2020-2021
Biennial Conservation Plan

Overview

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Energy Efficiency Mission

Now, more than ever, energy efficiency plays a critical role in so many aspects of Washingtonians' lives. The men and women of Energy Efficiency care deeply about the positive impact that they have by implementing and managing the Company's conservation programs. From the ecological impacts of using valuable resources respectfully, reducing material waste, delaying the need to build new electric and natural gas generation, and minimizing the financial burden on customers, there are several key drivers of PSE's Energy Efficiency department focus.

Energy Efficiency's conservation contribution—offsetting generation needs—to PSE's power planning is a crucial element in ensuring that PSE accurately plans available generating resources.

- Energy Efficiency is committed to having a positive impact on the environment by reducing emissions associated with generating power, and reducing waste associated with lower-efficiency products.
- Energy Efficiency is committed to reducing customer energy costs by offering more efficient electric and natural gas energy-consuming devices, information, and guidance.
- Energy Efficiency is the lowest-cost, most cost-effective option in PSE's energy portfolio.
- PSE must comply with RCW 19.285.040, which mandates that utilities with more than 25,000 electric customers pursue all available conservation that is feasible, reliable, and cost-effective as a 20 percent pro-rata share of their 10-year conservation potential, as determined by its most recent IRP.

I. Executive Summary

Consistent with RCW 19.285.040(1), WAC 480-109-120, and requirements outlined in Appendix A of the Commission Order 01 of Docket UE-171087, Puget Sound Energy (PSE, or the Company) presents this 2020-2021 Biennial Conservation Plan (the Plan or BCP). The Plan represents programs that PSE is putting into place in order to achieve PSE's Total Utility Conservation Goal indicated in part B.5 below.

A. The 2020-2021 BCP will be Updated Subsequent to the 2019 IRP Filing

Consistent with Order 01 in Dockets UE-180607 and UG-180608,[1] the 2020-2021 savings figures, cost-effectiveness estimates, and anticipated program spends included in the November 1, 2019 filing of this 2020-2021 BCP are based on the pro-rata share of the 2017 IRP's (Integrated Resource Plan's) 10-year conservation potential.

Within 30 days of PSE's filing the final 2019 IRP on January 15, 2020, PSE will make a petition filing, which will enumerate any necessary updated Target and Threshold figures. PSE will file the petition into the 2020-2021 BCP Docket. PSE will collaborate with its Conservation Resource Advisory Group (CRAG) to address any program adjustments that aren't accounted for beyond the established Portfolio structure, which is designed to accommodate Target revisions.

B. PSE Requests Commission Approval of 2020-2021 Targets

Pursuant to WAC 480-109-120(1)(b)(i), the Company requests that the Commission allow the Plan to become effective on January 1, 2020, and approve:

1) PSE's 10-year Conservation Potential of 1,799,000 MWh, or 205.36 average megawatts (aMW),
2) PSE's EIA Target of 359,861 MWh, and the Natural gas CPA Pro-Rata Share of 6.16 million therms,
3) PSE's EIA Penalty Threshold of 336,297 MWh, or 38.4 aMW, and its Natural Gas Penalty Threshold of 6.16 million therms. The Penalty Threshold removes NEEA from the CPA-determined savings totals.

[1] Order 01: "Order", part (2), ¶ 24, pg 5 – "Puget Sound Energy is authorized to use data from its 2017 Integrated Resource Plan to set the energy efficiency target for its 2020-2021 Biennial Conservation Plan."

4) PSE's electric Decoupling Threshold of 17,993 MWh, and its natural gas Decoupling Threshold of 308,000 therms.
5) PSE's Total Utility Conservation Goal of 476,468 Megawatt-hours (MWh), or 54.4 average megawatts (aMW), and 7.77 million therms.

With the exception of the 10-year potential, PSE notes each of these figures in color-coded summary cells in the Portfolio View of Exhibit 1: *Savings and Budgets*. PSE provides savings terminology definitions in the Glossary.

PSE's total 2020-2021 CPA Pro-Rata Share of 359,861 MWh represents all available conservation that is cost-effective, reliable and feasible, as a 20 percent pro-rata share of its 10-year conservation potential, consistent with RCW 19.285.040(1), sections (a) through (f). The CPA Pro-Rate Share is the EIA Target, as determined by the most recent IRP. PSE bases the commensurate natural gas value of 6.16 million therms on the 2017 IRP's calculation of 2020-2021 savings potential. These savings values are the basis for each calculated electric savings target.

C. 2020-2021 Savings, Budgets and Cost-Effectiveness

Table I-1 indicates PSE's overall Energy Efficiency Total Utility Electric and Natural Gas Conservation Goals, the anticipated spending for the Portfolio, and the Portfolio cost-effectiveness calculations. Unless otherwise noted, indicated figures represent all Sectors that comprise the Portfolio.

Table I-1: 2020-2021 Energy Efficiency Savings Targets, Budgets, and Cost-Effectiveness

2020-2021 Energy Efficiency				
Portfolio Amounts				
	Total Savings	Budgets	EIA & Natural Gas Penalty Target	TRC B/C Ratio
Electric	476,468 MWh *54.4 aMW*	$176,471,707	336,297 MWh *38.4 aMW*	1.26
Natural Gas	7,774,516 therms	$36,197,964	6,155,000 therms	1.28
Total Budget		$212,669,670		

Table IV-5 and Table IV-6 in Chapter 4: *Developing PSE's 2020-2021 Biennial Conservation Plan*, page 56, present additional summaries at the Sector level.

1. Developing the 2020-2021 Conservation Targets

Throughout the 2020-2021 conservation planning process, the Energy Efficiency department consulted with PSE's Resource Planning team in determining the Company's ten-year conservation potential and two-year electric and natural gas conservation targets. PSE started this planning process at the beginning of 2019.

PSE conducted an extensive examination of considerations in building the 2020-2021 conservation Portfolio. Planning teams scrutinized issues such as legislative impacts, marketplace dynamics, and externalities (for instance, utility actions and partnerships, regional initiatives, regulatory requirements). Staff comprehensively evaluated the potential for new offerings through its Request For Information (RFI) and Request For Proposals (RFP) processes, and internal resources affecting PSE's electric and natural gas savings targets. A key consideration was the uncertainty associated with the development of the final 2019 Integrated Resource Plan (IRP) and the Conservation Potential Assessment (CPA).

The Total Utility Conservation Savings Goals, both electric and to a lesser degree, natural gas, include specific programs and initiatives that were omitted from the CPA. PSE identifies these it its savings development discussions, and enumerates them in the "Building the Target" tables in Exhibit 1: *Savings and Budgets.*

a. 2017 IRP Guidance

As noted in Section I.A on page 1, PSE's 2019 IRP filing is delayed until January 15, 2020. Although Energy Efficiency staff have developed electric and natural gas program plans that anticipate an updated 10-year conservation potential in the final 2019 IRP, CPA guidance uncertainty remains as of the November 1 filing of this BCP. It therefore may be necessary to update the targets enumerated in Section I.B subsequent to the filing of the final 2019 IRP.

Exhibit i: *Ten-year Achievable Conservation Potential and Two-year Targets*, discusses PSE's processes employed to calculate its electric EIA Target, based on data contained in its 2017 IRP.[2]

WAC 480-109-100 (3)(b) requires that the electric biennial target be "no lower than" the pro-rata share of a utility's ten-year conservation potential. PSE notes the resultant baseline figures determined by the IRP Total Biennial Potential in Table I-2. Those figures becomes the electric EIA Target and the natural gas CPA Pro-Rata Share.

Table I-2: 2017 IRP's Conservation Total Biennial Potential for 2020-2021

	10-Year Potential	2-Year IRP Guidance
Electric	1,799,149 MWh (205.4 aMW)	359,861 MWh (41.1 aMW)
Natural Gas	30,778,000 therms	6,155,600 therms

b. Adjustments Made to the CPA Pro-Rata Share to Build the Energy Efficiency Savings Goals

Using the CPA Pro-Rata Share, which is also considered the electric EIA Target, as its foundation, PSE built its Penalty Thresholds, Decoupling Thresholds, and Total Utility Conservation Goals, by applying the following modifications.

i. Building the Penalty Thresholds

To calculate the electric and natural gas Penalty Thresholds, PSE subtracts the savings estimates provided by the Northwest Energy Efficiency Alliance (NEEA) from the CPA Pro-Rata Share. This is consistent with 2018-2019 Statewide Advisory Group (SWAG) discussions,[3] indicating that the Commission's standard practice is applicable to determine the Penalty Threshold value.

[2] Consistent with Order 01 in Dockets UE-180607 and UG-180608, the final IRP is scheduled to be filed with the Commission on January 15, 2020, subsequent to the 2020-2021 BCP filing on November 1, 2019.

[3] Page 5, Washington Statewide Advisory Group (SWAG) Report on 2018 Washington State Investor Owned Utility Energy Efficiency Joint Advisory Group Activities and Outcomes, Chapter 2, Section 2, ¶ 2. Docket UE-171087.

ii. Building the Decoupling Thresholds

PSE's multiplies the (electric) EIA Target / (natural gas) CPA Pro-Rata Share by 5 percent to calculate the Decoupling Thresholds.

iii. Building the Total Utility Conservation Savings Goals

PSE's electric and natural gas conservation programs that it implements as a part of Conservation Schedules 200 through 299 comprise the foundation of the Energy Efficiency savings programs, or the CPA Pro-Rata Share.

To this foundation, PSE added the following programs to establish its complete Total Utility Conservation Savings Goals:

- 449 Customers. PSE verified that the Conservation Potential Assessment (CPA) excluded retail wheeling customers from the 2017 analysis, and added the projected 2020-2021 savings from these customers into its Portfolio total. It should be noted that 449 customers are exclusively electric, and are eligible to participate in the Large Power User/Self-Directed (Schedule 258) program.
- Special Contract customers.
- Pilots with uncertain savings. PSE includes these programs—that are sometimes presented to PSE via its RFP/RFI solicitations—in its Portfolio savings goal (and expenditures) total.
- The decoupling target of 5 percent above the Commission-approved EIA Target. PSE developed the Portfolio savings goals and budgets with the additional 5 percent included.
- A new category for 2020-2021: Additional Portfolio Build-out. PSE created this savings category to address the potential that the final 2019 IRP conservation guidance may be larger than the 2017 conservation data indicated. PSE intends that the additional savings will mitigate the majority of a potential increase, and puts into place the program structure necessary should additional savings be required.

PSE provides outlines of the key calculation steps used to determine the electric and natural gas targets in the 2020-2021 Electric Portfolio Savings Target discussion of Chapter 4: *Developing PSE's 2020-2021 Biennial Conservation Plan* in Table IV-1 and Table IV-2.

c. The 2020-2021 Electric and Natural Gas Total Utility Conservation Goals

Energy Efficiency program staff developed a considerable suite of programs and customer offerings that are designed to achieve the Total Utility Conservation Goals of 476,468 MWh, or 54.4 aMW, and 7.77 million therms.

2. The 2020-2021 Budgets

PSE's electric Portfolio budget is $176.47 million, and the natural gas Portfolio budget is $36.2 million.

The electric budget includes $3.39 million for Other Customer Programs operations. This group is comprised of the Net Metering administrative and distribution system expenses and the Targeted Demand Response pilot for 2020-2021. PSE developed the budgets to support the indicated Portfolio savings and meet regulatory requirements. PSE presents the budget details in Exhibit 1*: Savings and Budgets*, and are consistent with requirements outlined in Section F.11, condition (4), and WAC 480-109-100(4).

PSE's electric and natural gas budgets also reflect compliance with requirements noted in the Commission's decoupling Order,[4] the 2017 Special Contract,[5] the 2017 General Rate Case Settlement Stipulation,[6] and the 2018 Multiparty Settlement Stipulation and Agreement,[7] which indicate various funding requirements for PSE's Low Income Weatherization (LIW) program. PSE also added required funding to its LIW Shareholder category.

3. Cost Effectiveness Considerations

PSE continues to apply all available RTF-established Non-Energy Impacts (NEIs) to prescriptive rebate programs. In order to provide a comprehensive offering for low-income customers, PSE will continue to follow Department of Commerce funding guidelines and WAC rules to calculate its electric and natural gas LIW program cost-effectiveness. PSE calculated the LIW cost-effectiveness ratios, but excluded them from the overall Portfolio total.

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[4] Commission Order 07, Dockets UE-121697 and UG-121705 (consolidated) and Dockets UE-130137 and UG-130138 (consolidated).

[5] Docket UE-161123.

[6] Docket UE-170033, UG-170034.

[7] Docket U-180680.

This approach will allow program staff to continue a respectable range of measures to qualifying customers. It is also consistent with support from PSE's CRAG. In addition to RTF-calculated NEIs, PSE will also apply NEIs that were calculated for wood smoke reductions from ductless heat pump installations in homes where electric heat is used, and the primary heat source is wood.

a. Electric

PSE calculates that the aggregate of electric programs will achieve a Total Resource Cost (TRC) benefit-to-cost ratio of 1.26 at the Portfolio level. PSE estimates its Portfolio Utility Cost (UC) benefit-to-cost ratio to be 1.54.

b. Natural Gas

PSE calculates that the overall natural gas Portfolio TRC benefit-to-cost ratio will be 1.28. PSE calculates that natural gas programs will achieve, in aggregate, an overall UC of 1.64.

D. Achieving the 2020-2021 Savings Targets

In 2020-2021, the Energy Efficiency team will maximize customer engagement and participation, while driving electric and natural gas conservation savings through innovation and adaptive management techniques, consistent with WAC 480-109-100(1)(a)(iv).

1. Electric

The Residential Energy Management (REM) Sector will continue to build on its successful 2019 strategies to focus on the Manufactured Home segment in the coming biennium. The House Bill 1444 updated lighting and appliance standards have a particularly significant impact on REM programs: in particular, Retail Lighting, Home Appliances, (and the accompanying Thank-You Kits) and Home Energy Assessments. To supplant the lost savings, Sector program staff have put plans into place to expand Home Energy Reports, migrate some weatherization and water heat measures to the Midstream model, revise the Home Energy Assessment program, and pursue additional service channels. The Single Family and Manufactured Home New Construction programs expect a ramp-up in activities since their re-introduction last biennium. The Sector also plans to pursue a Moderate-Income pilot in order to promote savings in that hard-to-reach customer segment.

In the Business Energy Management (BEM) Sector, program staff will continue to simplify lighting programs' qualifications, consistency, and application processes to increased customer participation and satisfaction. Wherever possible, program staff will emphasize the benefits of bundling lighting controls with fixture retrofits, and will increase incentives accordingly. Lighting in the indoor agriculture segment is approaching a saturation point, but program staff will continue to emphasize HVAC, dehumidification, and heat recovery measures.

BEM will also make enhancements to two of its Commercial/Industrial Retrofit offerings. The Sector re-named Commercial Building Tune-Ups (CBTU) to Existing Building Commissioning (EBCx), and the group will create a new program, Industrial Energy Management. The latter will bring program implementation in-house for this hard-to-reach segment, which will maximize efficiencies and create synergies with other BEM programs.

Both REM and BEM staff are pursuing project collaboration with PSE's regional utility partners. Joint program management of custom grants and commercial kitchen incentives, weatherization contractor trainings, and cost sharing with water utilities on water-saving measures are a few examples.

The Commercial Rebates programs will make notable savings gains from the previous biennium, expanding their services into the Midstream model, and the Small Business Direct Install program will expand their hard-to-reach focus to tribes in rural areas.

CVR projects are expected to increase to eight in the coming biennium, with a ramp-up forecast in the coming biennia as Advanced Metering Infrastructure (AMI) installations increase, allowing the Company to incorporate updated CVR methodology.

