with SCL can be found on page 12 with additional detail on the effort on page 13 of Prefiled Direct Testimony of John Mannetti filed on February 15, 2024 in Docket 240004: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=802&year=2024&docketNumber=240005

[35] In 2024, HB 1589 passed, which defines NPAs as "activities or investments that delay, reduce or avoid the need to build, upgrade, or repair gas plant such as pipelines and service lines." This new legal definition is largely similar to PSE's prior internal definition.

[36] FlexSmart Plus also provides elevated incentives over the standard FlexSmart program for customers in Bainbridge Island but provides electric capacity-constraint relief. PSE does not provide natural gas service for Bainbridge Island.

heaters, and windows.[37] The FlexSmart Plus program has been specifically evaluated as an NPA to manage natural gas system peak load in the Duvall area.

Additionally, where deemed suitable, PSE is also pursuing cost-effective NPAs to resolve non-emergency gas pipeline integrity issues. See Section 4 for greater details on PSE's NPA efforts in 2025-26.

3.3.3. PHASE-OUT OF PROMOTIONAL ADVERTISEMENT FOR CONNECTING NEW GAS CUSTOMERS

PSE has complied with Stipulation O Bullet I (see Table 5) that requires it to phase out promotional advertising for connecting new customers to the gas system or encouraging customers to switch to gas service away from other forms of energy service. As of January 1, 2023, PSE has removed this type of advertisement from its website and all other channels described within the settlement agreement.

3.3.4. HYBRID HEAT PUMP PILOT AND CURRENT MEASURE

PSE implemented a HHP pilot in 2023 and expanded this effort in 2024 to a small-scale conservation measure offering within PSE's Single Family Existing Space Heat Program. This offering is part of PSE's electric conservation measure portfolio for space heating which is funded by the Electric Conservation Rider collected through electric ratepayer bills. Under this existing measure, customers are eligible for a rebate of $1,700 for an electric heat pump system when they also maintain a gas forced air furnace at the time their heat pump is installed.[38] This rebate is available to existing single-family residential, dual-fuel PSE customers. The HHP pilot and measure offering were designed and implemented to gain initial insights and determine whether customer interest is high enough to warrant an expansion of the offering to a broader audience. Given its limited scope, PSE conducted limited marketing, education, and outreach for the existing HHP offering. Despite this, as of December 2024, 741 customers participated in the HHP offering in 2024 by installing a hybrid system. Furthermore, according to one trade ally PSE interviewed, roughly 60% of customers that want a heat pump choose to keep their existing gas system as a backup and use a HHP system configuration rather than fully electrifying. Given these findings, PSE plans to enhance the offering within the TES Program Portfolio for 2025-26, as is discussed within Section 4.3.1. An impact and process evaluation for the Hybrid Heat Pump Pilot is currently underway and will be published with the 2024 Annual Conservation Report in Spring 2025.

3.3.5. HOME ELECTRIFICATION AND APPLIANCES REBATE PROGRAM

The Home Electrification and Appliances Rebate (HEAR) Program provides income-qualified, existing single-family electric PSE customers with a $5,000 upfront rebate to install an ENERGY STAR Cold

---

[37] See the archived PSE webpage describing the FlexSmart Plus program in greater detail: https://psebainbridge.com/peak-energy-rewards-is-now-flex-smart/

[38] An additional optional $250 rebate funded by the Natural Gas Conservation Rider was also made available to customers if they concurrently replace their gas furnace with a more efficient furnace.

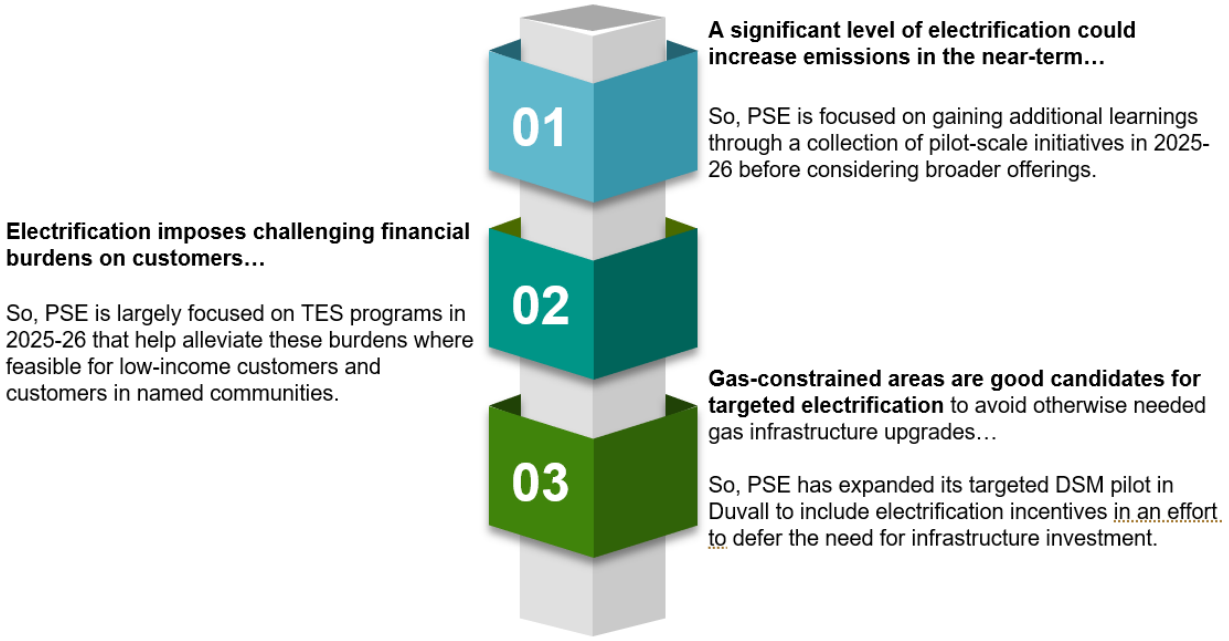
Climate certified ccHP. While the customer must be a PSE electric customer to participate, they are eligible for participation whether they have a pre-existing gas furnace or electric resistance primary heating system.[39] For the customer to be eligible for participation with a pre-existing gas furnace, they must also be a PSE gas-customer. The program is available to all customers that fit the above eligibility requirements but is targeted for customers facing particularly cold temperatures given the capability of ccHP systems to provide 100% heating capacity in freezing temperatures down to 5°F. Standard ASHPs rapidly lose heating capacity when the outdoor temperature reaches below 30°F, at which point the customer may need to rely upon auxiliary electric resistance heating to meet the home's heating load.[40] The offering is funded through Washington Department of Commerce grants and is available to customers before March 31, 2025.[41]

[39] When applicable, participants must fully remove their gas furnace to enroll in the program.
[40] Johnson, R.K.. "Measured Performance of a Low Temperature Air Source Heat Pump." *NREL*, September 2013, https://www.nrel.gov/docs/fy13osti/56393.pdf
[41] Additional detail on the HEAR program can be accessed here: https://www.pse.com/en/rebates/hear

4. PLANNED TARGETED ELECTRIFICATION ACTIONS FOR 2025-2026

The results of the Decarbonization Study directly inform the new actions PSE plans to take between 2025-2026, based on three key findings illustrated in Figure 5.

Figure 5: Key Decarbonization Study Findings and Impacts on the TES



PSE's TES Program Portfolio is also informed by the Targeted Electrification Pilot, which indicated that there could be meaningful demand from PSE's customers to pursue heat pump adoption if they are made aware of the potential benefits of fuel switching and financial incentives are provided to offset all or a portion of the upfront cost burden of the technologies. Several components of the Targeted Electrification Pilot were identified as good candidates to continue in Phase 2 of the Pilot (see Section 4.1), and learnings from Phase 1 will further enhance the offerings and marketing about fuel-switching and heat pumps.

Additionally, PSE's framework to proactively consider equity for its offerings (see Figure 4) and the lessons learned from the 2024 CCA Decarbonization Programs informed the development of the TES Program Portfolio planned for 2025-26. PSE lastly leveraged feedback from Settlement Parties received through a series of meetings held between 2023-24 as the TES was developed; these meetings are described in Appendix A: Relevant

This section describes new actions PSE plans to take in alignment with these two findings above, including Targeted Electrification Pilot Phase 2, CCA Decarbonization Programs for 2025-26, and other TES Program Portfolio offerings such as HHP incentives. Other activities related to the TES Program Portfolio are also addressed in this chapter, including marketing, education, and outreach considerations.

4.1. TARGETED ELECTRIFICATION PILOT PHASE 2

Targeted Electrification Pilot Phase 2 will continue direct installation pilot initiatives included in the Targeted Electrification Pilot for low-income customers and small business customers within named communities. Targeted Electrification Pilot Phase 2 will also introduce heat pump rebates for additional customer types and assess whether targeted electrification can alleviate the need to expand the natural gas delivery system in a capacity constrained area.[42] PSE plans to implement the Targeted Electrification Pilot Phase 2 programs in 2025-2026, pending funding approval through PSE's current 2024 GRC.