2. Natural Gas

Despite the effects of energy code updates, continued difficult market conditions and product costs, and lower UES values, PSE's 2020-2021 natural gas conservation target remains healthy, with a 20 percent increase in savings from the 2018-2019 BCP. In REM, the LIW program expects that increased high-efficiency boiler installations in Seattle will drive an increase in savings. Additionally, the Home Energy Reports program plans a significant expansion, and, as is the case in the electric portfolio, program staff expect that the foundation that the Single Family New Construction program put into place in the previous biennium will gain momentum in 2020-2021.

PSE expects a 4 percent increase in BEM Sector natural gas savings, driven primarily by gains in the Commercial Rebates group, with the Commercial Midstream increasing its previous biennium's projection almost two-fold, and the Commercial Kitchens program up over 70 percent.

E. Regulatory Compliance

This Plan satisfies requirements outlined in RCW 19.285.040(1)(b) and WAC 480-109-120(1), and is consistent with several specific conditions and requirements enumerated in Appendix A of Order 01 in Docket UE-171087.

Consistent with condition (3)(e), PSE developed this BCP with ongoing Conservation Resource Advisory Group (CRAG) engagement, and provided the CRAG with:

- Draft savings targets by August 1, 2019,
- Draft budgets and program details by September 1, and
- Draft tariff revisions by October 1.

In accordance with WAC 480-109-110(3), PSE provided the CRAG with a draft 2020-2021 BCP on October 1, 2019.

Chapter 14: *Compliance*, includes an extensive discussion of rule fulfilment, condition background, conditions met with the filing of this Plan, 2020-2021 conditions development, and energy-efficiency elements within House Bill 1444 and Senate Bill 5116, the Clean Energy Transformation Act (CETA) that PSE must implement within the coming biennium and consider as it develops its 2022-2023 BCP. The Plan is also consistent with several applicable deliverables enumerated in the 2001 General Rate Case Stipulation Agreement, Exhibit F, Docket UG-011571.

F. CRAG Engagement and Reporting

As noted in Section I.B, there is more than a single electric or natural gas savings Target. Consistent with CRAG requests, PSE commits to ensuring that tracking and reporting of savings forecasts and achievement are clear. PSE is also committed to tracking and reporting compliance with all regulatory requirements. PSE will continue its periodic CRAG newsletter "*CRAG Communications"* throughout the biennium to ensure that the CRAG is up-to-date with Energy Efficiency developments. It will continue to focus on conducting CRAG meetings that optimize effectiveness and productivity.

G. Following Chapters

In the following chapters of this Overview, PSE outlines a variety of new and updated programs, functions, and activities that program staff designed to exceed customer expectations, and meet electric and natural gas conservation targets. PSE appreciates the opportunity to engage with the CRAG on the development of these initiatives.

This document discusses the management steps that PSE put into place in order to achieve the indicated savings Targets while effectively managing expenses and providing exemplary stewardship of customer funds. PSE discusses assumptions and key drivers of budgets and savings Targets in Chapter 4: *Developing PSE's 2020-2021 Biennial Conservation Plan* and in the Sector Overview discussions.

The most detailed level of information is contained in the attached Exhibits, numbers i through 11. They contain budget and program details, cost-effectiveness calculations, measure tables, evaluation plans, and marketing and outreach overviews in a logical flow, reinforcing the business processes used to build the Plan.

With this 2020-2021 BCP, PSE continues its principle of providing a wide range of business information in a form that addresses Stakeholder needs and requests with a high degree of transparency. The Plan demonstrates PSE's long-standing application of adaptively managing its conservation Portfolio in a dynamic marketplace. As a courtesy to Stakeholders, PSE actively solicits, welcomes, and incorporates comments and suggestions on all of its filing documents.

II. Introduction

This 2020-2021 Biennial Conservation Plan (BCP, or the Plan), will discuss Puget Sound Energy's (PSE's or the Company's) electric and natural gas conservation program objectives and plans for the upcoming biennium. The BCP fulfills the requirements of RCW 19.285.040, WAC 480-109-120, and several conditions, including (3)(e): deliverables associated with the BCP filing, (4): Annual Budgets and Energy Savings, (5): Program Details, (7): Program Design Principles, and (8): Cost-Effectiveness Tests. These requirements indicate that PSE must discuss its ten-year achievable potential and two-year conservation target, program details, and provide detailed budgets and tariff revisions for Stakeholder review.

In accordance with WAC 480-109-120(1)(b)(i), PSE requests that the Utilities and Transportation Commission (WUTC, or UTC) issue an Order, approving the savings Targets and Thresholds outlined in Table II-1, along with their associated budgets as discussed in the Plan, with an effective date of January 1, 2020.

Table II-1: PSE's 2020-2021 Savings Targets and Thresholds

Savings Classification	MegaWatt-Hour (MWh)	aMW	Therm
10-Year Conservation Potential	1,799,149	205.38	30,778,000
EIA Target/CPA Pro-Rata Share	359,861	41.1	6,160,000
Penalty Threshold	336,297	38.4	6,160,000
Decoupling Threshold	17,993	2.1	308,000
Total Utility Conservation Goal	476,468	54.7	7,774,516

The EIA Target of 359,861 MWh represents all available conservation that is cost-effective, reliable and feasible, as a 20 percent pro-rata share of PSE's 10-year conservation potential, as determined by its most recent IRP. This is consistent with RCW 19.285.040(1), sections (a) through (f).

A. Interim Plan

As a result of the delay of PSE's Integrated Resource Plan (IRP) filing, the entirety of PSE's 2020-2021 BCP will consist of two filings:

1) A November 1 filing, consistent with the requirements of WAC 480-109-100(3), containing the above-noted Targets and Thresholds.
2) PSE will then file a petition with the Commission into the 2020-2021 BCP Docket. The petition will enumerate modified Targets and Thresholds that result from the updated 2019 IRP.

The November 1 filing fulfills the regulatory BCP filing requirement. It reflects savings and budget figures that PSE based on the 2020-2021 pro-rata share of the 2017's IRP ten-year conservation potential.[8] In addition to this figure, PSE augmented existing programs, and created new programs to bolster the pro-rata savings, in anticipation of a possible increase in conservation potential indicated in the 2019 IRP. PSE implemented this strategy to minimize any unanticipated large gap between the 2017 IRP guidance and the updated 2019 IRP.

Subsequent to the November 1, filing, PSE will require no new tariff revisions, and the Energy Efficiency program design structure will accommodate any increased savings adjustment, if one is called for. Should the resultant savings adjustment be significantly above the already-filed Targets and Thresholds, PSE will work closely with its CRAG to ensure that it plans for and documents any revised savings differences.

The 2019 IRP guidance will become clear after the November 1 BCP filing, with the draft 2019 IRP expected in mid-November. PSE will begin work on applicable BCP Targets and Thresholds after the November 1 filing, and will file an updated/revised savings figures in the Petition that PSE will file subsequent to the filing of the final 2019 IRP on January 15, 2020.

B. Overview of the BCP Contents

Where there are notable differences, or where it is applicable, PSE will discuss electric initiatives separately from natural gas initiatives. Where there is not a distinction, the Energy Efficiency program staff will apply comparable strategies and focus.

[8] Order 01: "Order", part (2), ¶ 24, pg 5 – "Puget Sound Energy is authorized to use data from its 2017 Integrated Resource Plan to set the energy efficiency target for its 2020-2021 Biennial Conservation Plan."

Many discussions will reference and summarize supporting Exhibits that provide a substantial amount of detailed, important information. PSE also includes its natural gas program initiatives in this 2020-2021 biennial plan.[9]

The 2020-2021 BCP will focus on strategies that PSE will employ in order to exceed customer expectations, prudently use the funds that they have entrusted to PSE, and be proactive in adjusting to ever-evolving market conditions while achieving its Commission-approved savings Targets and Thresholds.

The Plan's guidance includes PSE's Integrated Resource Plan (IRP) Total Biennial Potential, impacts of 2019 legislation, customer participation and feedback, and updated avoided cost calculations. PSE also considered Conservation Resource Advisory Group (CRAG) recommendations, RTF Unit Energy Savings (UES) value adjustments,[10] technology updates, and trade ally support, among others. PSE discusses these in further detail throughout the following chapters.

Throughout this Plan, references to WAC 480-109 and UTC conditions may be sited where applicable within program or function discussions. These include requirements outlined in: Appendix A of Order 01 in Docket UE-171087; Sections A through J of the 2010 Electric Settlement Agreement, Docket UE-100177; and applicable Sections of Exhibit F in the 2001 General Rate Case Stipulation Agreement, Docket UG-011571. Additional references include, but are not limited to Commission Orders in a variety of Settlement Stipulations, Special Contracts, and Agreements.

This discussion and the Glossary of Commonly Used Terms section contain the only citation of the complete, formal name of those orders and conditions. In the following discussions, the report will only reference "Section", "condition", or "order" to avoid unwieldy repetition and unnecessary verbiage.

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[9] Inclusion of PSE's natural gas plans is consistent with Section H.21 of the 2001 Rate Case Stipulation Agreement, Docket UG-011571, which states in part (emphasis added):

> *"… After the first year,* ***PSE's conservation targets for*** *both* ***natural gas*** *and electric efficiency* ***programs will be revised periodically and determined by the updated conservation supply curves, current avoided cost values, program experience, and other relevant factors****. These targets will direct development of the mix of cost-effective programs that will establish the budgets for efficiency programs and once that mix has been developed, the targets will be determined. The Company will submit these targets through annual filings for Commission approval."*

[10] It is important to note that PSE aligns its RTF Deemed (UES) savings values to those outlined in the most recent version of RTF tables annually, rather than biennially, in order to reflect actual conservation savings in the most accurate manner.

C. 2020-2021 Key Areas of Focus

In order to establish robust customer programs that meet customer expectations, achieve savings goals, and ensure that PSE can sustain conservation efforts well into the future, there must also be a focus on developing and enhancing supporting business functions and initiatives.

These are often not customer facing—with, of course, the exception of PSE's outreach, marketing, and digital experience initiatives—or savings-generating programs. Additionally, Regulatory Stakeholder requests shape a number of the 2020-2021 PSE areas of focus.

In pursuing its 2020-2021 key areas of focus, Energy Efficiency will:

- Maximize its customer participation in Energy Efficiency programs by continuing its efforts to engage customers with its innovative communications and outreach strategies. PSE will make it easy for customers to participate in its programs, with a focus on maximizing the direct benefit provided to customers. PSE will build on its leading edge and award-winning customer messaging and outreach, and continue its efforts to engage customers in hard-to-reach and proportionately underserved segments.
- Continuously innovate and adapt its efficiency programs and business processes, including augmenting its system capabilities. The 2020-2021 Plan includes discussions on adaptive program design that includes new measures and new delivery methods, as well as business process improvements designed to maximize productivity.
- Enhance and clarify its implementation of pilot programs, including innovative offerings that PSE considers analogous to pilots.
- Continue the effective implementation of Conservation Voltage Regulation (CVR) in applicable substations while incorporating updated voltage regulation potential through the implementation of Advance Metering Infrastructure (AMI) and substation automation.
- Discuss PSE's partnerships with adjoining utilities, illustrating collaborative opportunities to leverage conservation offerings.
- Outline and discuss comprehensive building conservation treatment (sometimes referred to as "deep retrofits").
- Outline and discuss Energy Efficiency's response to EISA (Energy Independence Security Act) retail lighting code revisions, which substantially curtail retail lighting programs.

PSE provides detailed discussion of these initiatives in Chapter 3: *Key Areas of Focus*.

D. Developing the 2020-2021 Conservation Savings

The Plan provides details of PSE's implementation of a considerable suite of innovative programs and customer offerings. Program staff apply adaptive program design with a focus on customer satisfaction and participation, leading to achievement of four sets of conservation savings Targets. PSE conducted an extensive examination of considerations in building the 2020-2021 Total Utility Conservation Goal, and the other sets of Targets throughout the year-long planning process.

1. EIA and Natural Gas Targets

Consistent with RCW 19.285.040(1)(a) and (b), and calculated from the 2017 IRP data for 2020-2021 potential, the indicated 359,861 MWh is PSE's EIA Target. The Natural Gas Target of 6.16 million therms is also in compliance with principles enumerated in various sections of The 2002 Stipulation Agreement. WAC 480-109-100 (3)(b) requires that the electric biennial target be "no lower than" the pro rata share of a utility's ten-year conservation potential.

In both the EIA Target and Natural Gas Target, NEEA forecasted savings are included, as those savings are contained in the CPA analyses.[11]

The 2017 CPA pro-rata shares represents the foundation of all 2020-2021 PSE savings calculations: PSE builds all other Targets—from the ground-up—from these savings figures.[12] PSE denotes the CPA Pro-Rata Share/EIA Target on line *a* of the "Building the Target" electric and natural gas tables in Exhibit 1: *Savings and Budgets*.

2. Penalty Thresholds

PSE calculates each of its four penalty thresholds using the CPA Pro-Rata Share as their bases: two subtractions determine the EIA and Natural Gas Penalty Thresholds, and two multiplications result in the Decoupling Thresholds.

[11] The CPA does not indicate a specific delivery mechanism (that is to say, there are no "NEEA Savings") for any given resource or measure.

[12] When the 2019 IRP is completed, PSE will update its CPA Pro-Rata Share, and will file BCP replacement pages with the UTC.

PSE provides the Penalty Threshold values on lines *d* and *c* of the electric and natural gas "Building the Target" tables, respectively, in Exhibit 1: *Savings and Budgets*.

a. EIA Penalty Threshold

To calculate its EIA Penalty Threshold, PSE subtracts NEEA forecasted savings, consistent with the Commission's standard practice.[13] The resultant Threshold is subject to a penalty[14] outlined in RCW 18.285.070(1) and WAC 480-109-070. For the 2020-2021 biennium, NEEA forecasts its savings to be 2.70 aMW, or 23,564 MWh. When the NEEA savings are subtracted from the EIA Target (which is equivalent to the CPA Pro-Rata Share), the resultant EIA Penalty Threshold is 336,297 MWh.

The electric penalty structure is discussed in RCW 19.285.060 and WAC 480-109-070.

b. Natural Gas Penalty Threshold

Consistent with the electric EIA Penalty Threshold calculation methodology, PSE subtracts NEEA therm savings estimates from the natural gas CPA Pro-Rata Share of 6.16 million therms. There is currently no NEEA therm savings potential for 2020-2021. Therefore, the CPA Pro-Rata Share is equal to the Natural Gas Penalty Threshold of 6.16 million therms.

PSE's penalty structure for its Natural Gas Penalty Threshold is outlined in the 2002 Stipulation Agreement, Section M.43.

c. Decoupling Thresholds

PSE's electric Decoupling Threshold of 17,993 MWh is based on a multiplying the EIA Target by 5 percent, as set forth in PSE's Amended Decoupling Accounting Petition in Docket UE-121697 Section III.G.31, page 17. PSE will be subject to the same penalty amount for achievement shortfall as the EIA Penalty Threshold.

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[13] Please see page 5, Washington Statewide Advisory Group (SWAG) Report on 2018 Washington State Investor Owned Utility Energy Efficiency Joint Advisory Group Activities and Outcomes, Chapter 2, Section 2, ¶ 2. Docket UE-171087.

[14] PSE has 59,653 MWh of excess electric achievement available to apply to potential savings shortfalls in 2018-2019. For potential 2020-2021, PSE will have 20,747 MWh + any excess remaining from the 2018-2019 verified savings amount.

PSE calculates the Natural Gas Decoupling Threshold of 308,000 therms by multiplying the CPA Pro-Rata Share by 5 percent. This methodology is set forth in the 2017 Staff Initial Brief in the 2017 General Rate Case Docket UG-170034, Section III.A.53, page 27. The natural gas decoupling shortfall penalty is a tiered amount, ranging from $20,000 to $75,000.[15]

PSE discusses strategies of adding incremental decoupling savings through additional marketing, promotions and retail events, along with one-time rebates and new measures in Chapter 4: *Developing PSE's 2020-2021 Biennial Conservation Plan*.

3. Total Utility Conservation Goals

Once Energy Efficiency program staff have the "top-down" savings goals as determined by the IRP guidance, they build savings programs consistent with condition F.11,[16] which indicates that budgets must be developed from the bottom-up.

Energy Efficiency develops its electric and natural gas programs to achieve the total savings of the overall Portfolio, or the Total Utility Conservation Goal. For the November 1, 2019 filing of the 2020-2021 BCP, PSE augmented existing and developed new programs that added 74,336 MWh[17] to the Total Utility Conservation Goal.

The Total Utility Conservation Electric and Natural Gas Goals are comprised of:

1) The EIA Target/CPA Pro-Rata Share (which include NEEA savings forecasts),
2) The Decoupling Thresholds,
3) Firm Savings Excluded from the CPA,[18]

[15] These amounts are proposed in Prefiled Testimony, Jon Piliaris, page 145.

[16] Agreed Conditions for Approval of Puget Sound Energy, Inc.'s 2010-2011 Biennial Electric Conservation Targets Under RCW 19.285. Docket UE-100177.

[17] This is termed "Additional Portfolio Build-Out" in the electric "Building the Target" table in Exhibit 1.

[18] In the 2018-2019 biennium, these savings included those derived from 449 customer participation. In the 2020-2021 biennium, PSE added savings derived from customers under Special Contracts to this category.

4) Pilots with Uncertain Savings,
5) Additional Portfolio Build-out.

PSE lists these components in the electric and natural gas "Building the Target" tables in Exhibit 1: *Savings and Budgets*.

For the November 1, 2019 BCP filing, the 2019 IRP was still under development, and there was a certain level of uncertainty relative to the final electric and natural gas savings figures. PSE created the Additional Portfolio Build-out to minimize the potential impact of a large disparity in the 2017-to-2019 IRP's CPA.

PSE plans to update the Total Utility Conservation Goals of 476,468 MWh, 54.4 aMW), and 7.77 million therms for 2020-2021 subsequent to the finalization of the 2019 IRP in 2020, by filing updated savings figures with the Commission into the 2020-2021 BCP Docket.

PSE discusses its approach to developing each of these components in Chapter 4: *Developing PSE's 2020-2021 Biennial Conservation Plan*.

E. PSE Examined all Required Savings Types

PSE provides the BCP location of the required savings types—listed in WAC 480-109-100(1)(b): types of conservation—that PSE investigated to build the 2020-2021 savings programs in Table II-2.

Table II-2: 2020-2021 BCP Location of WAC 480-109-100(1)(b)

Requirement		BCP Location
(i)	End-use efficiency	All Residential (REM) and Business (BEM) programs
(ii)	Behavioral programs	Home Energy and Individual Energy Reports, REM and BEM sections
(iii)	High-efficiency cogeneration	No projects identified during 2020-2021 planning[19]
(iv)	Production efficiency	Chapter 10: Regional Programs, Schedule 292

[19] Although no co-generation projects were presented to PSE as part of 2020-2021 planning, there is a 2019 project that is slated to be completed in 2020. PSE's BEM organization continuously scans for qualifying proposals.

Table II-2: 2020-2021 BCP Location of WAC 480-109-100(1)(b), continued

Requirement		BCP Location
(v)	Distribution efficiency	Chapter 10: Regional Programs, Schedule 292
(vi)	Market transformation	Regional Programs, NEEA—Schedule 254
(c)	Pilots	Chapter 9: Pilots with Uncertain Savings

F. 2020-2021 Budgets

Consistent with the requirement of condition F.11: *Budget Development*, Energy Efficiency developed its electric and natural gas biennial budgets from the bottom-up.

The Portfolio electric budget of $176.47 million is approximately 4 percent lower from the 2018-2019 biennium, which was $183.84 million. The 2020-2021 electric budget includes $3.39 million for Net Metering administration and distribution accounting costs. The Portfolio natural gas budget is 17 percent higher than the 2018-2019 budget: $36.2 million in 2020-2021, versus a 2018-2019 budget of $31.1 million.

G. Potential 2020-2021 Incentive Mechanism

Over the course of three meetings with the Statewide Advisory Group (SWAG) from March through December 2018 and two meetings with the CRAG in January and April 2019, PSE outlined several elements and considerations that could potentially comprise its proposed performance incentive mechanism. PSE in conjunction with the CRAG negotiated a potential incentive mechanism but ultimately decided not to pursue in this biennium due to unresolved tactical issues.

H. 2020-2021 Cost-Effectiveness Calculations

In compliance with WAC 480-109-100(8) and (10), and condition (8), PSE evaluated its programs using methodologies consistent with those used by the Northwest Power & Conservation Council. Its portfolio passes the cost-effectiveness test that is consistent with the Northwest Conservation and Electric Power Plan.

It is important to note that PSE incorporates all applicable RTF-defined Non-Energy Impact (NEI) values for prescriptive measures, including electric and natural gas, in addition to calculated NEIs resulting from the installation of efficient ductless heat pumps in homes that have electric heat, and primarily heat with wood.

Table II-3 provides summary views of the portfolio cost-effectiveness calculations.[20]

Table II-3: 2020-2021 Portfolio Cost-Effectiveness Calculations

2020-2021 Energy Efficiency Portfolio Cost-Effectiveness		
	Total Resource Cost B/C Ratio	Utility Cost B/C Ratio
Electric	1.26	1.54
Natural Gas	1.28	1.64

I. Compliance

This 2020-2021 Biennial Conservation Plan is consistent with deliverables noted in RCW 19.285.040(1), prescribing that a utility must identify its conservation potential and develop and publish a biennial conservation target.

The BCP will demonstrate that PSE is committed to follow the principles of WAC 480-109-100(1) throughout the upcoming biennium. The BCP is also in compliance with rules that set forth its design, outlined in WAC 480-109-120(1).

Additionally, PSE complied with WAC 408-109-110(2), by conducting seven formal CRAG meetings in 2019, leading to the development of this Biennial Conservation Plan.[21] These meetings were productive and integral to its ongoing planning processes.

The 2020-2021 BCP addresses applicable conditions in Appendix A of Order 01 in Docket UE-171087 relative to program design, cost-effectiveness tests, required involvement in preparation of the 2020-2021 biennium, etc.

[20] Indicated electric TRC values include a 10 percent adder, consistent with condition (10)(a). PSE also included a 10 percent adder to the natural gas TRC, consistent with concepts expressed in the Commission's Policy on Natural Gas Cost-Effectiveness, Docket UG-121207. The Low Income Weatherization UC and TRC, although calculated and presented in Exhibit 2: *Cost-Effectiveness Calculations*, are excluded from the overall Portfolio calculation.

[21] In Exhibit 9: Condition Compliance Checklist, which provides CRAG members with up-to-date status of compliance with Commission rules and conditions, PSE clearly indicates those conditions that are completed with their completion date, as well as requirements that are in progress. PSE also maintains lists of action items that arise in its CRAG meetings, email requests, and informational queries, tracking and reporting on their progress as well.

The Plan is also consistent with condition (4)(a) and (b), which indicate that PSE's annual budgets must be provided in a detailed format and show projected savings, along with (3)(e), which outlines a BCP schedule of component deliverables. The BCP is consistent with Applicable Sections of the 2010 Settlement Agreement in Docket UE-100177, and the 2002 Rate Case Stipulation Agreement, Exhibit F of Docket UG-011571.

Finally, PSE also presents the elements of Senate Bill 5116 (known as the Clean Energy Transformation Act [CETA]), and House Bill 1444 that it will implement by the required timeframes stipulated, and consider through the coming biennium as it develops its 2022-2023 BCP. Additionally, in preparation for addressing the requirements of House Bill 1257, Building Performance Standards, PSE has started work to develop a list of buildings that would be impacted and will develop an email communications plan to inform affected customers in 2020.

PSE provides a complete compliance discussion in Chapter 14: *Compliance*. It also highlights additional conditions addressed in the BCP in Table XIV-1.

J. Conservation Tariff Schedule Revisions

Minor revisions were necessary for the 2020-2021 biennium: primarily Schedules 83 and 183 (electric and natural gas general conservation overarching rules) and Schedule 201 (Low Income Weatherization). To facilitate the operations of its new Targeted DSM program, PSE created three new Schedules, including an electric and natural gas schedule providing an overall outline of the program itself, and a natural gas version of Schedule 249A, addressing targeted Demand Response. PSE provides summaries of those modifications in Table II-4 (electric) and Table II-5 (natural gas) on the following page.

Table II-4: Summary of 2020-2021 Electric Conservation Tariff Schedule Revisions

2020-2021 Electric Conservation Tariff Revisions			
Program	**Tariff Sheet**	**Section**	**Revision Reason**
Electricity Conservation Service	83-f	9) Special Conditions	Revises requirement Low Income Weatherization measures cost-effectiveness to align with Department of Commerce guidelines.
Electricity Conservation Service	83-G	10) Expenditures and 12) Termination	Update expenditures for 2020-2021 anticipated spending and update termination date to December 31, 2021.
Residential Low-Income	201	1) Availability	Updated reference to the Washington State Low-Income Weatherization Manual.
Residential Low-Income	201-a	3) Funding	Updated reference to the Washington State Low-Income Weatherization Manual and WAC 480-109-100(10)(a).
Electric-to-Gas Fuel Conversion	216	All	PSE will request the Commission to cancel this Conservation Schedule
Targeted DSM	Proposed 219	All	New Schedule to describe and present the terms and conditions for participation in the Targeted DSM Program.
All Custom Grant Commercial Schedules, all Electric	250, 251, 258, 262	Availability, Measures	Remove sentence pertaining to fuel switching or converting equipment from electric to natural gas.

Additionally, PSE removed references to electric-to-natural gas fuel conversion or switching in applicable Schedules.

Table II-5: Summary of 2020-2021 Natural Gas Conservation Tariff Schedule Revisions

2020-2021 Natural Gas Conservation Tariff Revisions			
Program	**Tariff Sheet**	**Section**	**Revision Reason**
Natural Gas Conservation Service	183-f	9) Special Conditions	Revises requirement Low Income Weatherization measures cost-effectiveness to align with Department of Commerce guidelines.
Natural Gas Conservation Service	183-g	10) Expenditures and 12) Termination	Update expenditures for 2020-2021 anticipated spending and update termination date to December 31, 2021.
Residential Low-Income	1201	1) Availability	Updated reference to the Washington State Low-Income Weatherization Manual.
Residential Low-Income	1201-a	3) Funding	Updated reference to the Washington State Low-Income Weatherization Manual and WAC 480-109-100(10)(a).

Natural gas tariff schedule revisions, continued.

2020-2021 Natural Gas Conservation Tariff Revisions			
Targeted DSM	Proposed 1219	All	New Schedule to describe and present the terms and conditions for participation in the Targeted DSM Program.
Demand Response Pilots - Residential	1249A	All	Using the electric Demand Response Pilots Schedule as the boilerplate, create a Schedule that provides demand response service for natural gas customers and products.

The REM Sector Overview provides a discussion of the Schedule 201 revision. The Regional Sector Overview provides a discussion on the Targeted DSM Schedule 219 creation. PSE discusses Commercial Schedule updates In Chapter 7. PSE provided mark-up copies of all revised tariff sheets to the CRAG on September 25, 2019, consistent with the third deliverable of condition (3)(e).

It is notable that PSE only files the revised tariff sheets—not the entire Schedule—with the UTC. Although the revised documents are included as Exhibit 11 of the BCP as a courtesy to Stakeholders, PSE files the tariff revisions themselves separately from the BCP.

K. Key Plan Enhancements

Continuous improvement initiatives are not limited to Energy Efficiency conservation programs. PSE included a variety of noteworthy upgrades to its Plan standards in this 2020-2021 BCP. Readers will recognize that several enhancements resulted from Stakeholder comments and requests.

PSE appreciates Stakeholder comments relative to its documentation ease-of-use, presentation formatting, and ability to access the required information with maximum efficiency. PSE re-prioritized the information presented in the Plan that Stakeholders indicated isn't as valuable, expanded information that is useful, and organized the entire BCP package in a logical and consistent flow.

This BCP Overview and all Exhibits now incorporate an outline structure in each chapter to facilitate easier reference for Stakeholders. Even with these improvements, PSE maintained the traditional chapter/section focus and presentation style to maintain continuity with PSE's other reporting and planning documents. Energy Efficiency staff continue to value and incorporate Stakeholder suggestions whenever possible.

Highlights of this BCP's upgrades include:

1. The organization and naming tenets of the BCP make for easier Stakeholder reference when comparing Annual or Biennial Reports to this planning document; all Exhibits, program details, and layouts are the same. It also provides for reporting flexibility, allowing for new detail documents without requiring a re-naming exercise.
2. An updated index, providing references to key terms and acronyms used throughout the BCP Overview.
3. Numerous improvements to key Exhibits, including revisions to Exhibit 1: *Savings and Budgets*—where each savings target is distinctly identified, Exhibit 2: *Cost-Effectiveness Calculations,* and Exhibit 3: *Program Details*. PSE discusses these enhancements in detail in Chapter 15: *Exhibit Summary*.
4. Functional or group naming enhancements that minimize redundancies, clarify operational intent, and more accurately reflect the group's constituents. For instance:

2018-2019 Reference	2020-2021 Enhancement	Rationale
Trade Ally Support	Trade Ally Memberships	More accurately reflects the group's primary fulfillment role
Contractor Alliance Network	Trade Ally Network	Better aligns with the function's primary , broader constituency
Customer Digital Experience	Customer Digital Services	Removes redundancy of "Digital Experience" group within the "Customer Digital Experience" function
Other Electric Programs	Other Customer Programs	Adding targeted natural gas Demand Response program rendered "Electric" programs inaccurate

5. PSE added "Delivery Method" and "Implementation Management" discussions in each program overview of Exhibit 3: Program Details.

L. Biennial Conservation Plan Contents

Several elements comprise the overall 2020-2021 BCP. Each Exhibit and document within this BCP focus on a particular element, and is designed to provide the maximum value for the reader.

1. 2020-2021 Programs

This Overview document: Part 1 of the 2020-2021 Biennial Conservation Plan, provides general discussions relative to the development of the BCP, an overview of PSE's plans for executing its conservation programs, and other topics that may not be germane to the attached Exhibits (for instance, a review of PSE's compliance or Stakeholder engagement). The Overview provides readers with the sense of focus that Energy Efficiency's program staff employed to develop this considerable amount of detailed and thorough program planning for this impressive portfolio. PSE expects to convey its long-standing program management processes, with attention on continuous adaptation.

2. 2020-2021 Biennial Conservation Plan Exhibits

In this Plan, PSE references 12 Exhibits—that PSE considers Part 2—that provide details about key elements of Energy Efficiency operations. As has become standard practice, this Biennial Conservation Plan includes the Plan Overview and all BCP Exhibits.[22]

PSE organizes the Biennial Conservation Plan in the following manner:

Part 1

- Plan Overview

Part 2

- Exhibit i: Ten-year Achievable Conservation Potential and Two-year Targets,[23]
- Exhibit 1: Program-level budget and savings goals details,
- Exhibit 2: Cost-effectiveness tables,
- Exhibit 3: Program details, with target market, marketing plans, and customer incentives descriptions,
- Exhibit 4: PSE subsumed the Energy Efficiency List of Measures, Incentives and Eligibility, into Exhibit 3 as a part of the 2019 Annual Conservation Plan.