The projected budget to implement Targeted Electrification Pilot Phase 2 is $22.3 million through the end of 2026, which includes $1 million for marketing and $2.5 million for overhead and evaluation. PSE proposes to recover these costs through Electric and Gas Schedules 141DCARB Decarbonization Rate Adjustment rather than through base rates.[43] Establishing a dedicated rate schedule for Targeted Electrification Pilot Phase 2 offers several strategic advantages for PSE.[44] After the gross up for revenue sensitive items, the revenue requirement for Schedule 141DCARB would be $7.7 million for electric and $4.0 million for gas in 2025 as well as in 2026.[45] The schedule is applicable to all PSE electric and natural gas customers, as all customers will be benefiting by PSE proactively pursuing targeted electrification initiatives and applying lessons learned into future offerings.[46] Learnings from these early programs are critical to informing program design, customer education needs, contractor training requirements, and grid integration challenges. Costs were allocated between electric and natural gas and the revenue requirement was apportioned to all customer classes.[47] PSE's pursuit of Targeted Electrification Pilot Phase 2, a critical piece of the TES Program Portfolio, is contingent upon the approval of the 141DCARB Decarbonization Rate Adjustment within the 2024 GRC proposal.

---

[42] See page 15 in the Prefiled Direct Testimony of John Mannetti filed on February 15, 2024 in Docket 240004: 2024 PSE General Rate Case testimony by John Mannetti
[43] See page 23 in the Prefiled Direct Testimony of John Mannetti filed on February 15, 2024 in Docket 240004: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=802&year=2024&docketNumber=240005
[44] See page 61 in the Prefiled Direct Testimony of Christopher T. Mickelson filed on February 15, 2024 in Docket 240004 for greater detail on these benefits: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=681&year=2024&docketNumber=240004
[45] See page 101 of the Prefiled Direct Testimony of Susan E. Free filed on February 15, 2024 in Docket 240004: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=900&year=2024&docketNumber=240004
[46] See pages 23-24 in the Prefiled Direct Testimony of John Mannetti filed on February 15, 2024 in Docket 240004: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=802&year=2024&docketNumber=240005
[47] See page 63 in the Prefiled Direct Testimony of Christopher T. Mickelson filed on February 15, 2024 in Docket 240004 for greater detail on the methodologies used: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=681&year=2024&docketNumber=240004

4.1.1. LOW INCOME HEAT PUMP DIRECT INSTALLATION PILOT

Table 18: Summary of Low-Income Heat Pump Direct Installation Pilot

Pilot Description		
Provides eligible customers with no-cost home weatherization (through partnership with PSE's low-income home weatherization program) and heat pump systems for space and/or water heating, as well related work needed to install the electrification components. Funding for weatherization is provided through PSE's Electric Conservation Rider, while pilot funding covers the costs associated with electrification. Panel upgrades and other related work such as rerouting exhaust systems are also covered by pilot funds. PSE will partner with CAAs to manage eligibility verification and facilitate installation of the measures.		
Eligible Customer Segments	**Targeted Market Size**	**Projected Cost**
Participants must: • Be residential single-family customers; • Be PSE dual-fuel customers; • Have an income at or below 80% of the AMI; and • Currently use natural gas for heating.	Up to 115 eligible customers.	$4,600,000 in 2025-2026.

4.1.2. SMALL BUSINESSES HEAT PUMP PILOT IN NAMED COMMUNITIES

Table 19: Summary of Small Businesses Heat Pump Pilot in Named Communities Pilot

Pilot Description		
Provides small business customers in named communities with direct installation of heat pumps for space and/or water heating.		
Eligible Customer Segments	**Targeted Market Size**	**Projected Cost**
Participants must: • Be small business customers; • Be PSE dual-fuel customers;	Up to 20 small businesses.	$1,000,000 in 2025-2026.

• Be located in named communities; and • Currently use natural gas for heating.		

4.1.3. MULTI-FAMILY HEAT PUMP REBATE PILOT

Table 20: Summary of Multi-Family Heat Pump Rebate Pilot

Pilot Description		
Provides multi-family customers with a $2,000 rebate to install heat pump systems that replace natural gas heating systems.		
Eligible Customer Segments	**Targeted Market Size**	**Projected Cost**
Participants must: • Be residential multi-family customers; • Be PSE dual-fuel customers; • Be located in a named community; and • Currently use natural gas space heating.	Up to 1,000 multi-family dwelling units.	$2,000,000 in 2025-2026.

4.1.4. TARGETED ELECTRIFICATION OF GAS-CONSTRAINED AREAS PILOT

PSE is proposing to expand its current targeted DSM pilot in the Duvall gas-constrained area to offer incentives for customers electrifying their space heating and water heating systems. This effort will include:

1. Developing and implementing a targeted marketing, education, and outreach strategy to generate enough participation in the pilot to reach the gas demand reduction need on the required timeline without exceeding the budget; and

2. Establishing processes and tools for monitoring pilot implementation progress and adjusting program delivery, as needed. This may include a plan to off-ramp the pilot if annual targets are not being achieved at the rate necessary to meet the gas reduction need.

Table 21 summarizes the key components of the Targeted Electrification of Gas-Constrained Areas Pilot.

Table 21: Summary of Targeted Electrification of Gas-Constrained Areas Pilot

Pilot Description
Provides incentives for switching from gas to electric space and water heating appliances for customers in the Duvall area using heightened outreach and incentives. The aim of this pilot is to ultimately avoid the need for a gas infrastructure project to alleviate the existing capacity constraint in this part of PSE's system. This pilot also provides learnings around effective methodologies to leverage with future NPA projects.

Eligible Customer Segments	Targeted Market Size	Projected Cost
Participants must: • Be single-family residential PSE customers; • Be PSE dual-fuel customers; • Currently use natural gas heating; and • Be located in the Duvall gas-constrained area.	500 customers in 2025-2026. Total of 1000 customers between 2025-2028.	$4,000,000 in 2025-2026. $8,000,000 total between 2025-2028.

4.1.5. INCOME-QUALIFIED HEAT PUMP REBATE PILOT

Table 22: Summary of Income-Qualified Heat Pump Rebate Pilot

Pilot Description
Provides a $2,400 Efficiency Boost Rebate for income-qualified customers to install a heat pump. Participants are also encouraged to adopt energy efficiency measures funded through PSE's Efficiency Boost, an existing conservation program that provides higher rebates for income-qualified customers at or below 90% of the AMI.

Eligible Customer Segments	Targeted Market Size	Projected Cost
Participants must: • Be income-qualified (at or below 90% of the AMI); • Be single-family residential customers; and • Be PSE dual-fuel customers.	Up to 500 customers.	$1,200,000 million in 2025-2026.

4.1.6. COMMERCIAL & INDUSTRIAL (C&I) TARGETED ELECTRIFICATION GRANT PILOT

Table 23: Summary of C&I Targeted Electrification Grant Pilot

Pilot Description		
Provides custom grants to make electrification economically viable for commercial and industrial (C&I) customers. Grants are determined based on expected gas savings, upgrade or incremental costs for electrification, and current gas energy efficiency incentive levels. Incentives are capped at 70% of the project cost.		
Eligible Customer Segments	**Targeted Market Size**	**Projected Cost**
Participants must: • Be C&I customers; and • Be PSE dual-fuel customers.	20 C&I locations.	$6,000,000 in 2025-2026.

4.2. CCA DECARBONIZATION PROGRAMS (2025-2026)

2025-26 CCA Decarbonization Programs will continue to facilitate decarbonization projects for low-income residential customers, multi-family customers, and small business customers in named communities by assisting customers with the upfront costs of electrification. These programs cover electrification of space heating and water heating, as well as weatherization and health and safety measures.

As mentioned in Section 3.2, the UTC approved the allocation of $23 million of no-cost allowance auction proceeds over three years for CCA Decarbonization Programs between 2024-26, with up to $7.7 million in 2024. The anticipated spending for the CCA Decarbonization Programs, excluding estimated PSE administrative and overhead costs, between 2025-26 is $13.3 million, subject to UTC approval. On November 15, 2024, PSE filed a proposal to set aside $7.7 million from estimated 2025 CCA natural gas no-cost allowance auction proceeds to continue the CCA Decarbonization Program launched in 2023.[48] This section details the CCA Decarbonization Programs that are planned for 2025-2026. Some CCA Decarbonization Programs, namely Income Qualified Rental Program Direct Installs partnership with Tacoma Power, Multi-Family Direct Installs, and Small Business Direct Installs, are continuations of programs launched in 2024.