[22] In its *Annual* Conservation Plans (filed in odd years), PSE excludes Exhibit i: *Ten-Year Potential, Two-Year Target*, Exhibit 7: *Marketing Plan*, and Exhibit 8: *The EM&V Framework*.

[23] Exhibit i: the *Ten-year Conservation Potential and Two-year Target* contains the several of the WAC 480-109-120(1)(b) deliverables. These include subsection (ii), (iv), and (v).

- Exhibit 5: Prescriptive Measure Tables, is excluded from annual Plans, as future measure savings data is not yet uploaded into its service tracking application, DSMc at the time of the Plan filings.[24]
- Exhibit 6: Program Evaluation Plan,
  - Supplement 1: PSE Manufactured Home Market Study
- Exhibit 7: Marketing Plan Summary,
- Exhibit 8: EM&V Framework,
- Exhibit 9: Requirement Compliance Checklist, is excluded from annual Plans, as it is backward looking. It is more appropriately included in Annual Reports.
- Exhibit 10: Northwest Energy Efficiency Alliance (NEEA) Plan,
  - Supplement 1: 2020-2021 PSE Savings Targets Calculations, and
- Exhibit 11: Conservation Tariff Updates.[25]

[24] PSE adds new measures and measure revisions to DSMc when they are approved and active, per established processes. Therefore, a complete listing of measure data is not available at the time the BCP is filed. However, the 2020 measure savings data is reflected in the program detail pages of Exhibit 1: *Savings and Budgets*. PSE will provide an updated Exhibit 5, reflecting actual 2020 measure savings value, concurrent with the filing of its Q1 2020 Exhibit 3: *Program Details*.

[25] Although PSE provides conservation tariff updates in Exhibit 11 as a courtesy to Stakeholders, it files the revised tariff sheets separately from the BCP.

III. Energy Efficiency Areas of Focus for the 2020-2021 Biennium

In order to achieve the 2020-2021 savings goals and manage the budgeted funds that customers entrust to PSE with a high degree of prudence, it is essential that Energy Efficiency's program staff develop and implement impressive programs that meet customer expectations.

In conducting its research and program planning, PSE carefully considered questions such as "What is PSE already doing well?" "What refinements would better maximize customer satisfaction?" "What type of outreach do customers prefer?" "What processes can Energy Efficiency perform more efficiently and cost-effectively to provide customers with the best service?" "How can PSE improve measure attribution in locations that primarily process rebates at the point of sale (POS)?"[26] "What impact will EISA code revisions or recent State legislation have on programs and how will Energy Efficiency make up the resulting shortfall?"

Program staff incorporated outcomes to these questions into all Energy Efficiency groups. The Plan's discussions reflect PSE's commitment to the development of appropriate and proactive responses. All program plans include a focus on surpassing PSE's customer energy-efficiency expectations.

In addition to a comprehensive design of savings goals and vetted anticipated expenditures, discussed in Chapter 4, the Energy Efficiency department maintained clear focus on its key 2020-2021 priorities throughout the year-long planning process. These included, but aren't limited to:

- Maximizing customer participation in and approval of Energy Efficiency programs.
  - Continue to create novel and exciting customer messaging through marketing and outreach initiatives.
  - Enhance customers' ability to do business with Energy Efficiency, including the exploring the feasibility of financing and on-bill repayment options available to customers.

[26] Attribution is a key concern for PSE. The greater the customer's awareness that PSE provides a particular rebate, the greater their interest would be in other PSE energy-efficiency programs.

  - Continued attention to customers in Hard-to-Reach and proportionately underserved segments.
  - Ensure the value of Energy Efficiency's programs by providing the maximum direct benefit to its customers.
- Continue Energy Efficiency's convention of adaptively managing through innovation and continuous improvement of its business processes and systems.
- Enhance and clarify Energy Efficiency's implementation of pilots.
- Expand and clarify Energy Efficiency's Conservation Voltage Regulation (CVR) initiative, and discuss how Advanced Metering Infrastructure (AMI) plays a part.
- Coordination between Washington utilities on creating enhanced opportunities to collaborate.
- Implement "Deep" Retrofits.
- EISA and legislative impacts on lighting programs.

PSE discusses these priorities in the following sections. Additionally, applicable program discussions elaborate on specific initiative implementations.

A. Maximize PSE Customer Participation and Approval

One of the most critical elements of any successful conservation plan depends on maximized customer engagement and support. As stewards of customer funding, PSE's Energy Efficiency department treats this responsibility as a top priority. PSE plans to implement numerous customer-focused process refinements throughout 2020-2021.

A key focus for PSE in the upcoming biennium is the need to provide customers with a positive energy-efficiency experience. PSE will make it easy to participate in Energy Efficiency programs and provide customers with an array of energy-efficiency options that meet their expectations.

Energy Efficiency also needs to raise customers' awareness and help them to understand the value of their conservation efforts. Energy Efficiency intends to help them become engaged in the process of contributing to the preservation of the environment. All of PSE's energy-efficiency marketing communications—its brochures, energy-efficiency web pages, and media broadcasts, for instance—focus customers' attention on this point.

The consistency of PSE's conservation messaging is reflected in Energy Efficiency's direct customer-facing activities (in-person field activities, such as retail events, community initiatives, telephone interactions with PSE energy advisors, email interactions, etc.). The importance of consistent messaging carries over into PSE's Portfolio Support activities, such as the Verification Team, program evaluations, rebate processing, etc.

PSE's targeted outreach strategies, including small business "blitzes", community events, and door-to-door outreach, along with its fun and engaging marketing and promotional campaigns are additional ways in which PSE brings the energy efficiency experience directly to its customers. This emphasis on customer service is also prominent in PSE's dealings with trade allies and Recommended Energy Professionals[27] (REPs): those contractors and third-party entities that represent PSE when installing or servicing energy-efficiency measures. PSE holds its trade allies to very high customer service standards, with REP member performance regularly reviewed to ensure that they also meet customer expectations.

Throughout 2019, program staff conducted extensive market research to ascertain and ensure clarity of customer expectations to inform the 2020-2021 planning efforts.

1. Develop Novel and Exciting Customer Communications and Outreach

Energy Efficiency's communications and outreach initiatives will include a focus on specific, localized opportunities, which include addressing hard-to-reach and potentially underserved customer segments. These efforts will include targeted direct-mail pieces, media placements in cultural and language-specific medial channels, and presentations to customer groups. The Energy Efficiency Marketing team will base promotions and communications on data-driven market research and propensity modeling.

PSE will collaborate with retailers and manufactures to increase customer awareness of Energy Efficiency programs, and will design campaigns and promotions that utilize online and self-service tools that eliminate barriers and streamline processes. Targeted communications will include digital web banners and keyword search capabilities, and multi-channel integrated promotions and communications will provide customers with a comprehensive view of the range of energy-efficiency offerings.

[27] Energy Efficiency updated the nomenclature of its Trade Ally Network (TAN) members for the new biennium to Recommended Energy Professionals (REPs).

One of the Marketing team's primary focus points for 2020-2021 will be to increase PSE attribution in establishments where point of sale (POS) incentives are provided. They will also increase customer awareness by utilizing marketing collateral in prominent public areas and at local community events, and by engaging with distributors and retailers directly.

Building on the success of Energy Efficiency's small business and community blitzes, the team will collaborate with local community retailers to develop exclusive energy-efficiency offers for customers. Complex small business types, such as hospitality, agriculture, and grocery will also have custom marketing and communication approaches available in 2020-2021.

2. Enhance Customers' Ability to do Business with Energy Efficiency

During the 2020-2021 planning process, PSE considered various ways that customers could participate in energy-efficiency programs. For instance, DSMc's Public User Interface allows customers to process their rebate application completely on-line. PSE is also exploring potential online shopping enhancements. In addition, PSE is considering customers who wish to invest in high-cost measures, but may not be able to if they didn't have a way to pay back the measure financing.

3. Assess the Feasibility of Financing and On-Bill Repayment Availability

Consistent with the requirement in Section G.53 of Appendix A of the 2018 Multiparty Settlement Stipulation and Agreement in Docket U-180680, PSE will continue to thoroughly assess the feasibility of offering customers the option of third-party financing for energy-efficiency measures with the ability to repay the loan through their utility bill. PSE will continue to examine other financing options as well. PSE discussed the issues and research results associated with on-bill repayment with the CRAG in its July 24, 2019 CRAG meeting.

During that meeting, PSE shared that the implementation costs are significant, in addition to ongoing maintenance expenses, with a potential of very low participation. PSE agreed to develop a business case to present to the CRAG in early 2020. PSE also agreed to research alternative value-add services, such as partnering with third-party lenders, not dependent on On-Bill Repayment.

Potential options include, but aren't limited to:

- Facilitate partnership between lenders and contractors , increase customer awareness of existing financing options (all customers, no special terms)
- Provide financing "concierge" service through portal on PSE.com (all customers, single application for multiple lenders, expedited approval process)
- Subsidized loan terms for hard-to-reach segments (for instance, limited income, manufactured homes, renters, small business) which may include:
    - Lower credit requirements
    - Unsecured loans
    - Interest rate reduction
    - No fees
    - Expedited approval process
    - Default reserve fund

  Subsidized financing would likely be in lieu of rebates.

4. Effectively Managing PSE's Direct Benefits to its Customers

All PSE customers—whether participating in Energy Efficiency programs or not—derive benefit from cost-effective Energy Efficiency programs through delaying the need for more expensive energy resources. It is important to clarify that PSE's Direct Benefit to Customer (DBtC) metric represents the concept that participating customers derive benefits from PSE's Energy Efficiency programs other than simple remuneration (payment of rebates or grants). Additionally, PSE's DBtC metric is a conservative determination of that value. Lastly, the metric is useful in a year-to-year program-specific comparison, and is thus not useful to compare utilities to one another.

PSE provides a discussion on how it calculates the 2020-2021 DBtC ratios in Chapter 4: *Developing the Biennial Conservation Plan.*

a. Customer Value - Beyond Remuneration and Energy Savings

Energy Efficiency provides a value to its customers apart from rebates and grants in several instances.

For instance, apart from energy-saving benefits,

- Commercial Retrofit customers realize a benefit of engineering evaluations and verifications in addition to any custom grant received. For example, an Energy Management Engineer saves a building owner or developer a substantial amount of time by verifying the specifications of installed equipment, the number of units installed, and confirming the resultant energy savings as part of a custom grant project completion.
- Customers who participated in PSE's refrigerator decommissioning program not only received a rebate check, but they also did not need to be concerned with transporting their old unit to the transfer station.
- Customers derive a value from consulting with an energy advisor before investing in a new heat pump or other major appliance.
- Efficiency Outreach efforts—especially during community "blitzes"—often result in customers signing up for the direct installation of measures.
- Quality Assurance Specialists provide customers with a variety of information to customers when verifying the installation of an energy-efficiency measure.

While these examples do not directly result in energy savings (in the above-noted Efficiency Outreach "Blitz" example, measure savings attribute to the Small Business Direct Install program), there is some level of direct customer benefit beyond energy savings.

It would be impractical, artificially precise, and very inefficient to attempt to track the time a staff member spends on each of these tasks. It is therefore inaccurate to attempt to categorize total Portfolio expenditures as simply "administrative" and "incentives" in order to imply a measure of how effectively a program is using customer funds.

b. DBtC does not Express a Program's Operational Efficiency

PSE created its DBtC metric as a way to internally measure and compare the value that Energy Efficiency is returning to its customers year-over-year. DBtC is specific to PSE programs, and it does not use the metric for comparison to other utilities.

PSE created the DBtC nomenclature during the 2012-2013 BCP development period.[28] Regardless of whether PSE calculates the DBtC ratio at the Sector, Programs, or Portfolio level, a number of factors affects PSE's DBtC ratio each year. These include, but aren't limited to the following:

- One-time expenditures (for instance, the costs associated with upgrading to a new tracking system),
- Regulatory requirements (the BECAR, minimum spending requirements on evaluations, participating in regional Collaboratives, evolving reporting and data requirements, analyses of new supplementary services charged to the Rider, for instance),
- Measure cost adjustments (either increased or decreased costs, which are impacted by manufacturing costs, etc.),
- Hard-to-Reach market segments often require significantly more staff time, effort, and cost to have any measurable impact, and
- Marketplace circumstances. Saturation of certain measures leave only higher-cost measure availability, or increased or decreased customer demand may require lower or fewer incentives to move the market. Artificially keeping incentives high is not a prudent use of ratepayer funding, nor does it help ensure that customers have a stake in investing in energy-efficiency measures, (colloquially termed "some skin in the game"). Market saturation may make some measures no longer desirable, building codes make some measure obsolete, etc.

In developing the DBtC metric, PSE's belief is that it is necessary to ensure the consistency of the application of its direct benefit year-to-year. Energy Efficiency staff continuously perform careful review of DBtC calculations to ensure consistency across programs.

[28] Although 2011 was the first published instance of the term "DBtC", PSE has been informally tracking this metric since before then.

5. Continued Attention to Customers in Hard-to Reach and Proportionately Underserved Segments

The Northwest Power and Conservation Council's 7th Power Plan indicates that there may be eight hard-to-reach (HTR) and potentially underserved customer segments:

1. Low Income
2. Moderate Income
3. Rural
4. Manufactured Home Dwellers
5. Multi-family Tenants
6. Small Business Owners
7. Commercial Tenants
8. Industrial

The 2020-2021 BCP outlines efforts to continue outreach, engagement, service, and participation of customers in these segments. In designing their programs, Energy Efficiency staff carefully considered the potential effects on these segments in their planning marketing, outreach, and breadth of measure offerings. Energy Efficiency has a long history of offering programs in hard-to-reach customer segments, most of which were established prior to the publication of the 7th Power Plan, and equitably serving those segments. Energy Efficiency continues to collect, analyze, disseminate, and act upon customer and savings data. As it progresses through the upcoming biennium, PSE will share any program adaptive steps with the CRAG.

a. Updated HTR Program Initiatives for 2020-2021

In addition to its well-established HTR strategies, Energy Efficiency will make several revisions and enhancements to its HTR approaches.

The Low Income Weatherization program, in coordination with The Energy Project and partnering CAP agencies will continue its Ductless Heat Pump (DHP) upgrade program in the coming biennium. The program will also continue its manufactured home replacement pilot, and will initiate a low-income needs assessment in coordination with applicable Stakeholders.

Collaboration between the LIW program and Customer Connected Solar (CCS) will continue into the upcoming biennium to fund renewable solar projects, with an anticipated distribution of over $300,000 to agencies in 2020. LIW will also conclude its needs assessment study[29] in 2020, which may assist in future program design.

Some residential programs will expand their integrated Energy Efficiency services to tribal customers, and the Sector will also pilot a new moderate-income program that focuses on this segment that does not meet low-income eligibility, but also may not have the resources available to other segments. Program staff have also planned a revision of the Home Energy Assessment program, designed to test behavioral conservation initiatives in targeted segments.

The Small Business Direct Install (SBDI) program will also expand its services to tribal customers by building on the success of its efforts to reach multi-cultural customers in 2019, and Business Energy Management's industrial program expansion will provide valuable services to smaller industrial customers.

PSE also targets its program communications to customers who primarily speak a language other than English, using a technology called "transcreation", which goes beyond a literal word-for-word translation. Rather, this technique conveys the concepts behind the words alone. The Outreach teams will continue to optimize their small business communities "blitzes" to consistently raise significant awareness of Energy Efficiency programs in potentially hard-to-reach locales.

i. Manufactured Homes focus

PSE's Manufactured Home-specific offerings have facilitated the installation of insulation, energy-efficient lighting, appliances, and duct sealing in approximately 50 percent[30] of manufactured homes in PSE's service territory.

[29] One of the deliverables associated with the Multiparty Settlement Stipulation and Agreement, Docket U-180680, the Proposal Sales of Indirect Interests in Puget Sound Energy.

[30] Cadmus *Manufactured Homes Market Study*, July 29, 2019, pg. 1, Executive Summary, ¶ 6.

Program staff incorporated enhancements to serve this segment through contractor-delivered programs for 2020-2021, using the market characterizations outlined in Cadmus' Manufactured Homes Market Study of July 29, 2019[31] as a foundational reference for tailoring program design.

Program offering design addresses many of the barriers identified in the Cadmus study, including Awareness, Financial, and Motivational barriers. In 2019, Energy Efficiency program staff implemented several manufactured home segment initiatives that increased program awareness within the segment:

1) Added new windows and insulation measures.
2) Increased incentives for all existing manufactured home measures three fold.
3) Established a new manufactured home website consolidating all applicable energy-efficiency offerings.
4) Campaign launch E-blast and direct mail to all 65,000+ manufactured home customers and ongoing targeted marketing activities.
5) Implemented Trade Ally engagement and training for Weatherization and HVAC contractors.
6) CAP agency referral mechanism during Home Energy Assessment.
7) Door-to-door Home Energy Assessment outreach to manufactured home parks.
8) New Home Energy Report cohort with monthly distribution to all eligible manufactured home customers.
9) Ductless Heat Pump (DHP) manufacturer limited time offer (LTO) of $100 w/ Eblast email notifications.
10) Implemented a Manufactured Home Replacement Pilot in partnership with WSU CEEP grant program.
11) CAP agency and Energy Project coordination on DHP reach-back of previous LIW participants.

[31] The Cadmus Manufactured Homes Market Study is included in this Biennial Conservation Plan as Exhibit 6, Supplement 1. Consistent with WAC 480-109-120(3)(v), the report will also be included in PSE's 2019 Annual Report of Energy Conservation Accomplishments, per WAC 480-109-120(3)(v).

In the upcoming biennium, PSE will continue to offer, consistent with several points articulated in Cadmus' Best Practices Recommendations:[32]

1) Increased incentives for all existing manufactured home measures.
2) Manufactured home website upgrades.
3) Continued Trade Ally engagement and training for Weatherization and HVAC contractors.
4) Home Energy Report cohort with monthly distribution to all eligible manufactured home customers.
5) Limited time offers (LTO) on a variety of measures with marketing notifications.
6) Examination of a potential ongoing Manufactured Home Replacement program, depending on funding partnership possibilities.
7) Continuation of CAP agency and Energy Project coordination on DHP reach-back of previous LIW participants.

PSE's approach will focus on effecting as many measure installations as possible per dwelling. This will maximize the impact of any HVAC measure installations. PSE's primary focus will be on manufactured homes with primarily electric heat.[33] PSE will, where feasible expand its measure offerings and services in this sector.

PSE provides a manufactured home-specific list of incentives that it gears specifically to the manufactured home customer at pse.com/MH. In addition to the wide range of lighting, appliance, showerhead, and thermostat rebates, PSE will also pay eligible customers up to $2,000 for window upgrades, $300 to $450 for prescriptive duct sealing, and up to $1,200 for floor, wall, or attic insulation. Additionally, HVAC measures provide $2,400 for a ductless heat pump or forced-air furnace-to heat pump conversion, and $1,000 for a heat pump water heater.[34]

[32] Cadmus *Manufactured Homes Market Study*, July 29, 2019, pages 66 – 68.

[33] Cadmus *Manufactured Homes Market Study*, July 29, 2019, pg. 3, Executive Summary, ¶ 1. More than 70 percent of manufactured homes heat primarily with electricity.

[34] PSE provides a complete listing of manufactured home measures in Exhibit 3: *Program Details*, in the Single Family Existing measure table on pages 36 – 38.

The Cadmus Manufactured Homes Market Study reflected that, when surveyed, manufactured home owners would prefer a higher proportion of utility-provided incentives as the cost of measures increases.[35]

Many measures listed in Cadmus' segment savings potential[36] are high-cost measures, such as ductless heat pumps, forced air furnace-to-heat pump conversions, heat pump water heaters, and double-pane windows. Given the confines of cost-effectiveness requirements, and with the understanding that it isn't possible to cover the substantial portion of the cost of high-cost measures that manufactured home customers' desire, PSE will continue to maximize the amount of rebates and incentives available to customers.

In addition to the above initiatives, PSE will also put into practice initiatives that also align with industry best practices, including, but not limited to PSE implementing:

- Increased Energy Star® manufactured home new construction retailer engagement to ensure sales staff and buyers are educated on a new home's energy efficiency benefits.
- Continued exploration of expanded financing options for the manufactured home segment, including purchasing guidance, enabling more transparency into out-of-pocket costs.
- An adaptation of the Home Energy Assessment program, which will now focus on establishing savings by providing free onsite energy conservation information and assistance installing energy-efficient measures.
- Creation of new marketing tactics, including online banner advertisements, and more targeted communications, including social media, enabling PSE to reach more out-of-park manufactured home customers.[37]

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[35] Cadmus *Manufactured Homes Market Study*, July 29, 2019, pg. 47, Findings. Online Customer Survey, Figure 20. 46 percent of surveyed customers indicated that 50 to 90 percent of measures costing $200 - $1,000 would need to be covered by a rebate in order to complete the efficiency project. 49 percent of customers indicated that 50 to 90 percent of measures costing over $1,000 would need to be covered by rebates.

[36] Cadmus *Manufactured Homes Market Study*, July 29, 2019, page 58, Table 34: Top Manufactured Homes Electric Energy Saving Measures.

[37] Cadmus *Manufactured Homes Market Study*, July 29, 2019, page 2, ¶ 3, Executive Summary: "(…) However, there are no comparative best practices for reaching manufactured homes in independent locations, where most manufactured homes in PSE Service territory are located."

B. Continuous Innovation & Adaptation

Another PSE priority is to explore inventive methods of delivering outstanding customer service and cost-effective conservation. By consistently applying adaptive management principles to its iterative and robust program management decision-making throughout the year, PSE expects to realize continued improvement in department operations, with the intention of maximizing customer participation and conservation savings in 2020 and 2021.

1. Innovative Program Design

Employing these principles, program staff designed their 2020-2021 suites of energy-efficiency offerings based on a clear focus on making it easy for customers to engage in energy-efficiency programs and provide them energy-efficiency options, new technological innovations, economies of scale, and building on shared expertise between Business and Residential teams.

As discussed in Section III.C.2, there are several resources that program staff utilize to design superior program offerings, new measures or potential savings programs, new delivery methods, or enhanced methods of interacting with PSE customers. Thanks to foundational plans that Energy Efficiency bases on adaptive management, program staff—in collaboration with Evaluation, Research, and Marketing Staff—are able to test new and advanced designs.

They are able to optimize program execution throughout the year according to performance indicators. These include formal evaluation studies; vendor, retailer, and contractor feedback; and comments received directly from customers.

2. Adaptively Managing Portfolio Operations

Because of efficient processes and collaborative relationships that break down barriers, program staff are able to deftly execute against strategies outlined in the BCP.

a. Program and Measure Offerings

In some cases, these principles result in the retirement of programs or measures that have become standard practice through market transformation, the adjustment of incentive values, bundling (cross-marketing, or cross-program in some cases) offerings, running limited-time promotions, increasing the visibility on the PSE energy-efficiency website, etc.[38] Some examples include the retirement of:

- Retail refrigerators, which are no longer cost-effective.
- The majority of retail LED lamps and fixtures, which are no longer cost-effective as a result of revised EISA codes and HB 1444 standards.
- Thank-You kits, which included general-purpose LED lamps and showerheads.
- Natural gas fireplaces.
- Energy Star® doors and CO detectors in Multifamily Retrofit applications.
- Air-source heat pumps, which are being replaced as instant rebates through the midstream channel.

Some examples of updated solutions and offerings may include:

- Expansion of several programs into the third-party implemented midstream measure fulfillment model.
- The Residential Energy Management (REM) Moderate Income pilot program.
- The implementation of the Commercial Kitchens program across several utilities.
- The creation of the Targeted DSM pilot program, which will offer enhanced incentives to customers residing in municipalities that PSE's System Planning organization have identified as having a potential Non-Wire or Non-Pipe Alternative (NWA/NPA) to infrastructure upgrades.
- Creating a distinct Industrial Grants program, bringing management of the Industrial Systems Optimization Program (ISOP) in-house.
- Piloting new services, such as the Retail Choice engine, and energy-reporting services such as the residential AMI and Small-Medium Business AMI Enhanced Engagements.

[38] PSE ensures that all elements of program design and execution are consistent with condition (7)(a) through (7)(c), which outline requirements around sector inclusion, program outreach, and incentive levels.

- Re-naming the Commercial Building Tune-Up program to the Existing Building Commissioning program, which will incorporate standardized approaches for smaller control projects, and expand tune-up measures.
- Increased incentives for single-family weatherization projects that bundle more than one measure type.
- Adapting the Home Energy Assessment program to accommodate the loss of general-purpose leave-behind LED lighting.
- Increased incentives for custom lighting grants that incorporate controls with lighting fixtures.

b. Process Enhancements

Without exception, every Energy Efficiency organization, as well as those that support Energy Efficiency continuously examines their business processes with the goal of enhancing the customer's conservation experience, reducing customer costs, and improving productivity. A few examples include:

- The Business Energy Management Sector, Business Lighting program is creating a simplified, one page short form, application for small installations that do not have an easy path for participation. Additionally, the program adding a fixture/control bundle option to increase projects with automatic controls. Program staff will implement a tiered upgrade approach for lamp, fixture, and control upgrades, and will work directly with property managers and school districts to convey the value proposition of bundling controls with lighting retrofits.
- The Rebates Processing team is supporting DSMc's Public User Interface (PUI), which allows customers and trade ally partners to apply for rebates online, successfully eliminating the need for hard-copy rebate applications.
- The Verification Team will continue the implementation of its remote product verifications, "virtual verifications", which allows QA Specialists to perform selected pre-approved inspections remotely, using smartphone software applications. This advance greatly enhances productivity and reduces rebate payment turnaround time.
- The Trade Ally Support (TAS) team will implement a trade ally portal to enhance the effectiveness of Trade Ally Network (TAN) communications and performance.

- The TAS team will continue to refine and develop account management tools and resources in alignment with the Trade Ally Guiding Principles referenced in Exhibit 3 to foster greater integration of trade allies into program delivery models and provide broader groups of trade allies with information on PSE EE programs.
- Coordinate the Commercial/Industrial New Construction lighting incentives and the BEM's Business Lighting incentives. Program staff are exploring the potential for Tenant Lighting-only Improvement projects could use the Business Lighting Application.
- The Data and Systems Services team will enhance their data-driven dashboards for program staff and Rebates Processing staff to assist continuous improvement efforts.

C. Enhance and Clarify Energy Efficiency's Implementation of Pilots

The purpose of developing pilot programs is to test the effectiveness and conservation potential of new technologies, test enhanced EM&V methodologies, discover ways in which evolving customer demands can be met, and demonstrate adaptive management.

Pilots (programs and measures) help to inform future program design and potentially fill the long-term technology "pipeline". Pilots can range from individual measures or services to complete program offerings.

1. Pilots Originating from RFPs

Bidders presented a number of potential offerings PSE in response to its energy efficiency RFP solicitation. This process is an exceptional opportunity to enhance PSE's Energy Efficiency portfolio and provides market research into industry trends. The 2019 RFP, distributed to potential bidders in June 2019, yielded 49 responses from 29 bidders. Concepts included services to enhance and augment existing programs, as well as new service offering ideas. At the time of the BCP publication, bidder interviews had not been set. It is therefore not possible to share specifics until PSE has awarded a bidder the business.

In keeping with progressive adaptation principles, PSE also does not limit its screening of potential pilots (services, measures, technologies, etc.) to this specific timeframe, and will consider viable proposals throughout the year.

2. Other Sources of Pilot Concepts

In addition to RFPs received in response to RFP solicitations, PSE program staff also scour various sources for potential new offerings. Trade allies and industry references—including publications, business references, and distribution channel entities—often provide leads on new technologies or services that could lead to pilots. Energy Efficiency staff continually work with state agencies and other state organizations each year on the development of new and technologically-advanced potential measures, which could result in new measures or a pilot.

The RTF also provides information and data on new measures, and program staff keep abreast on new developments through contacts with manufacturers. NEEA is also a valuable resource in the development of potential pilot programs.

PSE also collaborates with adjoining utilities on developing offerings that are uniform, apply to customers that are served by more than one utility (particularly those with multiple campuses), and provide a consistent incentive and application process.

3. Pilot Development Considerations

Among other considerations, PSE examined the following references during the BCP planning process.

a. WAC Requirement

WAC 480-109-100(1)(c) indicates that a utility must implement pilot projects:

> "…when appropriate and expected to produce cost-effective savings within the current or immediately subsequent biennium, as long as the overall portfolio remains cost-effective."

b. Commission Staff Expectations

Commission Staff comments made in August 2019[39] emphasized their expectation that utilities pursue pilots and assume calculated risks associated with untested technologies or services, as noted on the following page.

[39] August 13 email on behalf of Commission Staff to WA Investor Owned Utilities (IOUs), point 3. Emphasis added.

> "Distribution efficiency: Staff expects to see improved transparency in the distribution efficiency plan. This is especially true for utilities rolling out AMI capabilities. **Pilots that test methods for achieving additional conservation with improved metering must be pursued**."

c. 2018 Multiparty Settlement on Sales of Indirect Interests

In the 2018 Multiparty Settlement, an energy efficiency stipulation indicated a condition for Energy Efficiency's Pay for Performance pilot, underway since 2018:

> (From the 2018 Multiparty Settlement Stipulation, U-180680, Appendix A, page 14, part G.55)
>
> "PSE shall work with NEEC and the CRAG to adaptively manage and modify PSE's "Pay for Performance" pilot to attract more participants with the goal of having a successful whole-building pilot that significantly reduces energy use intensity by 40 percent in at least five (5) large commercial or industrial buildings (over 50,000 sq ft)."

4. Risk Associated with Pilots

There is an element of potential risk associated with pilot measures and programs, primarily with savings confidence. If there is uncertainty about a pilots savings potential and that pilot is included in PSE's EIA Penalty Threshold or Natural Gas Penalty Threshold, PSE could be liable to supplant the savings if it is determined that the pilot did not generate the expected savings. Unfortunately, the determination of savings validity is sometimes made subsequent to the closing of the applicable biennium, when it is too late to make program adjustments.

Newer technologies have less conservation savings certainty than proven, reliable ones. In applicable instances, where there was uncertainty about the savings potential of the potential 2020-2021 initiative or measure, PSE classified it as a pilot and added it to the "Pilots with Uncertain Savings" reference in Exhibit 1. PSE provides descriptions and details in the "Pilots" pages of Exhibit 1: *Savings and Budgets*.

In order to mitigate the risk associated with uncertain savings, Commission Staff and the Investor Owned Utilities (IOUs) agreed that pilots with uncertain saving may be excluded from their EIA Penalty Thresholds, but would be included in their overall Portfolio savings mix.[40]

[40] Condition (7)(c) in Appendix A of Order 01, Docket UE-152058 indicates that PSE may spend up to 10 percent of its Portfolio budget on programs whose savings impacts have not yet been measured.

However, there is still a potential that the investment funded by ratepayers could adversely impact the 10 percent allowance granted by condition (7)(c)[41] if the pilot is deemed inappropriate by the Commission.