[48] See Docket UG-240884 for more information here: https://www.utc.wa.gov/casedocket/2024/240884.

4.2.1. INCOME QUALIFIED RENTAL PROGRAM (IQRP) DIRECT INSTALLS

Table 24: Summary of Income Qualified Rental Program Direct Installs

Program Description		
Partnership with Tacoma Power through their IQRP to offer free home energy assessments and direct install of heat pumps for space heating and water heating (PSE funded), complemented by high efficiency windows and improved insulation upgrades (Tacoma Power funded).		
Eligible Customer Segments	**Targeted Market Size**	**Estimated CCA Spend**
Participants must: • Be low-income and/or located in a named community; • Be single-family renters (as IQRP is a renter-focused program); and • Be PSE gas customers (gas-only or dual-fuel customers).[49]	25 homes in 2025 25 homes in 2026	$800,000 in 2025 $800,000 in 2026

4.2.2. SINGLE-FAMILY DECARBONIZATION GRANTS

Table 25: Summary of Single-Family Decarbonization Grants Program

Program Description		
Partnership with low-income weatherization CAAs and other organizations such as CBOs to provide grants for space and/or water heating measures.		
Eligible Customer Segments	**Targeted Market Size**	**Estimated CCA Spend**
Participants must: • Be low-income and/or located in a named community;	3-5 grants/programs in 2025 3-5 grants/programs in 2026	$1,750,000 in 2025 $1,750,000 in 2026

[49] The IQRP partnership is available for PSE gas-only customers since this is a partnership with Tacoma Power for Tacoma Power's electric customers.

• Be single family renters or owners; and • Be PSE gas customers (gas-only or dual-fuel customers).		

4.2.3. MULTI-FAMILY DIRECT INSTALLS

Table 26: Summary of Multi-Family Direct Installs Program

Program Description		
PSE to provide multi-family customers a free building assessment and direct installation of heat pumps for space and water heating (funded through PSE's CCA Decarbonization Program), complemented by PSE's efficiency programs of efficient windows, improved insulation, and health and safety measures where possible and appropriate (funded through the Electric Conservation Rider).		
☑ Eligible Customer Segments	Targeted Market Size	$ Estimated CCA Spend
Participants must: • Be low-income and/or located in a named community; • Be multi-family owners or renters; • Be PSE gas customers (gas-only or dual-fuel customers).	5 buildings in 2025 6 buildings in 2026	$1,200,000 in 2025 $1,600,000 in 2026

4.2.4. MULTI-FAMILY DECARBONIZATION GRANTS

Table 27: Summary of Multi-Family Decarbonization Grants Program

Program Description		
Partnership with low-income weatherization CAAs and other organizations such as CBOs to provide grants for space heating and/or water heating measures for multi-family customers.		
☑ Eligible Customer Segments	Targeted Market Size	$ Estimated CCA Spend

Participants must: • Be low-income and/or located in a named community; • Be multi-family owners or renters; and • Be PSE gas customers (gas-only or dual-fuel customers).	2-4 grants/programs in 2025 2-4 grants/programs in 2026	$1,250,000 in 2025 $1,250,000 in 2026

4.2.5. SMALL BUSINESS DIRECT INSTALLS

Table 28: Summary of Small Business Direct Installs Program

Program Description		
PSE to offer free building energy assessments and direct installation of heat pumps for space heating and water heating for small businesses.		
☑ Eligible Customer Segments	Targeted Market Size	$ Estimated CCA Spend
Participants must: • Be small business customers; • Be owners or renters; • Be located in a named community; and • Be PSE gas customers (gas-only or dual-fuel customers).[50]	50 businesses in 2025 95 businesses in 2026	$1,000,000 in 2025 $1,900,000 in 2026

4.3. OTHER TES PROGRAM PORTFOLIO OFFERINGS & ACTIVITIES RELATED TO THE TES PROGRAM PORTFOLIO

In addition to Targeted Electrification Pilot Phase 2 and the CCA Decarbonization Programs for 2025-26, PSE is pursuing enhancements to its existing HHP measure offering, cost-effective NPAs for

[50] Program design for 2024 focused on dual-fuel small business customers. PSE plans to develop partnerships with electric peer utilities within PSE's gas only service territory starting in 2025 thereby making the CCA Decarb SBDI program available for PSE's all gas customers.

pipeline segment retirement, and marketing, education, and outreach activities for TES Program Portfolio Offerings.

4.3.1. ENHANCED HYBRID HEAT PUMP (HHP) OFFERING

Given that PSE's small-scale HHP measure offering exceeded participation estimates, PSE is planning to enhance the offering in 2025 to reach a broader audience. While replacing gas furnaces with HHP systems may over the long run yield lower total emission savings than full electrification because a gas furnace is maintained as a secondary energy system, incentivizing HHPs provides PSE's customers with optionality to reduce carbon emissions and add air conditioning (A/C) with a system configuration that may be more preferable to them. In 2025, PSE will offer the heat pump measure through the gas conservation portfolio for space heating, meaning it will now be funded by the Natural Gas Conservation Rider collected through gas ratepayer bills instead of through the Electric Conservation Rider as was used for the measure in 2024.[51] This change in funding mechanism is driven by a change to the equipment baseline and evaluation findings from PSE's Hybrid Heat Pump Pilot. As such, PSE is able to capture significantly greater amounts of natural gas conservation savings through the Natural Gas Conservation Rider.

In terms of enhancements, PSE plans to incorporate the HHP offering into its marketing, education, and outreach for the Existing Single Family Space Heat Program and modify incentives to better align with heat pump incentives available through other PSE offerings. PSE will track and respond to recommendations from the Biennial Conservation Achievement Review process, specifically the impact and process evaluation for the Hybrid Heat Pump Pilot. PSE will use these recommendations to inform marketing, education, and outreach considerations for 2025-26.

PSE is also planning to update the HHP rebate for 2025 by aligning the incentives with heat pump incentives from other PSE initiatives, using the incremental measure cost as a guideline to maintain consistency throughout the portfolio. PSE is planning to offer a $1,500 standard rebate for 2025, with increased incentives for Efficiency Boost, Manufactured Homes, and limited time offers (LTOs). This structure will prioritize bridging financial barriers to HHP systems for those least equipped to afford them, while simultaneously ensuring consistency throughout the customer experience with standardized heat pump rebates across PSE efforts.

4.3.2. NON-PIPE ALTERNATIVES (NPA) TO ADDRESS INTEGRITY ISSUES

PSE plans to continue efforts from 2024 into 2025-26 to pursue cost-effective NPAs (i.e., targeted electrification) to resolve system integrity issues where suitable. Integrity projects typically suitable for NPAs include pipeline segments where only a few, i.e. five or fewer, customers must volunteer to fully terminate their natural gas service to enable retirement of the pipeline segment and/or equipment that

[51] Beginning January 1, 2025, PSE will sunset the additional $250 rebate funded by the Natural Gas Conservation Rider for customers who replace their existing natural gas furnace with a high efficiency natural gas furnace when installing an HHP.

has an integrity issue. In order for this approach to be successful, all customers served by the pipeline segment and/or equipment must completely depart the gas system.

PSE plans to use this effort to gain learnings on implementation best practices and how to effectively utilize an NPA to resolve pipeline integrity issues. PSE's approach NPAs to Address Integrity Issues is similar to PG&E's Alternative Energy Program, where cost-effective electrification is targeted in lieu of complicated construction, yielding net positive savings in gas capital and O&M budgets.[52]

4.3.3. MARKETING, EDUCATION, AND OUTREACH

Marketing, education, and outreach is an important consideration for the TES to educate customers about electrification as a concept and inform them of PSE's offerings from which they can benefit. One of the reasons why it is particularly important for electrification programs is that electric heat pumps, which can have a significant impact on a residential customer's energy usage, are a relatively new technology with which many people lack familiarity and understanding.

As shown in Figure 7 of the Targeted Electrification Pilot Summary Report, customers report several concerns with installing a heat pump, most commonly about system cost/pricing, understanding incentives, and uncertainty about energy savings. 46%, 32%, and 27% of respondents, respectively, identified these factors as concerns with installing a heat pump.[53] Even after installing a heat pump through the Heat Pump Rebate component of the Targeted Electrification Pilot, 25% of participants still felt uncertain about some aspect of their installed heat pumps. This indicates that developing and testing different marketing, education, and outreach tactics, marketing channels, and consumer messaging for the TES program portfolio will be important to help answer questions and alleviate concerns PSE's customers may have about heat pumps and fuel switching and also to communicate the potential benefits of electrification. The TES considers a variety of strategies that it can leverage as it develops marketing, education, and outreach materials to promote fuel switching initiatives.