Considering the potential for direct impact on the EIA Penalty Threshold, PSE classifies only those programs or measures that have a degree of uncertainty as pilots, with the understanding that PSE will exclude pilots from the EIA Penalty Threshold. PSE scrupulously works to vet its savings classifications, with great forethought, and with the CRAG fully engaged to avoid the appearance of inequitably influencing the EIA Penalty Threshold.

In cases where there was high confidence in the expected savings, program staff incorporated the program or measure into their applicable Sector offerings. Although not classified as "pilots", these measures or offerings are still analogous to pilots.

Throughout the biennial planning process, program staff assessed new and potential measures and programs. If program staff evaluations confirm confidence in the savings potential, they may add that measure or program to its suite of services, rather than classifying it as a pilot.

Other risks associated with new technologies or service offerings include product reliability, manufacturer commitment and viability,[42] customer uptake, market shifts, etc.

a. Excluding Potential Measures or Programs

PSE exercises great care when evaluating the savings potential of new, unproven technologies or innovative service offering ideas that may generate savings, and may potentially be classified as pilots.

[41] Condition (7)(c) (emphasis added): "Conservation Efforts without Approved EM&V Protocol — Puget Sound Energy may spend up to 10 percent of its conservation budget on programs whose savings impact has not yet been measured, as long as the overall portfolio of conservation passes the Total Resource Cost (TRC) test as modified by the Council. These programs may include information-only, behavior change, **and pilot projects.** (…)"

[42] This was the case in recent years, when a manufacturer went out of business after their water heaters began routinely failing, and PSE facilitated customer replacement units.

When there are cases where program staff, based upon their extensive experience and professional opinion, cannot justify the ratepayer expenditure on an offering that they don't expect to produce verified savings within several years, it is prudent to pass that product by and potentially consider it in a future biennium.

5. The Dynamic Process of Incorporating Pilot Measures and Programs Throughout the Biennium

PSE consistently demonstrates adaptive management by actively examining its measures and mix of measures throughout the year to ensure that they are effectively meeting customer expectations and driving conservation savings as planned. Throughout a given biennium, circumstances reveal new measures or services. When appropriate, program staff may incorporate such a measure—bypassing the pilot process—immediately into their programs' suite of measures. PSE considers these measures or services analogous to pilots.

PSE also examines the energy-efficiency landscape, consults with its trade ally network, and partners with regional utilities for new technologies and new savings opportunities beyond the prescribed intervals.

6. Examples of Initiatives that are Analogous to Pilots

As noted above, there are a number of initiatives that PSE doesn't classify as "pilots". However, many new and innovative offerings that are immediately incorporated into Energy Efficiency's suite of services clearly represent PSE's application of adaptive management principles, and could be considered analogous to pilots. In the following sections, PSE discusses a few examples.

a. Business Energy Management Technology and Pilot Assessments

PSE's Energy Efficiency Technical Evaluation program operates under the terms of Schedule 261, and screens potential commercial pilots each year.

Energy Management Engineers ("EMEs") receive occasional solicitations for potential energy efficiency projects.

As discussed in the program's Exhibit 3: *Program Details* (page 126):

> "[…] The most challenging situations arise when vendors propose products that are "too good to be true." Often their savings claims are supported by testimonials from satisfied customers, with little or no reliable test data. Many technologies, such as transient voltage suppressors, power factor correction devices and paint with high R-Value, have been known for years to save little or no energy, but the vendor may insist their product is different, even though it may only have a different name on the box. […]"

EMEs subject potential projects that they receive to rigorous assessments—most of which have not been performed by the applicant. As a result, many of these proposals' savings claims are unsupported, inaccurate, not cost-effective, or not market-ready.

When the program generates an opportunity, though, Energy Efficiency includes it in its Exhibit 1 documentation in the Energy Efficiency Technology Evaluation line of the BEM Sector, and presents it to the CRAG. For the 2020-2021 plan, any initiatives proposed excluded the Technical Evaluation program, and instead proceeding to either the applicable program or the Pilots with Uncertain Savings Sector.

One could also consider other BEM initiatives as "pilots", including integrating elements of Strategic Energy Management ("SEM") in the Industrial System Optimization Program ("ISOP"), and establishing a standardized incentive calculator for indoor agricultural projects can be considered pilots.

b. Measures that are Added Directly to a Sector or a Program's Suite of Offerings

There are sometimes new technologies that are so promising that program staff incorporate them directly into their suite of offerings, rather than term them "pilots". Heat pump clothes dryers, conversion burner replacements, line-voltage web-enabled thermostats, and automatic tubspout diverters are examples of new technologies that program staff directly added to their suite of offerings in recent years. The Business Energy Management (BEM) Sector also routinely adds new and promising measures: for instance, demand control kitchen ventilation.

Program staff incorporated these measures directly into the program because they were already vetted with provisional savings values. Otherwise, PSE may have considered classifying them as pilots. For the 2020-2021 BCP, there are several instances of pilot measures that PSE directly incorporated into the suite of offerings.

c. NEEA initiatives

A large portion of NEEA's electric market transformation activities can be classified as pilots. Some Energy Efficiency staff are members of NEEA's Retail Product Portfolio ("RPP") committee, which assesses a substantial number of initiatives that could be deemed as pilots.[43]

On the natural gas side, PSE is the majority funder (more than 41 percent) of NEEA's natural gas market transformation pilot. The Natural Gas Advisory Committee manages a portfolio of five pilot natural gas potential measures.

The Committee's plan is to test the technical viability, manufacturing, the potential to transform the natural gas market, and influence the remaining regional natural gas utilities to participate in the pilot.

d. Pilot Initiatives are not Limited to Conservation Measures

Through the application of adaptive management, many Energy Efficiency supporting functions implement exciting and inventive methods of connecting with customers, tracking, reporting, and evaluating savings data, or demonstrating behavioral enhancements throughout the year. These include the Conservation Evaluation team, Energy Efficient Communities, Marketing, and other applicable organizations.

While not specifically conservation measure-related, staff undertake these efforts to enhance customer participation simplicity, increase the value of evaluation results, or improve reporting efficiency. They may also lead to cost-effective conservation by providing additional opportunities for customers to participate in Energy Efficiency programs.

7. 2020-2021 Planned Pilot Initiatives

PSE's 2020-2021 budget for pilots is approximately 1 percent of the overall Portfolio anticipated spend. The below summarizes the major pilots that PSE will pursue in the coming biennium.

[43] Approximately 10 percent of PSE's NEEA budget is directed toward the RPP.

PSE provides additional details in program-specific discussions.

- The Low Income Weatherization program plans to continue initiatives started in 2019, including:
  - The manufactured home replacement program.
  - Ductless heat pump replacements.
  - As required in the 2018 Settlement Stipulation and Agreement in Docket U-180680, the Low Income Weatherization program will continue to facilitate the funding of renewables partnerships.
- Retail Choice Engine – Using a web platform to guide customers to choose energy efficient options when shopping for products.
- Single Family AMI Enhanced Engagement – Using AMI meters in conjunction with equipment that transmits meter data in near real-time to customers via visual interface to encourage behavior change that reduces energy consumption.
- Small and Medium Business (SMB) AMI Enhanced Engagement – Using AMI meter data to identify low-cost/no-cost opportunities for SMB customers followed by engagement with specific calls to action.
- The Residential Sector will create a Moderate-Income program, targeting this hard-to-reach customer segment.
- The Residential Sector will also revise the Home Energy Assessment program,[44] which will now focus on providing energy-efficiency information and measure installation assistance, targeting specific communities.
- Targeted DSM and DR. These pilot offerings will focus on specific localities, using area-specific avoided costs to be able to offer increased incentives to residences, offsetting planned infrastructure upgrades for a period of time.

D. Conservation Voltage Regulation (CVR) and Advanced Metering Infrastructure (AMI)

Conservation effected on PSE distribution circuits is comprised of Conservation Voltage Regulation (CVR). In order to implement CVR, PSE must also phase balance the eligible circuits. Energy Efficiency staff closely coordinate with PSE generation staff, system planning teams, and major project teams to track and coordinate potential CVR initiatives.

[44] A significant portion of the HEA savings potential was lost with the enactment of HB 1444.

PSE's generation, system planning, and third-party design teams engineer the projects, while PSE's major projects and third-party contractors build the projects. PSE provides a comprehensive discussion of its CVR plans for 2020-2021 in Chapter 9: *Regional Programs*, and in Exhibit 3: *Program Details*.

E. Coordination Between Washington Utilities

PSE has a long and well-established record of developing partnerships with other utilities in the Puget Sound region. The Energy Efficiency department often takes a leadership role in coordinating measure offerings and incentives with other Washington utilities. This utility partnership reduces the administrative burden on customers, contractors, and vendors. Consistency established between utilities makes it easier for customers to implement cost-effective conservation by presenting a uniform incentive structure and measure qualifications. Customers with locations in more than one utility district can be assured that their project will be managed with a "one-stop shopping" experience, regardless of who their energy supplier is.

Energy Efficiency staff have routinely engage with other regional utilities for several years. In 2020-2021, for instance, PSE will partner with the "I-5"[45] utilities on its Commercial Kitchen & Laundry measures. Each measure, regardless of the utility providing an incentive, will be processed seamlessly from the customer's perspective.

For a wide range of HVAC measures, including incentives for Advance Rooftop Controls (ARC), the customer completes a single incentive application that any number of utilities can process. PSE also coordinates with water utilities to share incentive costs when there are water-savings measures, such as showerheads or aerators.

In the coming biennium, Energy Efficiency staff will continue to collaborate with partnering utilities to enhance customers' energy-efficiency experience, streamline processes, reduce operational expenses, and develop economies of scale. Specific initiatives include, but aren't limited to:

- Combined training of Weatherization contractors.
- Coordination on wholesale midstream programs to assure appropriate counting and attribution of savings.
- Coordination with other utilities on retail lighting strategies.

[45] The colloquially termed "I-5" utilities include Tacoma Power, Seattle City Light, Snohomish County PUD.

- PSE's Multifamily Retrofit vendor also has contract with Seattle City Light, and conducts joint energy audits and direct install on our behalf.
- PSE proposed an agreement with Snohomish County PUD to coordinate on joint delivery of Small Business Direct Install (SBDI) Program, with a potential to partner on other programs. PSE is meeting with Snohomish County PUD in late 2019 to explore this potential.
- Coordination of custom commercial projects with Tacoma Power, Snohomish County PUD, and Seattle City Light.
- Coordination of Existing Building Commissioning Program in the City of Seattle with Seattle City Light, tied to the Building Tune-Up Accelerator.

F. Implement Deep Retrofits

PSE provides several opportunities for customers to pursue deep- or whole-building retrofits. A significant example is PSE's Pay for Performance (P4P) pilot program, which focuses on meter based, performance incentives for comprehensive retrofits of existing buildings. In the previous biennium, contractors and customers were interested in the pay for performance pilot and the simplified engineering analysis that was required to qualify for an incentive. However, a comprehensive retrofit has a long lead time to develop; requires complex, comprehensive project plans; and substantial—often multiple millions of dollars—expense. Interested businesses must often condense their planned expenditures into a set project timeline, versus spreading the planned upgrade expenses over many years. In this biennium, we will continue to develop our outreach approach to seek projects that can benefit from the P4P approach.

Another deep retrofit program offered in Business Energy Management is the Whole Building Approach for Commercial / Industrial New Construction. Although, this program is under the new construction umbrella, major building renovations to existing buildings that involve code-triggered upgrades qualify for incentives. This program offers early design assistance incentives, energy modeling support, and incentives based upon a comprehensive suite of efficiency measures determined with a whole building energy simulation.

Additionally, while not termed "deep retrofits", the Business Energy Management Sector provides comprehensive services for building owners and operators through the implementation of long-standing BEM programs. For instance, the Existing Building Commissioning program, formerly Comprehensive Building Tune-Ups. Industrial customers can also take advantage of incentives for tune-ups and for Strategic Energy Management through PSE's new Industrial offering that builds upon the Industrial Systems Optimization Program.

Industrial Strategic Energy Management (I-SEM) is a holistic approach to energy management that includes assessment of energy management practices, goal setting, action planning, and employee engagement.

The concept of "deep retrofits" is also not limited to the commercial market. In the coming biennium, the Multifamily Retrofit program will employ a whole building/property design that aggregates both residential (in-unit) and commercial (common area) opportunities.

The Single Family Weatherization program is also focusing on encouraging customers and contractors in the strategy of bundling as many weatherization measures as possible to effect a complete structural application. The program will offer increased incentives for bundled measures installed.

G. EISA and Legislative Impacts on Lighting Programs

PSE provides a comprehensive discussion on the Energy Independence Standards Act (EISA) and HB 1444 effects on LED general-purpose lamps in many of the more highly-impacted program overviews. Below are discussions applicable to the overall Portfolio in general.

1. Residential Program Impact

The most notable impact is on the Retail Lighting program, which in the past provided almost half of Energy Efficiency's Portfolio savings. However, in 2020-2021, the Retail Lighting program alone will have 86,000 MWh fewer savings than the previous biennium.[46]

In past biennia, PSE has been able to provide customers who participated (or in some cases, customers who inquired) in conservation programs with a Thank You kit. The kits typically included one or more LED lamps, a showerhead, and/or a faucet aerator, and were used for the Home Appliances (Refrigerators, Freezers, Clothes Washers, Decommissioning) programs. These kits are now cost-ineffective, and thus, will end for 2020-2021. The affected programs' overall cost-effectiveness has been impacted by the loss of the Thank-You kits.

[46] "Screw-in" general-purpose LEDs do not comprise the entire Retail Lighting portfolio. The program plans to continue to offer pin-type lighting (such as TLEDs), MR-16s, and T8 LED retrofits.

Similarly, in past biennia, the Home Energy Assessment program incorporated "leave-behind" LED lamps for customers to help the program cost-effectiveness. As a result of the increased lighting standard, PSE can no longer leave these products with the customer as a part of the service.

PSE adaptively managed a modified Home Energy Assessment program, which focuses more on providing customers onsite information and assistance.

2. Commercial Program Impact

The Commercial Lighting to Go, and Small Business Direct Install (SBDI) programs, which build some of their savings on general-purpose lighting, were also impacted by the new lighting standards, but not to as great a degree as REM programs. These programs derive much of their savings from integral LEDs, wall packs, linear and pin-type LEDs, and LED conversions of T8 and High-Intensity Discharge (HID) lamps and fixtures. The Commercial Lighting Grants program, which does not focus on general-purpose lighting, will not experience the downturn in savings.

3. Compensating for General-Purpose Lighting Losses

To compensate for the savings losses, Energy Efficiency staff will focus on more costly measures, which will have an impact on program cost-effectiveness. Retail Lighting, Lighting to Go, and SBDI will focus on expanding their suites of measure to include more pin-type LEDs, a broader array of tubular LEDs (TLEDs), LEDs for High-Intensity Discharge (HID) lighting, and linear fixture retrofits.

Other programs that do not depend as heavily on general-purpose LEDs (Single Family Weatherization, Water and Space heat, Home Energy Reports, for instance) will augment the Portfolio's lighting losses by utilizing an array of strategies, including but not limited to:

- Expanding ductless heat pumps and heat pumps, water heaters, and Commercial Kitchen incentive offerings into the midstream channel,
- Conduct contractor trainings on addressing measure installations to address comprehensive building treatment,
- Provide customers with alternative measure access (for instance, offer heat pump water heaters that traditionally are available only through contractors in retail locations),

- Refine and enhance Energy Efficiency's approach to marketing, limited-time offers, and outreach to agricultural and a broader spectrum of commercial customers,
- Increase incentives and bundle fixtures with controls in the Commercial Lighting program,
- Energy Efficiency is considering enhancements to its online marketplace as a replacement for ShopPSE, including a potential expansion of product offerings.

H. 2020-2021 Key Initiatives Summary

Chapter 3 summarized the key areas of focus that Energy Efficiency program staff considered as they built programs to achieve 2020-2021 conservation savings while making prudent use of ratepayer funds. PSE's commitment to adaptive management and ongoing continuous improvement are reflected in the business enhancements that PSE has put into place—or will within the 2020-2021 biennium—that will have a positive impact on Energy Efficiency's success.

The adaptive management steps and process improvement initiatives discussed in the preceding sections highlight Energy Efficiency's ongoing commitment to creating value for its customers, achieving cost-effective and verifiable conservation savings, and well-established business practices. Energy Efficiency's extensive planning has addressed, and allows for nimble adaptations of:

- Legislative and regulatory progression,
- Measure savings value revisions,
- Evolving customer expectations,
- Dynamics in the marketplace,
- Expanded service delivery networks,
- New communications channels,
- New technologies, and
- An expanding network of conservation solution partners.

PSE discusses the initiatives associated with the areas of focus in more detail in the coming chapters and in Exhibit 3: *Program Details*.

IV. Developing PSE's 2020-2021 Biennial Conservation Plan

In previous chapters, PSE presented its Sector-level savings and anticipated expenditures, highlights of key considerations that the 2020-2021 BCP must address in order to achieve the objectives, and an overview of the BCP organization. In this chapter, PSE will focus specifically on how it developed its 2020-2021 electric and natural gas targets and corresponding budgets. PSE will discuss some of the key drivers of the 2020-2021 savings and anticipated expenditures, along with an examination of anticipated 2020-2021 cost-effectiveness attributes.

Chapters 5 through 10 will outline the steps that PSE will take to achieve its goal of ensuring that customer participation in energy-efficiency programs is easy and rewarding. Program overviews will provide an indication as to how Energy Efficiency will implement programs consistent with a wide-ranging examination of planning variables, and the energy-efficient options that PSE provides customers while recognizing their confidence in PSE's stewardship of their conservation funding. The order of discussions align with the BCP Exhibit 1 Schedule numbers (noted in parentheses). PSE provides complete program details in the BCP's Exhibit 3: *Program Details*.

A. Building the 2020-2021 Conservation Savings Targets

The 2020-2021 Energy Efficiency savings and budgets are contained in Exhibit 1: *Savings and Budgets*. This file is almost 130 pages, and PSE recommends that Stakeholders review it in its Microsoft® Excel™ format to maximize effectiveness. Hyperlinks and hyperlink buttons on each page makes navigating this formidable workbook much more straightforward. Pursuant to condition (4)(a), PSE presents detailed budgets by program, classified by budget category, in the Exhibit 1 electric and natural gas Sector views.

PSE provides a summary view of the calculation elements that PSE applied in developing its electric Portfolio Savings Targets in Table IV-1. Table IV-2 provides the same steps applied to the natural gas target. Both tables reside as worksheet tabs within Exhibit 1. The tables also outline the categories that PSE excluded to reach the final 2020-2021 EIA Penalty Threshold and Natural Gas Penalty Threshold.

Table IV-1: Electric Portfolio Savings Target Calculation Summary

Puget Sound Energy 2020-2021 Electric Portfolio Savings					
Index	**Description**	**MWh**	**aMW**	**Comment**	**Calculation**
	Colored cells correspond to indicated lines in Exhibit 1: *Savings and Budgets, 2-Year Portfolio View*.				
	Calculate the EIA Target			***These are specific elements that comprise the Portfolio View of Exhibit 1.***	
a	CPA Pro-Rata Share *IRP & CPA Guidance*	359,861	41.1	Represents all available conservation that is cost-effective, reliable, and feasible, as a 20% pro-rata share of PSE's 10-year conservation potential, per RCW 19.285.040(1).	Figure *3*, Exhibit i
b	**EIA Target**	**359,861**	**41.1**	Meets RCW 18.285.040(1)(a) and (b) requirements	line bg of Exhibit 1 Portfolio View
	Calculate the Penalty Thresholds				
c	Subtract NEEA Savings	-23,564	-2.69	("Option A" in savings calculation table from NEEA forecast--current method)	line ac of Exhibit 1 Portfolio View
d	**EIA Penalty Threshold**	**336,297**	**38.4**	$61 - 64/MWh shortfall penalty, based on 2020 inflation, per RCW 19.285.060.	**= b - c**
e	**Decoupling Threshold**	**17,993**	**2.1**	5 percent of EIA Target	**= b * .05**
	Complete the Portfolio			Use CPA Pro-Rata Share as foundation.	
f	Add Firm Savings Excluded from CPA	9,198	1.0	2020/2021: 449s, special contracts	line *u* of Exhibit 1
g	Add Pilots with Uncertain Savings	15,080	1.7	Commercial Pay For Performance pilot, Retail Choice, SMB Enhanced Engagement	line *aa* of Exhibit 1 Portfolio View
h	Additional Portfolio Build-out	74,336	8.5	Represents incremental effort to anticipate 2019 IRP updates.	various programs
i	**Total 2020-2021 Utility Conservation Goal**	**476,468**	**54.4**	This is the total Portfolio to which Energy Efficiency is managing.	= b + e + (f + g + h): lines bb & be of Exhibit 1 Portfolio View

Table IV-2: Natural Gas Portfolio Savings Target Calculation Summary

Puget Sound Energy 2020-2021 Natural Gas Portfolio Savings				
Index	**Description**	**Therms**	**Comment**	**Calculation**
	Colored cells correspond to indicated lines in Exhibit 1: *Savings and Budgets, 2-Year Portfolio View*.			
	Calculate Natural Gas Penalty Threshold		***These are specific elements that comprise the Portfolio View of Exhibit 1***	
a	CPA Pro-Rata Share *IRP Guidance*	6,160,000	2-year pro rata, versus ramp rate in IRP	
b	Subtract NEEA Savings	0		line ab of Exhibit 1 Portfolio View
c	**Total Natural Gas Penalty Threshold**	**6,160,000**	Penalty outlined in Stipulation Agreement, UG-011571 Section M43.	**= a + b**
d	**Decoupling Threshold**	**308,000**	Penalty = Up to $75,000, depending on range	**= a *0.05**
	Build the Total Utility Conservation Goal			
e	Add Pilots with Uncertain Savings	320,000	Commercial Pay For Performance pilot, Retail Choice, SMB Enhanced Engagement	= line *ad* of Exhibit 1
f	Additional Portfolio Build-out	986,516	Represents incremental effort to anticipate 2019 IRP updates.	
g	**Total 2020-2021 Utility Conservation Goal**	**7,774,516**	This is the total Portfolio to which Energy Efficiency is managing.	= c + d + e + f; line bf of Exhibit 1 Portfolio View

B. Key 2020-2021 Savings Assumptions

Energy Efficiency planning teams examined several considerations throughout 2018 and 2019 in developing the 2020-2021 BCP, including guidance and long-term assumptions indicated in PSE's 2017 IRP, while considering potential 2019 IRP updates. They must also consider the dynamics of PSE's and the region's marketplace—including trade ally support and customer requirements, codes and standards revisions, actions taken by other utilities, legislative or regulatory updates, and the potential for new and untested customer offerings in the form of pilot offerings, among others.

The key consideration for each program design is to prudently manage customer funding to drive customer participation and satisfaction in order to achieve the Commission-approved savings targets. The following discussions highlight some of the key assumptions and factors that program staff used to guide their planning processes. Throughout the upcoming biennium, program staff will continue their application of adaptive management principles to ensure that they meet performance objectives by validating, adjusting, and re-evaluating these assumptions in an effective and resourceful fashion.

1. PSE's IRP Guidance

As discussed in Sections I.A and II.A, the November 1 filing of this 2020-2021 BCP represents electric and natural gas data from the 2017 IRP. PSE will make any needed adjustments to electric and natural gas savings targets based on any updated conservation potential guidance indicated in the final 2019 IRP. While the final conservation acquisition guidance is uncertain at the time of the November 1 filing, each biennial CPA includes, but isn't limited to the following:

- PSE's updated load forecast, including the most recent biennium's efficiency accomplishments, resulted in a lower value.
- Updated Commercial Building Stock Assessment (CBSA) data.
- Behavior change is included in the CPA.
- Measure savings and ramp rates consistent with the Seventh Power Plan of the Northwest Power and Conservation Council.
- Incorporation of new codes and standards.
- PSE incorporated new and expanded measures.
- Updated data and assumptions with the latest PSE and regional data.

- Savings potential from measures that are included in the Northwest Energy Efficiency Alliance (NEEA) portfolio.
- Lower electric energy and peak avoided costs reduced the cost-effectiveness threshold for conservation potential in the 2017 IRP. PSE anticipates that avoided costs will change in the 2019 IRP.

The Company shared updates on (1) 2017 IRP data that indicated the 2020-2021 pro-rata share and (2) potential considerations associated with the 2019 IRP, including impacts of revised avoided costs and code enhancements with the CRAG in the June 19, July 24, and August 28, 2019 meetings. PSE Resource Planning staff provided a CPA-focused overview for CRAG members during its October 23, 2019 CRAG meeting.

PSE conducted four IRPAG and nine TAG meetings between 2018 and 2019. Several CRAG members are also members of the IRPAG/TAG, and some were present at the December 6, 2018 TAG third meeting when Cadmus presented the results of the CPA.

2. Economic and Market Assumptions

The energy-efficiency marketplace is dynamic and difficult to forecast. With ever-evolving demographics, expanding customer requirements for information access, a marketplace supply chain that is growing increasingly nimble, and trade allies that perceive utilities as business collaborators, program staff must stay consistently connected to conditions that influence their service offerings. These are some of the factors that planning teams consider when evaluating the marketplace and economic conditions affecting their program:

- The forms, timeliness, and content of PSE's energy-efficiency communications.
  - PSE has a limited customer exposure window, and must use that limited time to ensure that it makes its energy-efficiency messaging as valuable and impactful as possible.
- Another recession may have a dramatic effect on PSE's conservation efforts.
- If avoided costs are higher in the updated 2019 IRP, a broader array of potential offerings may be possible.

3. Technological, Codes & Standards Assumptions

EISA's (Energy Independence Security Act's) 2020 code updated general-purpose LED lamp standards. Although those standards were rolled back later in 2019, House Bill 1444 backstopped the enhanced lighting (and appliance) standards. These are clear representations of the codes and standards advancements that affect PSE's energy-efficiency programs. With the enactment of HB 1444, approximately 26 percent of PSE's 2018-2019 total electric conservation savings will no longer quality as energy-efficiency measures. Anticipated 2020 Washington Energy Code updates—expected to go into effect in July 2020—can potentially have further impact on new construction programs.

Water-savings measures such as showerheads and faucets are evolving to meet customer expectations for comfort and style. Exciting technological advancements in natural gas equipment, including the gas heat pump water heater pilot, currently pursued by the NEEA Natural Gas Collaborative, may also provide a new avenue of product offerings in the not-to-distant future. Planning teams also considered other technology elements:

- As AMI (Advanced Metering Infrastructure) technology is implemented, Energy modeling applications will become more advanced and accurate, leading to the potential implementation of streamlined custom grant processes in both REM and BEM Sectors. This will also have an impact on EM&V 2.0.
- As conservation baselines and market saturation continue to increase, it becomes more difficult to offer customers incentives for lower-cost measures. The loss of low-cost/highly cost-effective LED lighting will result in significant cost-effectiveness pressure for the Portfolio.
- New technologies in existing measure types may affect potential cost-effectiveness.
- Third-party vendor applications and processes are growing more sophisticated, allowing them to provide services that were previously unavailable.
- PSE plans on introducing new and enhancing existing online portals that maximize security and streamline rebate applications, trade ally networking, customer referrals, and create value in the supply chain.

4. Regional & Utility Actions and Partnerships

Actions that other utilities take have an effect on PSE energy-efficiency programs, as do regional market transformation initiatives.

PSE discusses its initiatives to partner with its adjoining utilities to leverage common measures and other services, expand trade ally alliances, and streamline customers' experience in Section III.E.

- Partnerships with other utilities provide customers with a more consistent suite of services, which may drive increased participation.
- When other utilities adjust or retire their programs, economies of scale are lost, causing upward pressure on some of PSE programs' administrative costs, should PSE sustain those measures.
- It is always necessary to be cognizant of, and coordinate with regional market transformation initiatives to ensure that PSE prevents double-counting or duplicating program offerings.

5. Regulatory and Legislative Assumptions

Regulatory requirements—including legislative, and those from a variety of agencies—consist of reporting and documentation requirements, accounting for new measure classifications, application of new and updated cost-effectiveness elements and tests, revised measure life attribution, additional Low Income Weatherization funding requirements, and Stakeholder engagement, among others. PSE's ability to effectively implement conservation programs are impacted by, but are not limited to:

- State legislation passed in 2019, which has impacted Energy Efficiency's 2020-2021 programs. House Bill 1444, which raised the base appliance efficiency and general lighting standards, has primarily altered the Home Appliances program and residential lighting programs, with forecasted savings reduced by approximately 71 percent each, from the previous biennium.
- Although many provisions of the new law are not effective until 2022, Energy Efficiency staff are reviewing conservation requirements outlined in Senate Bill 5116, the Clean Energy Transformation Act (CETA), to understand various terminology and the potential ramifications of their implementation.
- Stipulation agreements that add several million dollars to the Low Income Weatherization program's required spending, which has the potential to negatively affect the program's overall cost-effectiveness.
- Pending rulemaking may affect cost-effectiveness calculation methodology, natural gas program design, documentation requirements for future BCPs, and other business processes.

6. Potential for Pilot Offerings

Although PSE receives several suggestions for potential conservation measures or related services through its standard RFP solicitation process, program staff also are constantly vigilant for new and exciting technologies that may have an immediate impact on the Portfolio. PSE provides comprehensive discussions of its Pilot initiatives in several Sections of this BCP: Section III.C, Section IV.C.4.b, and Chapter 9.

C. 2020-2021 Savings Components

PSE considered the preceding assumptions, along with others, in designing its 2020-2021 savings goal development. Program staff also were required to account for the Decoupling Threshold savings, track and incorporate constantly-evolving RTF UES values, design and establish metrics for pilot savings, and resolve strategic and tactical program challenges. The following discussions align with the savings targets outlined in the electric and natural gas "Building the Savings" tables, extracted from Exhibit 1: *Savings and Budgets*, and noted in section IV.A of this chapter. The tables provide a step-by-step sequence for the development of the four key savings targets:

1) The EIA Target (electric) and CPA Pro-Rata Share (natural gas),
2) The EIA Penalty and Natural Gas Penalty Thresholds,
3) The Electric and Natural Gas Decoupling Thresholds,
4) The Electric and Natural Gas Total Utility Conservation Goals.

A key element of program planning was the IRP guidance, as provided in the Conservation Potential Assessment (CPA). Once program staff have an idea of the "top-down" savings potentials, they build savings programs consistent with condition F.11, which indicates that budgets must be developed from the bottom-up. Building upon the IRP's 2017 CPA Pro-Rata Share and examining the remaining considerations and variables, PSE's vision of the 2020-2021 biennial conservation savings figures came into focus in the second quarter of 2019. Planning teams scrutinized issues such as marketplace dynamics and externalities (for instance, utility actions and partnerships, regional initiatives, regulatory requirements). Additionally, they considered potential for new offerings—incorporating applicable RFP/RFI proposals—and internal resources affecting PSE's electric and natural gas savings targets.

Unless otherwise noted, each component discussion applies to both electric and natural gas savings targets.