PSE has identified two general approaches to developing educational and communication materials related to the TES:

1. General Fuel Switching Marketing, Education, and Outreach – Developing materials and conducting outreach to educate PSE customers about what fuel switching is and potential benefits from pursuing it.
2. TES Program-Specific Marketing, Education, and Outreach – Developing materials and conducting outreach to educate PSE customers about the specific TES Program Portfolio initiatives.

In recognition of the importance of Marketing, Education, and Outreach for the TES Program Portfolio, PSE met with the CRAG to discuss strategies for developing educational and communications

[52] See additional details on PG&E's Alternative Energy Program in the presentation located here: https://gridworks.org/wp-content/uploads/2022/04/9.15.21_Gridworks_PGE-Alt-Energy_V4-2-2.pdf
[53] Respondents were allowed to select multiple questions / concerns for this question within the survey. Please see the Targeted Electrification Pilot Summary Report to view the complete responses to this question.

materials for fuel switching generally and specific to the TES Program Portfolio for 2025-26. Additionally, PSE implemented Pilot participant surveys during the Targeted Electrification Pilot for HEA and Heat Pump Rebate participants. Many questions were designed to help understand participants' sentiment towards heat pumps and the types of concerns customers have with them, such as those that helped generate the data and insights referenced earlier in this section. Greater detail on the findings from the Targeted Electrification Pilot participant surveys can be found in The Targeted Electrification Pilot Summary Report. Both of these approaches helped PSE identify the marketing, education, and outreach strategies for the TES discussed in this section.

Different marketing, education, and outreach strategies, or tactics, that PSE will be considering as it moves forward with the TES are outlined in Table 29 below and organized into general fuel switching and TES program-specific approaches. It is worth noting that many of these tactics can be used for both general fuel switching and specific TES programs with the table below assigning each tactic to one of the two approaches based on where it is more applicable. For example, some tactics like door-to-door knocking or community events are particularly valuable to target specific geographies, which makes them excellent candidates for an initiative such as the Targeted Electrification of Gas-Constrained Areas Pilot in Duvall. Table 29 describes what the tactic is and how it can be leveraged for general fuel switching and/or TES programs specifically.

Table 29: Marketing, Education, and Outreach Tactics by Approach

APPROACH	TACTIC	DESCRIPTION
General Fuel Switching	Home/Building Electrification Assessments	HEAs were a key design element of the Targeted Electrification Pilot and serve as a tool to educate customers about electrification and the potential benefits of fuel switching.
	Informative Videos	Engaging videos could be used to educate customers about electrification, potential benefits of fuel switching, and how to take advantage of relevant opportunities. Videos are effective tools since some customers may better retain information through engaging, visual content. The video could also be developed at a broader level for the customer journey with their household appliances and HVAC more generally, as well.
	Customer Bill Inserts	Providing information with customer bills, whether online billing or paper mail billing is used, can help educate customers about fuel switching and TES programs more specifically. It could also be used for geographically targeted marketing for TES programs that focus on a gas-constrained areas or named communities.
	Electrification Website or Webpage	Either a separate website or a webpage on PSE's existing website could be used as a platform to provide educational information on electrification and how to take advantage of relevant opportunities such as the TES programs.
	Social Media Advertisement	Social media platforms can be used to provide high level information on electrification and point to other resources with more details and contact information to learn more.
TES Program-Specific	Customer Referral Program	Incentives could be provided to customers for referring new participants to the TES programs. This could be particularly valuable for TES programs that target a specific geographic area since friends and neighbors are often trusted resources for home improvements.
	Post Installation Materials	Working with Trade Allies to include PSE developed leave-behind materials as part of their installation process. These materials may cover details about the heat pump technology, best practices for system usage, and reminders of available incentives if not provided by the contractor already.

APPROACH	TACTIC	DESCRIPTION
	Partnerships with CBOs and Local Government Agencies	Partnering with CBOs and local government agencies to market PSE's TES programs to their communities is a key tactic relevant to many of the TES programs. These entities are typically a trusted voice for customers.
	Partnerships with Other Utilities and Non-Profits	Partnering with electric providers to co-brand marketing, education, and outreach materials for offerings to gas-only PSE customers that encourage them to electrify can be used when relevant to a specific program. PSE's partnerships with Tacoma Power, SCL, and Energy Smart Eastside on separate fuel switching initiatives are examples of using this tactic.
	Community Engagement Events	Participation in community events such as tabling at a neighborhood association or another type of community organization (e.g., recreation center) can be used to promote the TES, particularly in the case of geographically targeted programs. This type of visibility can generate familiarity and trust and reach a large group of people in a single setting. While primarily considered through in-person event types, virtual webinars could also be utilized if there is particular value in doing so.
	Door-to-Door Knocking	For geographically targeted programs, customers within targeted neighborhoods could receive information directly through the door-to-door distribution of informational fliers or leave-behind materials to inform customers of PSE fuel switching offerings.

In addition to the marketing, education, and outreach tactics identified above, PSE has also identified different types of messaging strategies for each approach as shown in Table 30. It is important to note that messages are not universally effective for all audiences, which is why testing different verbiage with different types of customers will be particularly critical when implementing marketing, education, and outreach for the TES programs and fuel switching generally.

Table 30: Marketing, Education, and Outreach Messaging by Approach

APPROACH	MESSAGING	APPLICABLE TES PROGRAM
General Fuel Switching	Electrification can help reduce your carbon footprint	All Programs
	Electric heat pumps can provide cooling for your home	All Programs
TES Program-Specific	Your participation can help your community avoid costly gas system infrastructure upgrades	Targeted Electrification for Gas-Constrained Areas
	By participating now, you can take advantages of higher incentives available for a limited time	All Programs
	Participation is easy with support provided throughout by PSE and trusted contractors approved by PSE	All Programs
	We have designed our program to be flexible and meet your unique needs and situation	All Programs with Multiple Eligible Technologies

5. LONG-TERM CHALLENGES AND OPPORTUNITIES FOR FUEL SWITCHING

As described in Section 3, PSE has taken numerous actions related to targeted electrification that provided learnings and insights considered for the development of the TES. PSE will continue to build upon these initial learnings with additional targeted electrification efforts during 2025-26 with greater focus on better understanding challenges and opportunities for targeted electrification that may require future action to ensure equitable and affordable access to fuel switching while minimizing risk to remaining gas ratepayers.

One of the most significant challenges identified through the Decarbonization Study and the 2023 gas IRP analysis is that broad fuel switching across PSE's service territory is currently not a cost-effective approach for reducing GHG emissions or addressing system-wide planning needs in comparison to alternatives. Additionally, if fuel switching measures are adopted at a large scale in PSE's existing gas service territory this could have significant rate and bill impacts on remaining gas ratepayers. This is because PSE has already made significant investment in its gas system and must continue to recover the fixed costs associated with those investments and the ongoing maintenance costs of assets that continue to be utilized by remaining gas ratepayers.

The affordability risks associated with broad fuel switching creates uncertainty for how best to approach targeted electrification in the longer term. With this uncertainty in mind, it is critical to consider as part of the TES the financial, operational, and equity challenges that could arise in a scenario where a significant number of PSE's existing gas customers switch from gas to electric appliances. PSE's TES Program Portfolio for 2025-26 is designed with these risks in mind and, for this reason, programs are intended to test different approaches to addressing equity and avoid costly gas infrastructure upgrades that could become stranded in the future. PSE also plans to use the 2025-26 timeframe to consider additional TES opportunities such as a financing option that further promotes equitable access to these types of measures.

This section discusses the following challenges and opportunities for targeted electrification that PSE will continue to revisit as it implements the TES:

1. Addressing system cost impacts of fuel switching and long-term customer affordability considerations;
2. Expanding access to fuel switching measures through a financing option; and
3. Understanding how customers respond to price signals for electrification.

5.1. ADDRESSING FUEL SWITCHING SYSTEM COST IMPACTS AND LONG-TERM CUSTOMER AFFORDABILITY CONSIDERATIONS

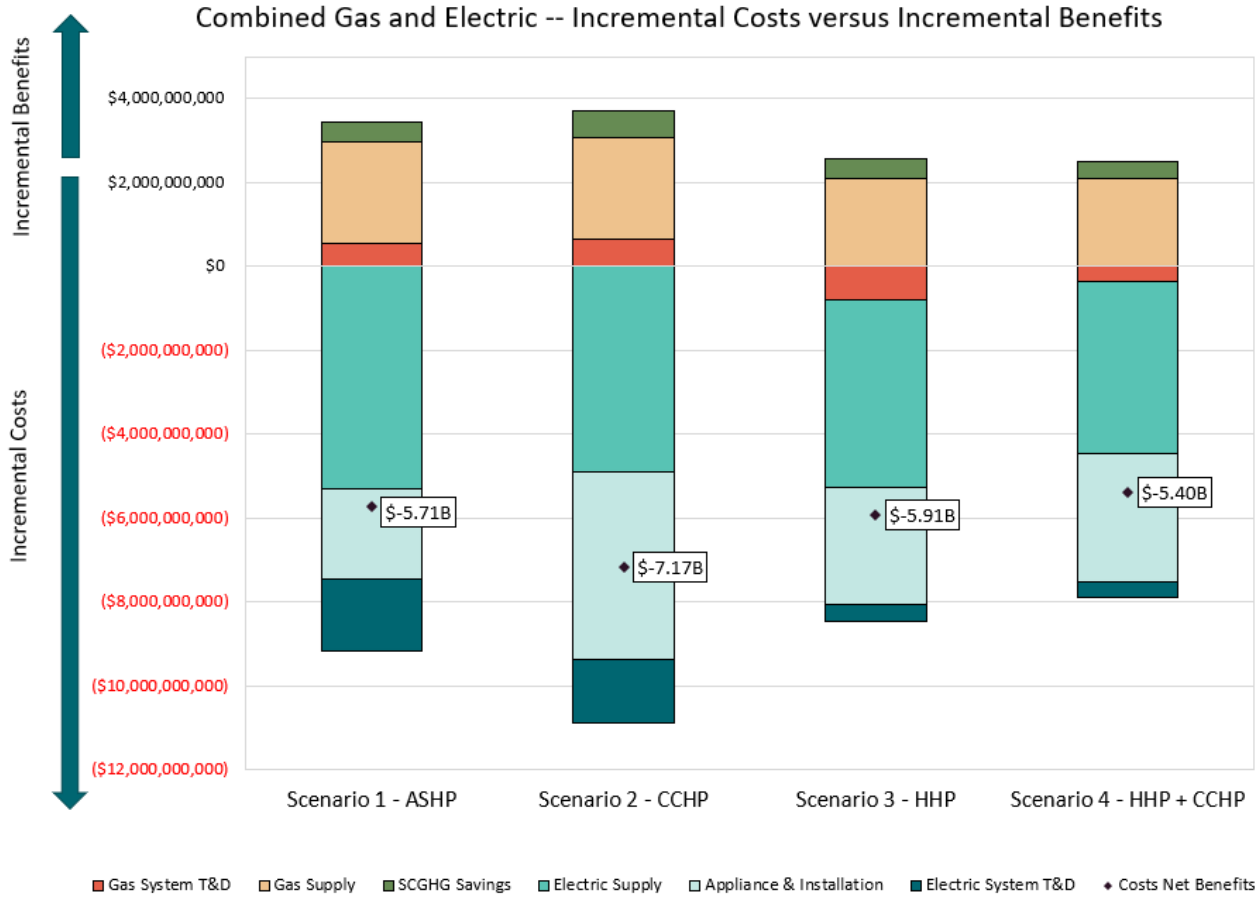
Given the relatively high upfront cost of switching from a gas heating system to an electric heat pump system, PSE customers are not motivated to switch to an electric heat pump from a purely economic perspective today. However, other motivations, such as the desire to add cooling and environmental benefits, combined with available incentives, is driving some customer adoption today as demonstrated in the Targeted Electrification Pilot. While a relatively small number of customers switching their space heating, water heating, and other gas appliances from gas to electric will not have a meaningful impact on electric and gas system costs and energy bills for the broader customer base, a large portion of customers switching fuels could have significant impacts on both electric and gas system costs and customer energy bills.

5.1.1. DECARBONIZATION STUDY INSIGHTS

To better understand the issues of rate and bill impacts, cost shifting, and stranded assets, PSE conducted financial analysis as part of the Decarbonization Study. This analysis found that from the combined system view, the total costs for each of the four electrification scenarios far exceed the corresponding societal benefits attributed to carbon emission reduction, as is demonstrated in Figure 6.

Figure 6: Total System Benefits vs. Costs from the Decarbonization Study[54]

[54] The chart in Figure 6 illustrates a refined version of the chart from the Decarbonization Study filing to clearly identify the sub-components of the overall benefits and costs of the electrification scenarios. This version of the chart was included with the revised pre-filed rebuttal testimony of Phillip Popoff located here: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=3008&year=2024&docketNumber=240004



Accordingly, at this time residential customers are not motivated to switch to an electric heat pump from a purely economic perspective when considering the relatively high upfront cost of the electric heat pump equipment. Electric and gas rate increases are also observed in outward years due to increased electric system costs associated with infrastructure expansion needs to meet increased peak demand and reduced utilization of existing gas system assets. The Decarbonization Study found that by 2030 an average residential customer's electric rates will increase by 16-21% depending on the electrification scenario[55] compared to a 7% rise in the reference case.[56] By 2045, electric rates for the average residential customer rise by 61-77% depending on the scenario versus a 53% rise under the reference case.[57] The Decarbonization Study assumes that in 2045, all residential customers replace their incumbent space heating system with electric heat pumps. So, while electric rates will go up over time regardless due to other electric load growth (e.g., electric vehicles) and renewable energy expansion to meet Clean Energy Transformation Act (CETA) requirements, pursuing significant fuel switching at an accelerated rate is expected to have some level of adverse rate impacts upon PSE's

[55] Rate increase values reported do not include the costs of the heat pump equipment for a converting customer.
[56] The reference case in the Decarb Study is based on data and assumptions from the 2023 Electric Progress Report and the 2023 Gas IRP.
[57] See Attachment I of the 12/23/2023 filing here:
https://apiproxy.utc.wa.gov/cases/GetDocument?docID=3625&year=2022&docketNumber=220066

electric customers due to additional electric system infrastructure expenditure likely necessary due to increased electricity demand from fuel switching.

In the long-run, gas rate increases are also observed in the Decarbonization Study electrification scenarios due to fixed, sunk costs being spread among a smaller customer base and creating upward rate pressure. When customers switch from gas to electric appliances, reducing their gas consumption, the fixed costs to maintain the gas system are spread across fewer total customers. To the extent that fixed costs are recovered through the fixed charge on the customer bill this impact is minimized so long as the customer is still connected to the gas system to meet some of their energy needs (e.g., they maintain a gas stove appliance). However, if a large number of customers entirely defect from the gas system and no longer receive a gas bill, this can dramatically raise the average cost per gas customer. This situation, which can be referred to as cross-commodity cost shifting and is a form of inter-rate class cost shifting across the electric and gas systems, is observed in the Decarbonization Study results. In 2030, residential gas rate increases are actually higher in the reference case than in either of the full electrification scenarios (31% vs. 25%) because not a significant a number of gas customers have departed the system while costs to operate gas infrastructure actually decline with lower overall demand. However, by 2045 when many residential customers are assumed to have discontinued their gas service and costs are spread across a much smaller customer base, the average residential gas customer rate increases by 205-340% depending on the electrification scenario, compared to 118% with the reference case.[58]

Inter-rate class cost shifting within a particular commodity, which occurs when there is a disconnect between how much a rate class contributes to recovery of certain costs and the amount of benefit that rate class receives from those expenditures, is also a key cost impact consideration for funding electrification incentives and materializes in two ways. First, there could be some customer rate classes (e.g., C&I) that are less able to electrify based on current technology limitations, and thus comprise an increasing percentage of the remaining customers on the gas system. The Decarbonization Study reveals some level of this type of cost shifting under the different electrification scenarios since PSE assumed only 30% of industrial customer natural gas load would be converted to electricity,[59] based on literature reviews.[60] Secondly, if there are still technology limitations in the future for C&I customers when PSE implements fuel switching rebate programs at a larger scale, PSE may spend less on offerings targeted to C&I customers. If the costs for future fuel switching rebate programs are recovered through PSE's entire gas rate base, however, PSE's C&I customers could end up paying a disproportionate amount given the lesser benefit they receive from these programs.

---

[58] *Ibid.*

[59] In comparison, end of life equipment reaches maximum adoption of 100% for all heat pumps and water heaters, and dryers and cooking in new construction for residential customers in the study timeframe (i.e., 2045). Commercial heat pump and water heat adoption reach a 70% maximum, while cooking reaches a maximum of 50% electric adoption by 2045.

[60] Literature reveals that industries with low-temperature and medium-temperature (under 750°F) process heat consumptions represent roughly 33% of the overall usage for electric conversion technologies that are available on the market. Higher-temperature applications are very costly or not commercially available on the market. Greater detail on this can be found in the Decarb Study Filing Attachment B: https://apiproxy.utc.wa.gov/cases/GetDocument?docID=3616&year=2022&docketNumber=220066

This type of inter-rate class cost shifting must be considered as PSE develops future programs to provide fuel switching rebates to its customers beyond the TES.

Additionally, even though there are fewer remaining gas customers, PSE has an obligation to provide gas service to them, which requires ongoing maintenance costs as well as the potential need to upgrade existing gas infrastructure or develop new gas assets (e.g., pipelines). If all customers fuel switch in a particular area of the gas system, the gas assets that previously served those customers are no longer used and useful. If this occurs before they are fully depreciated, they become "stranded" and those stranded costs must be recovered from remaining gas customers as a regulatory asset or other intervention.

As demonstrated in Table 31, given the measured approach of the 2025-26 TES programs, PSE does not expect meaningful rate or bill impacts on PSE electric or gas customers, cost shifting between PSE rate classes or across commodities, or the emergence of stranded assets in the near-term. However, the longer-term customer affordability challenges that could occur at higher levels of electrification will continue to be a focus for PSE as it considers future initiatives beyond the TES in later years. The following sub-sections provide additional detail on the customer affordability risks associated with a significant number of customers fuel switching and potential strategies to help mitigate these risks.

Table 31: TES Program Portfolio Cost Impacts

TES PROGRAM	2025-26 BUDGET IN MILLIONS[61]	FUNDING SOURCE	RATE CLASS(ES) FOR COST RECOVERY	BENEFICIARIES	ADVERSE RATE IMPACTS	INTER-CLASS COST SHIFTING	STRANDED ASSET RISK
TARGETED ELECTRIFICATION PILOT PHASE 2							
Low-Income Heat Pump Direct Installation Pilot	$4.6	141DCARB Decarbonization Rate Adjustment (2024 GRC Proposal)	All Electric and Natural Gas Customers	Residential (Low-Income Single Family)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
Small Businesses Heat Pump Pilot in Named Communities	$1.0	141DCARB Decarbonization Rate Adjustment (2024 GRC Proposal)	All Electric and Natural Gas Customers	Commercial (Small Businesses)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
Multi-Family Heat Pump Rebate Pilot	$2.0	141DCARB Decarbonization Rate Adjustment (2024 GRC Proposal)	All Electric and Natural Gas Customers	Residential (Multi-Family)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
Targeted Electrification of Gas-Constrained Areas Pilot	$4.0	141DCARB Decarbonization Rate Adjustment (2024 GRC Proposal)	All Electric and Natural Gas Customers	All PSE Gas Customers[62]	Minimal Due to Low Volume	Minimal Due to Low Volume	Highly Unlikely, But Possible[63]
Income-Qualified Heat Pump Rebate Pilot	$1.2	141DCARB Decarbonization Rate Adjustment (2024 GRC Proposal)	All Electric and Natural Gas Customers	Residential (Low-Income Single-Family)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
C&I Targeted Electrification Grant Pilot	$6.0	141DCARB Decarbonization Rate Adjustment (2024 GRC Proposal)	All Electric and Natural Gas Customers	Commercial and Industrial	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume

[61] Budget values for 2025-26 in Table 31 do not include PSE marketing, overhead, or evaluation.
[62] All PSE gas customers benefit from a gas-constrained areas pilot if infrastructure costs that would otherwise be spread across the entire rate base are avoided.
[63] Because of how targeted this program is and the level of electrification needed to solve the gas constraint, it is possible that if 100% of customers tied to a particular segment of pipeline fully electrify that asset could become stranded, but it is highly unlikely that this would occur.

TES PROGRAM	2025-26 BUDGET IN MILLIONS[61]	FUNDING SOURCE	RATE CLASS(ES) FOR COST RECOVERY	BENEFICIARIES	ADVERSE RATE IMPACTS	INTER-CLASS COST SHIFTING	STRANDED ASSET RISK
CCA DECARBONIZATION PROGRAMS (2025-26)							
Income-Qualified Rental Program Direct Installs	$1.6	CCA Natural Gas No-Cost Allowance Auction Proceeds from 2025-2026	All Natural Gas Customers	Residential (Low-Income Single-Family Renters)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
Single-Family Decarbonization Grants	$3.5	CCA Natural Gas No-Cost Allowance Auction Proceeds from 2025-2026	All Natural Gas Customers	Residential (Low-Income Single-Family)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
Multi-Family Direct Installs	$2.8	CCA Natural Gas No-Cost Allowance Auction Proceeds from 2025-2026	All Natural Gas Customers	Residential (Low-Income Multi-Family)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
Multi-Family Decarbonization Grants	$2.5	CCA Natural Gas No-Cost Allowance Auction Proceeds from 2025-2026	All Natural Gas Customers	Residential (Low-Income Multi-Family)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
Small Business Direct Installs	$2.9	CCA Natural Gas No-Cost Allowance Auction Proceeds from 2025-2026	All Natural Gas Customers	Commercial & Non-profit (Small Businesses)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
OTHER PROGRAMS							
Enhanced HHP Offering	$1.1 (2025)	Natural Gas Conservation Rider on Gas Ratepayer Bills	All Natural Gas Customers	Residential (Single Family)	Minimal Due to Low Volume	Minimal Due to Low Volume	Minimal Due to Low Volume
NPAs to Address Integrity Issues	FUNDED AS IDENTIFIED	INTEGRITY MANAGEMENT PROGRAM		All Natural Gas Customers	Minimal Due to Low Volume	Minimal Due to Low Volume	N/A[64]
TOTAL	**$33.2**	**N/A**		**N/A**	**Minimal Due to Low Volume**	**Minimal Due to Low Volume**	**Highly Unlikely, But Possible**

[64] NPAs to Address Integrity Issues results in the retirement of pipeline segment(s) and/or equipment and therefore does not raise stranded asset risk and even potentially alleviates some of the risk.

5.1.2. COST SHIFTING AND RATE IMPACTS

As demonstrated by the Decarbonization Study in the discussion above, if a large number of customers depart the gas system or significantly decrease their gas consumption either by fully electrifying their home or building or partially electrifying (e.g., installation of hybrid heating systems), the fixed costs associated with managing the gas system, including the remaining undepreciated balance and financing of existing assets, will be allocated to a declining customer base under current ratemaking practices. This could create significant upward rate pressure for remaining gas customers, particularly those who rely solely on gas to meet their heating needs. These challenges are exacerbated when customers entirely defect from the gas system because this not only reduces the gas utility's revenues it also eliminates the payment of the fixed charge on those customers' bills. This is problematic not only because it will result in gas customers facing higher bills, but because such rate impacts may be disproportionately felt by customers unable to electrify due to the high upfront costs of heat pumps. This issue could result in low-income customers, renters, and customers within named communities bearing increasing costs as gas customers electrify.

Providing customers with incentives to electrify also raises questions over which utility customers should fund those costs. For PSE's dual-fuel customers, a decision must be reached on whether PSE's gas customers, electric customers, or both should fund fuel switching incentives. While a dual-fuel PSE customer who fully electrifies is served by the same utility, cross-commodity cost shifting is still applicable, as discussed above, and must be considered for scenarios in which fuel switching occurs at a significant level. While this is a challenging issue, decision-making falls to a single utility and their regulator rather than multiple utilities or governing bodies. The issue is further complicated when considering fuel switching incentives for PSE gas-only customers served by a different electricity provider (and potentially different regulator or governing body). In this scenario, the electric utility observes increased revenue from electricity sold, while gas sales for the gas utility decline, resulting in upward rate pressure for remaining gas customers. In the near-term, this could result in downward rate pressure for the electric utility until a sufficient number of customers electrify that necessitates additional electric infrastructure to meet system needs. If that occurs, upward rate pressure may be experienced by the electric utility's customers. Considerations of both these near-term and long-term effects may influence how fuel switching programs should be funded in the future when moving beyond a piloting phase.

Separately, it is important to also consider inter-rate class cost shifting between commodities or within a single commodity customer base, which can occur when costs for fuel switching rebates are funded disproportionally to the rate classes that benefit more from these offerings. It should be noted, however, that this primarily considers an access perspective for those funds. Even if the same rate class funds and benefits from a particular program, costs may shift to customers across the rate classes who do not participate in the program. This is one of the reasons that addressing equity is so critical for fuel switching programs. While the volume of PSE's planned actions is not at a scale that is likely to result in inter-rate class cost shifting in the 2025-26 time period, it could in the future if program funding is increased and made accessible to a greater portion of PSE's existing gas customer base.

How to mitigate these different forms of cost shifts and the resulting rate and bill impacts to electric and gas customers will be a key issue to address longer-term to ensure a fair and equitable approach to fuel switching.

5.1.3. STRANDED ASSETS

Shifting energy demand from gas to electric systems can also affect the future utilization of existing and new gas infrastructure, which in turn creates risk in investing in these systems due to the risk of assets becoming stranded over time. And if all customers in a concentrated area fully electrify, existing gas assets in that area that are not yet fully depreciated would arguably no longer be used and useful, potentially resulting in stranded assets. It is important to re-emphasize that the TES Program Portfolio for 2025-26 is not at a scale that would likely result in any stranded assets, but this is a consideration that will need to be taken into account as more customers electrify over time. It is also possible that gas utility infrastructure maintains usefulness in a decarbonized energy system through the ramp-up of renewable natural gas and clean hydrogen, and keeping this optionality for pursuing least cost solutions over time is vital to maintaining customer affordability.

5.1.4. STRATEGIES TO ADDRESS COST AND AFFORDABILITY CHALLENGES

Adverse rate impacts, cross-commodity and inter-rate class cost shifting, and the risk of stranded assets will need to be addressed if the pace of electrification increases and results in a significant number of departing gas customers. A summary of the strategies included in this sub-section that could help address these challenges is provided in Table 32 below.

Table 32: Summary of Potential Strategies to Address Fuel Switching Cost Impacts

STRATEGY	DESCRIPTION
Non-Bypassable Charge	Ongoing charges that customers pay regardless of whether they switch energy suppliers for the same customer premise; in the case of fuel switching, this occurs when a gas customer fully departs the gas system
Securitization Charge	Issuing bonds with low-interest rates to recoup costs directly from customers over an extended period of time
Accelerating the Depreciation of Gas Assets	Accelerating the depreciation schedule such that a gas asset is fully depreciated before the asset is expected to no longer be used and useful; this promotes inter-generational equity and helps avoid stranded costs
Exit Charge	A one-time fee paid by a customer who fully departs the gas system
Funds Flowing from Electric to Gas Utility	A flow of funds from the electric to gas customer base (for dual-fuel utility customers) or from the electric utility to the gas utility (if gas-only customers) to offset the difference in cost impacts on the two customer bases spurred by an action directly impacting both utilities, such as fuel switching
Other Government Funds	Government funds could be used to cover the costs associated with cost shifting and stranded assets due to fuel switching
Minimize Gas System Upgrade or Expansion Costs	Pursue alternatives to gas system expansion (e.g., NPAs, thermal energy networks) instead of deploying gas infrastructure that has the potential to eventually become stranded

Addressing these types of issues is not without precedent and PSE, the UTC, and other interested parties can look towards historical examples to identify potential strategies to address these challenges. For example, in the late 1990s and early 2000s jurisdictions in some parts of the U.S. had to address the recovery of stranded power plant costs to enable the transition to deregulated

electricity markets. The primary strategy used to address these stranded assets was by recovering costs as a regulatory asset through non-bypassable charges on electric distribution rates. Non-bypassable charges are ongoing charges that customers cannot bypass by changing their energy supplier. Such an approach could help mitigate the risk of stranded asset costs due to existing gas customers fully electrifying. This is how California has addressed stranded cost risk associated with a large number of customers departing from investor-owned utilities (IOUs) for bundled service to community choice aggregators for providing their electricity supply needs and thus unbundling their service. As the level of customer departures from the IOU to community choice aggregators has increased, the Power Charge Indifference Adjustment (PCIA), the term used in California for this specific type of non-bypassable charge, has undergone greater scrutiny and regulatory reform. This reform has attempted to better align the PCIA calculation methodology with the objective of minimizing cost shifts to remaining IOU utility bundled service customers such that remaining IOU bundled service customers are indifferent to other customers departing bundled service. It is worth noting, though, that PSE has not identified precedent for non-bypassable charges when cost shifting is cross sector (e.g., gas and electric utilities). The precedent cited above for electric deregulation is not entirely analogous to fuel switching because customers were still billed by the electric utility for delivery service, making implementation of a non-bypassable charge more seamless. Adopting a similar cost recovery framework for fuel switching is more challenging to implement when a previous PSE gas-only customer is no longer receiving any service from PSE for an energy commodity (e.g., customer in PSE's gas service territory who no longer receives gas service and is served by a different electric utility than PSE). Additionally, there could be complications with monitoring and enforcing such a policy because customers end gas service with PSE today for a variety of reasons that extend beyond whole-building electrification. Given this, it could be challenging to determine when a customer should be responsible for paying a non-bypassable charge.

An alternative to imposing an ongoing non-bypassable charge is an exit charge. An exit charge is similar to a non-bypassable charge, except instead of an ongoing payment, it would require a one-time fee paid to the gas utility that reflects the customer's allocation of forecasted stranded costs associated with their electrifying. This payment would most likely come from the former gas utility customer but theoretically could instead be paid by the electric utility through electric ratepayer funds, or from other state funds. Another approach used during electricity market deregulation was to securitize all or a portion of a utility's stranded costs through bonds with low-risk interest rates backed by the ability to recoup costs directly from customers through regulator-approved securitization charges.[65] This tactic has also been considered by regulators grappling with stranded costs due to early, uneconomic coal plant retirement.[66] Pursuit of such an approach would likely require legislative support.

To proactively avoid gas infrastructure becoming stranded in the first place, another effective mechanism could be to accelerate the depreciation of existing and new gas assets. This would entail

---

[65] Frederico, Lillian, and Piper, Steve. "Grid transformation and stranded costs: An old topic becomes new again." *S&P Global Market Intelligence,* 23 July 2019, https://www.spglobal.com/marketintelligence/en/documents/rra1.pdf.
[66] Tomich, Jeffrey. "'Stranded costs' mount as coal vanishes from the grid." *E&E News*, Politico, 29 May 2019, https://www.eenews.net/articles/stranded-costs-mount-as-coal-vanishes-from-the-grid/

revising existing depreciation schedules for gas assets to align with expected utilization rates to better recover embedded system costs based on their expected useful life. While this would result in near-term upward rate pressure it could alleviate longer-term cost shifting as customers who electrify further into the future will have contributed to funding the depreciation of those existing assets. Alternatively, a depreciation advance contribution could be established that allows the gas utility to create a surcharge on all customers' energy bills that can ultimately be used to offset infrastructure capital and O&M expenses as gas system utilization declines and more customers defect from the system.

Specifically for fuel switching in areas of PSE's service territory where customers are served by separate gas and electric utilities, a transfer of funds from the electric utility to the gas utility could be a potential solution. A recent example of such an arrangement is in Quebec, Canada where Énergir and Hydro-Quebec serve as the major gas and electric utilities, respectively, and control almost all of Quebec's gas and electric infrastructure. In 2021, Hydro-Quebec and Énergir signed an agreement that seeks to convert natural gas heating of many Énergir customers into hybrid heating systems that operate using electricity the majority of time but switch to gas during cold snaps and peaks in heating demand. Phase 1 of the agreement encouraged ~100,000 residential customers to install hybrid heating systems; Phase 2 has since broadened the scope to include C&I customers. Without this intervention to promote hybrid heating systems over full electrification, Énergir's electric customer costs could rise significantly to meet new electric infrastructure requirements. As such, Hydro-Quebec will provide Énergir with financial compensation to cover approximately 80% of its lost revenue up to a cumulative total of $403 million by 2030; the exact amount will depend on the actual quantity of gas replaced by Hydro-Quebec electricity due to the installation of hybrid heating systems. This compensation is driven by the objective to "balance the impact on rates for customers of both distributors."[67] This case study provides an innovative example of how electric and gas utilities can address the issues of cost recovery and cross-commodity cost shifting while also mitigating the risk of cost increases for the electric utility. It should be noted that this type of agreement is unique and more of an exception than something that is easily replicable for PSE. There were several factors contributing to its success:

- The two utilities own and operate most of the electric and gas utility infrastructure, meaning there were fewer players involved and the same regulator;
- Due to colder climate, hybrid heating is viewed more favorably in Canada given concerns that standard heat pumps may not be able to operate efficiently in colder temperatures, necessitating a more expensive cold climate heat pump to be installed if the customer fully electrifies their space heating system;
- Supportive analysis that compared total costs between a dual-fuel scenario and a full electrification scenario (i.e., analysis did not include a reference case scenario without electrification at scale).

[67] Seguin, Hugo, and Bigouret, Alex. "Hybrid heat in Quebec: Energir and Hydro-Quebec's collaboration on building heat decarbonization." *Canadian Climate Institute*, 14 Apr 2030, https://climateinstitute.ca/publications/hybrid-heat-in-quebec/.

Pursuit of a similar solution for PSE would require collaboration between PSE, the UTC, other electric and gas utilities, and other interested parties.

The potential strategies to address cost impacts of electrification discussed up to this point all involve the recovery of costs from gas and/or electric ratepayers. Alternatively, cost shifting from fuel switching could be addressed instead through other governmental funding from the Washington Department of Ecology or other government entities.

Lastly, to minimize the emergence of stranded assets and cost shifting, gas utilities could be given greater latitude to plan the system in a way that minimizes these risks while simultaneously encouraging alternative, renewable energy sources. For example, gas utilities could work with developers and communities to minimize expansion of the gas system on the periphery of existing gas service systems, such as through the construction of networked geothermal systems. At this time, PSE does not advocate for any particular solution to addressing the challenges associated with rate impacts, cost shifting, and stranded assets, but is committed to addressing these as electrification impacts increase.

5.2. EXPANDING ACCESS TO FUEL SWITCHING THROUGH A FINANCING OPTION

While heat pumps and other efficient electric appliances can offer value to customers through potential energy savings and integrated cooling, the upfront cost of the technology is an obstacle to adoption. In recognition of this, PSE explored, as part of the TES development process, the opportunities and challenges associated with establishing a financing option for residential customers for technologies such as electric heat pumps. PSE discussed the potential of a financing option with Settlement Parties on July 26, 2024, and captured the following feedback regarding the potential development of such an offering:

- There is risk with a financing option that low-to-moderate income households fall into the pitfall of a loan and end up paying more than the cost of the equipment.
- However, there would be value in a low-interest loan that is more competitive than options already provided by original equipment manufacturers (OEMs) and other entities.
- Any pursuit of a financing offering should not replace rebates provided to customers.

PSE conducted benchmarking on utility financing programs that span a variety of different structures to explore a potential design that provides value to its customers while mitigating the risks raised by Settlement Parties that a financing option could increase the customer's total financial burden of installing a heat pump. Through the benchmarking process, PSE identified eight different financing program models in the market today, as is described in Table 33.[68]

[68] The financing models are not necessarily mutually exclusive, and certain programs take elements from multiple program models.

Table 33: Types of Financing Models Identified Through Industry Benchmarking

PROGRAM TYPE	DESCRIPTION
Direct Utility Loan Program	The utility administers a program to provide customers with a loan that is carried on the utility's balance sheet and is paid off through a separate loan repayment mechanism.
On-Bill Repayment	Customer repayment occurs through the utility bill. Called "tariffed" on-bill when cost recovery is tied to the utility meter rather than the customer. There are also distinctions between whether the repayment is tied to the customer or the meter.
Lender Partnership	Utility partners with one or more loan provider(s), with the utility possibly providing financial support for interest rate buy-down or a loan loss reserve fund.
Concierge Service	Pairs applicants with the best financial partner for their project.
Pay As You Go	Repayment is set at or below expected savings amount.
Property Assessed Clean Energy (PACE)	Repayment occurs through a voluntary assessment that is attached to the property tax bill.
Green Banks	Leverages public capital to mobilize private capital investments in energy efficiency and decarbonization.
Loans Explicitly Addressing Hard-To-Reach Segments	For example, programs targeting low-income customers, renters, small businesses, and other underserved customers by offering lower credit requirements, interest rate reduction, or no fees.

5.3. IMPROVING UNDERSTANDING OF HOW CUSTOMERS RESPOND TO PRICE SIGNALS FOR ELECTRIFICATION

Given fuel switching is relatively nascent with regards to adoption, data on customer willingness to pay for heat pumps and other electric appliances is relatively sparse for customers in PSE's service territory. Phase 1 of the Targeted Electrification Pilot has provided PSE with initial insights into customer awareness and interest in electrification, particularly installing electric heat pumps. It also provides data points regarding the impacts of multiple incentive levels on adoption rates since the 2023 pilot incentive, $2,400, was raised to $3,000 in 2024. Additionally, moderate-to-low-income customers were eligible to receive a $4,000 rebate. While useful, this data is somewhat limited given the scale of these efforts and limited variation in incentive amounts. Capturing further insights into customer willingness to pay for heat pumps during the implementation of the TES in 2025-26 will allow PSE to consider future modifications to incentive levels to reach targets for customer electrification in specific circumstances. For example, PSE has identified a specific gas reduction need in the Duvall gas-constrained area that it hopes to achieve through the TES program referred to as "Targeted Electrification in Gas-Constrained Areas". If PSE finds that initial incentive levels are not creating the level of participation required to meet the need, it may increase incentives to see if this makes a meaningful difference. Conversely, if PSE finds that participation expectations are being exceeded at initial incentive levels it may lower the incentive level to see how that affects customer participation.

6. CONCLUSION

As demonstrated in this report, PSE's TES is directly informed by the Decarbonization Study and the Targeted Electrification Pilot and addresses all relevant provisions of Stipulation O in the 2022 GRC Settlement Agreement. For example, given that the Decarbonization Study found that fuel switching is not generally cost-effective for PSE's broad customer base, PSE's TES is focused on targeted electrification initiatives where the greatest value can be achieved in the near-term. This includes targeted electrification for gas-constrained areas to avoid costly gas infrastructure upgrades and programs designed to improve equitable access to electrification by targeting low-income customers and customers in named communities.

The scope and design of the TES was also informed by the Targeted Electrification Pilot. Several of the programs that comprise Phase 2 of the Targeted Electrification Pilot are continuations of programs that were initially successful in the first phase of the pilot and will benefit from additional study and learnings over the next two years (i.e., direct installation of heat pumps for low-income customers, small businesses, and multifamily customers). Additionally, the evaluation of the Targeted Electrification Pilot shed light on the elements of the pilot that customers found most useful and the types of messaging that convinced them to participate. Those learnings will be applied to marketing, education, and outreach strategies deployed to promote the TES programs in 2025-26.

In summary, PSE's TES is comprised of 13 key initiatives for 2025-26 that reach a variety of customer types and cover different forms of electrification with significant emphasis on electrifying space and water heating appliances through the installation of electric heat pumps and electric heat pump water heaters in an equitable manner. Gaining additional learnings around targeted electrification through the TES program portfolio in 2025-26 will allow PSE and interested parties to thoughtfully consider how electrification fits into longer-term plans such as the ISP while continuing to affordably serve customers with clean and reliable energy.

APPENDIX A: RELEVANT MEETINGS WITH SETTLEMENT PARTIES & THE CONSERVATION RESOURCES ADVISORY GROUP (CRAG)

DATE	MEETING	TOPICS	FEEDBACK RECEIVED
7/12/2023	TES Update 1	• Outlined goals and objectives of the TES and programs and strategies under consideration • Described TES development approach • Communicated initially planned TES development timeline	None
9/22/2023	TES Update 2	• Reminded attendees of TES development approach • Summarized the vision, mission, and core values of the TES • Outlined utility industry trends the TES seeks to address	• Requested to view the original full list of macro trends impacting the utility industry • Emphasized that working with contractors and industry professionals on electrification is challenging
3/1/2024	TES Update 3	• Reminded attendees of TES context and purpose • Provided an overview of Decarbonization Study results • Detailed PSE's definition of targeted electrification • Described potential electrification tactics being considered as part of the TES • Explained status of the TES against each Stipulation provision	• Expressed interest in a HHP offering and financing option for customers • Expressed appreciation of the potential electrification tactics list
7/26/2024	TES Update 4	• Provided update on progress developing the TES • Provided overview of TES framework and program portfolio • Discussed considerations for the design of the TES Program Portfolio based on industry benchmarking • Discussed overall feedback received to date	• Expressed appreciation about emphasizing fuel switching within gas-constrained areas • Noted that the types of financing options described would likely require addressing legislative barriers • Noted that financing is of interest in addition but not instead of rebates and also comes with risk that customers actually pay more than the total equipment cost over time

8/7/2024	CRAG Meeting 1	• Provided overview of TES and CRAG engagement topics
		• Discussed integration of fuel switching into PSE's planning efforts and policy limitations of integrating into the Biennial Conservation Plan (BCP)
		• Detailed PSE's approach to developing marketing, education, and outreach materials for the TES and fuel switching generally
		• Described proposed changes to HHP offering (e.g., savings calculation)
			• Provided general support for PSE to:
			  ○ Pursue electrification as separate from the BCP
			  ○ Consider marketing, education, and outreach for TES programs and fuel switching generally
			  ○ Use the EBEF to inform the TES, emphasizing community partnerships

DATE	MEETING	TOPICS	FEEDBACK RECEIVED
		• Discussed next steps	○ Shift HHP savings calculations
10/9/2024	CRAG Meeting 2	• Reminded attendees of the TES Program Portfolio and key inputs • Identified marketing, education, and outreach tactics and messaging strategies to consider for the TES Program Portfolio and fuel switching generally	• Suggested health benefits associated with improved indoor air quality due to cooking with an electric cooktop/oven as a potential option for messaging for fuel switching • Noted that if induction cooktops are a selling point of any future programs, to be careful of promotion in named communities as this requires iron-based cooking pots and pans • Expressed interest in learning more about community and municipal utility partnerships
12/10/2024	Final TES Presentation	• Provided an overview of the TES and how PSE fulfilled the provisions of Stipulation O • Outlined some of the key insights and takeaways from the TES • Discussed questions from Settlement Parties	• Suggested assessing potential customer impacts of the discussed strategies to mitigate cost and affordability challenges • Asked how Initiative 2066 will impact the TES. • Asked about the impact of government funding sources for fuel switching (e.g., IRA)

PSE

PSE PUGET SOUND ENERGY