1. CPA Pro-Rata Share

WAC 480-109-100(3)(b) requires that the electric biennial conservation target be no lower than a pro rata share of a utility's ten-year conservation potential. Consistent with Order 01 in Docket UE-180607 and UG-180608, data in PSE's 2017 IRP indicates a guidance for 2020-2021 of 359,861 MWh, using the 20 percent pro-rata approach outlined in WAC 480-109-100(3)(b). PSE also referenced the 2017 IRP guidance for its natural gas baseline, 6.16 million therms.

PSE refers to the IRP guidance—the CPA pro-rata share—as the "EIA Target" for its electric conservation figure, and the "CPA Pro-Rata Share" for its natural gas conservation figure. Thus, the 2020-2021 EIA Target is 359,861 MWh, and the CPA Pro-Rata Share is 6.16 million therms.

PSE will update these savings values when PSE finalizes the 2019 IRP, subsequent to the filing of its 2020-2021 BCP on November 1, 2019. It is important to note that PSE may adjust all resultant calculations (Decoupling Threshold, EIA Penalty Threshold, Total Utility Conservation Goal—all discussed in the following sections), based on any revision to the CPA Pro-Rata Share.

2. Calculating the EIA and Natural Gas Penalty Thresholds

The 2017 CPA, which is incorporated into the 2017 IRP, includes NEEA savings potential in its analyses. Consistent with Commission Staff guidance outlined in Staff's August 8, 2019 open meeting memo,[47] and discussed in the SWAG report, filed with the Commission in Docket UE-171087, PSE excluded NEEA savings from the CPA pro-rata share to determine the EIA and Natural Gas Penalty Threshold savings values. The Threshold is the savings value at which the Commission will, upon its review and BCP approval, set penalties for shortfall, per RCW 19.285.060, WAC 480-109-070, and Section M.43 of the 2001 Rate Case Stipulation Agreement, Exhibit F in Docket UG-011571.

[47] Commission Staff memo, Dockets UE-171087, UE-171091, & UE-171092, August 8, 2019, pg. 2, ¶ 1.

a. NEEA's 2020-2021 Savings

In their first three meetings of 2018,[48] the Statewide Advisory Group (SWAG) discussed the merits of excluding or including NEEA savings in the IOUs penalty targets.

In the final SWAG report, summarizing the SWAG discussions and agreements, the SWAG could not reach consensus on the treatment of NEEA savings. However, as referenced in the Commission Staff August 8 open meeting memo, and detailed in the Report, the SWAG:

> "(…) did agree that the EIA gives the Commission discretion to determine the elements that should be included in the targets subject to potential penalty.[49] To address this concern, the SWAG developed two standard definitions:
>
> 1) EIA Target, which is set by the Commission and does include NEEA savings.
> 2) EIA Penalty Threshold, which is also set by the Commission, and may exclude NEEA savings as part of the Commission's standard practices. The 2017 IRP takes into account NEEA savings in the conservation potential, and thus, NEEA savings do not have a separate addition line in the "Building the 2020-2021 Target" tables."[50]

Although the NEEA savings are excluded from the EIA and Natural Gas Penalty Threshold, the savings are included in and reported as a separate line item in PSE's Portfolio performance in PSE's Annual Report of Energy Conservation Accomplishments and its Biennial Conservation Report. [51]

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[48] March 30, 2018, May 18, and June 29.

[49] *See* RCW 19.285.040(1)(f) The commission may rely on its standard practice for review and approval of investor-owned utility conservation targets.

[50] *WA Statewide Advisory Group (SWAG) Report on 2018 Washington State Investor Owned Utility Energy Efficiency Joint Advisory Group Activities and Outcomes,* Chapter 2, Section 2, Pg. 6, ¶ 2.

[51] For the 2020-2021 biennium, the BCR will be filed with the WA Department of Commerce and the UTC by June 1, 2022. For the Annual Reports, PSE provides the NEEA-deemed savings value. The actual NEEA savings are reported subsequent to PSE filing its Annual Reports. NEEA actual savings are trued up and, when necessary, adjusted in PSE's Biennial Report.

It is important to clarify that NEEA does not calculate any utility-specific savings estimates using any data specific to that utility. It accumulates total regional savings, less total regional utility program savings, and multiplies the result by each utility's funder share. PSE's electric two-year Total Utility Conservation Goal incorporates the NEEA 2020-2021 savings attributable to PSE's share of 23,564 MWh. Given the uncertainty of the progress of NEEA's natural gas measures, PSE reasoned that a savings projection of zero therms for 2020-2021 is appropriate.

i. NEEA electric measure calculations

For the 2020-2021 period, Avista, PacifiCorp, and PSE (the IOUs) requested NEEA to provide (1) its savings calculation methodology and (2) its 2020-2021 savings estimate segregated into categories.

NEEA indicated that it can report savings, based on measure UES values, in one of four ways:

1) *Frozen 7th Power Plan.* The savings rates come directly from the 7th Power Plan if available. Otherwise, NEEA calculates a 7th Power Plan equivalent baseline.
2) *7th Power Plan, updated to current RTF values.* The savings rates come directly from the Regional Technical Forum (RTF) if the RTF approved a new measure after 2015.

   The baseline is the current practice when the RTF approved the new measure. Otherwise, the savings rates come directly from the 7th Power Plan if available. If not, NEEA calculates a 7th Power Plan equivalent baseline.

3) *7th Power Plan, updated to NEEA market calculations.* If new information is available, NEEA calculates a 7th Power Plan equivalent baseline to measure savings. The baseline year is the year the 7th Power Plan uses (usually 2015). Otherwise, NEEA uses the savings rates within the 7th Power Plan. NEEA reviews this analysis with Northwest Power and Conservation Council staff. The Council, the Bonneville Power Administration and public utilities use this approach.

4) *Net Market Effects.* This approach uses NEEA's market transformation baseline. The baseline accounts for change that would have occurred absent market intervention by NEEA and its partners. The baseline start year aligns with the start of market transformation work by NEEA. Third-party evaluators review the baseline assumptions.

In August 2019, the IOUs informed NEEA that option number 2: using the 7th Power Plan measure UES values, updated with current RTF values is most consistent with their own savings reporting methodology, and thus, requested NEEA to make their biennial savings estimates using this methodology.

ii. NEEA electric savings categories

Additionally, NEEA categorizes electric savings into three descriptions of NEEA:

NEEA Savings Type	NEEA Description	NEEA Savings Forecast, aMW/ MWh	Disposition
Program Measures	These savings come from measures NEEA worked on.	2.70 aMW/ 23,564 MWh	PSE will incorporate these savings in its overall Portfolio reporting.
Codes and Standards Measures	These savings come from codes and standards that NEEA worked on.	2.95 aWM/ 25,842 MWh	Codes and Standards are incorporated into the IRP as a "Must Take" bundle.
Trackable Measures	Through it work, NEEA often collects additional data in othe markets.	1.02 aMW/ 8,935 MWh	These are not attributable to NEEA initiatives.

The PSE portion of NEEA 2020-2021 electric savings in Section IV.C.*2.a* above is based on Program Measures, calculated using the 7th Power Plan UES values, updated to current RTF UES values.

iii. NEEA's Natural Gas Savings Projections

Subsequent to finalizing PSE's October 1 draft BCP, NEEA provided its estimates of regional potential natural gas savings, which are comprised of:

- Gas Heat Pump Water Heater Pilot
- Condensing Rooftop HVAC Units
- Next Step Homes

Table IV-3 provides NEEA's preliminary regional therm savings estimates for each measure.

Table IV-3: NEEA Preliminary Natural Gas Savings Projections

Measure	2020 Potential Savings	2021 Potential Savings
Next Step Homes	123,834	166,807
Condensing Rooftop Units	570	570
Gas Heat Pump Water Heater Pilot	0	495
TOTAL REGION	124,404	167,872

According to NEEA's savings reporting methodology, savings are allocated by funder share. Thus, PSE would expect to have 41.25 percent of the above totals attributed to it, or approximately 120,000 therms.

PSE is representing, however, zero savings in its 2020-2021 BCP, based on the following considerations:

- Condensing rooftop units (HVAC) started off with a poor performance record in the initial 4-unit pilot. The second iteration of pilot installations revealed the need for customized, per-building retrofits to accommodate the condensate discharge plumbing, which was quite time-consuming and expensive. It is estimated that these units would primarily be applicable to only new construction installations.
- There is an initiative to launch a national gas heat pump water heater beta test (pre-commercialization), with the potential of 20 units potentially being located somewhere in the northwest region. The launch date for this pilot has been pushed back twice (NEEA is now looking at a potential launch in Q3 2020), with commercialization anticipated for 2022. There is no certainty that (1) the beta units will be located in PSE's service territory, and (2) that the pilot actually will commence on time.

- The majority of the regional natural gas savings is anticipated to be derived from the Next Steps Homes project. Based on PSE's version of this offering (which encourages builders to construct new homes to 20 percent above code), the offering have little uptake. While PSE's offering—at a higher-level standard is cost-effective—due to Washington codes, which are more restrictive—the proposed NEEA offering may be cost-ineffective. NEEA needs to provide PSE with specific savings elements to justify its savings claims. Furthermore, based on utility-sponsored versions of this offering, the vast majority of savings are in Oregon, rather than Washington.

  If savings were reported according to funder share (as noted initially), PSE's portion would be hugely overstated, and would not represent its Ratepayers' contribution—which would be funding savings in other states.

Therefore, PSE has a low degree of confidence that actual savings will be derived from NEEA's natural gas transformation efforts that will be attributable to PSE in the coming biennium. PSE will, however report actual savings from these initiatives if they occur.[52]

3. Calculate the Decoupling Threshold Savings

The decoupling target savings of 17,993 MWh and 308,000 therms is calculated by multiplying the EIA Target and natural gas CPA Pro-Rata Share by 5 percent.

In the Commission's Order 07, Docket UE-121697 and UG-121705 (consolidated), approving the PSE/NW Energy Coalition decoupling petition, PSE committed to achieve 5 percent above its Commission-approved EIA (electric) Penalty Threshold.[53] This commitment extends through the 2020-2021 biennium.

The Natural Gas Decoupling Threshold calculation of 5 percent above the CPA Pro-Rata Share is set forth in the 2017 Staff Initial Brief in the 2017 General Rate Case Docket UG-170034, Section III.A.53, page 27.

[52] As is the case with its electric savings calculations, PSE will exclude any NEEA savings from its Penalty Threshold computations.

[53] Amended Decoupling Petition, Section III.G.31, pg 17.

PSE reports the decoupling savings total separately once it reports and verifies overall savings. Both sets of decoupling savings are subject to a $50 per MWh, or up to $75,000 natural gas penalty[54] for achievement shortfall.

Notably, it isn't possible for PSE to distinguish between "EIA/natural gas-compliant savings" and "decoupling" savings in its tracking and reporting. PSE will report all conservation achieved in its standard timing and formats.[55]

PSE will base its reporting on comparison to the electric MWh EIA Penalty Threshold and Decoupling Threshold approved by the Commission.

4. Build the Total Portfolio Savings: Total Utility Conservation Goal

As PSE alluded in Section IV.C.1, the CPA Pro-Rata Share is the basis for all electric and natural gas savings development calculations. PSE then identifies NEEA savings, and adds to those totals the 5 percent decoupling savings. Then, PSE must add in all other conservation savings not yet accounted for. These include *Firm Savings Excluded from the CPA* (449 and Special Contract Customers) and *Pilots with Uncertain Savings*.

Due to the unique circumstances associated with building the 2020-2021 savings Portfolio, PSE took the exceptional step of including a new element: *Additional Portfolio Build-out* savings for its electric Portfolio. The elements discussed in sections IV.C.1 - 3 (EIA Target + Decoupling) results in electric and natural gas subtotals of 377,854 MWh and 6.47 million therms.

In the following Sections, PSE discusses the additional elements that will comprise the electric and natural gas Total Utility Conservation Goal.

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[54] In Docket UG-170034, Public Version Testimony, (UE-170033) 2017 GRC Piliaris direct, page 145 of 159:

> 11 "**What would happen if PSE does not meet these decoupling-related gas**
> 12 **conservation commitments?**
> 13 A. PSE proposes to pay $20,000 for meeting between 4.5 percent and 5.0 percent of
> 14 its incremental gas conservation commitment, $50,000 for meeting between 3.75
> 15 percent and 4.5 percent of its incremental commitment, and $75,000 for less than
> 16 3.75 percent of its incremental commitment."

[55] These include Annual Reports, Biennial Conservation reports, Department of Commerce EIA reporting, CRAG meeting updates, responses to data requests, planning documents, etc.

a. Add Firm Savings Excluded from the CPA: 449 and Special Contract Customers

PSE added the term "Firm Savings" for this category to differentiate these savings from Pilots with Uncertain Savings. Savings in this category are derived from measures with known savings values.

It is important to note that 449 customers only take electric service. PSE confirmed that "449 customers" (Retail Wheeling customers who are on rate Schedules 448, 449, 458, or 459) were excluded from the CPA. Schedule 449 Customers—or retail wheeling—savings are excluded because these accounts do not contribute to PSE's electric system loads,[56] even though they have a capacity impact. This target-setting step met with the general agreement of the CRAG.

Planning staff took the initiative to add those customers',[57] along with the forecasted savings from customers under Special Contracts—equaling 9,198 MWh projected 2020-2021 conservation savings, to the to the Portfolio subtotal (EIA Target + Decoupling) amount of 377,854 MWh.

When building the natural gas Total Utility Conservation Goal, there is not a similar savings category, as natural gas transportation customers do not pay into the Conservation Rider, and are thus ineligible to participate in PSE conservation programs. Therefore, PSE made no natural gas savings adjustment for this classification.

b. Add Pilots with Uncertain Savings

Consistent with the discussion in Chapter 3, Section C, PSE will add 15,080 MWh to the electric Portfolio subtotal. In the natural gas Portfolio, PSE will include 320,000 therms of Pilot savings. PSE expects that these savings will be generated from pilot initiatives noted in Table IV-4.

[56] Retail Wheeling customers do, however, have a positive impact on regional system capacity.

[57] 449 customers participate in PSE's Large Power User/Self-Directed program under terms of Schedule 258.

Table IV-4: 2020-2021 Planned Pilots with Uncertain Savings

Pilot Name	Sector	Potential Two-Year Electric Savings	Potential Two-Year Therm Savings
AMI Single Family Enhanced Engagement	Residential	480,000 kWh	0
Retail Choice	Residential	6,000,000 kWh	300,000
Pay For Performance	Business	1,400,000 kWh	5,000
AMI SMB Enhanced Engagement	Business	2,200,000 kWh	15,000
Home Energy Assessments	Moderate-income Segments	5,000,000 kWh	0
NEEA Gas Market Transformation	Regional		0
TOTAL SAVINGS		15,080,000 kWh	320,000 Therms

PSE will add these values to the Portfolio subtotals (EIA Target/CPA Pro-Rata Share + Decoupling + 449s [electric only]), resulting in 402,132 MWh and 6.78 million therms.

It is important to note that the savings indicated in line *ab: Subtotal, Pilots* in Exhibit 1: *Savings & Budgets* represent only those pilots with uncertain savings—as discussed in Chapter 3, Section III.C.7 on page 48.

PSE will exclude these pilot programs from the proposed EIA Penalty Threshold calculation (discussed in the following section). PSE will discuss other pilot measures and programs in which program staff have a degree of savings certainty within the program-specific chapters to follow.

c. Include Additional Portfolio Build-out Savings

Due to the uncertainty associated with planning such an extensive portfolio of services and offerings based on a previous IRP, PSE took the initiative to augment the saving accumulated by adding the previously-discussed attributes (CPA Pro-Rata Share + Firm Savings + Pilots). PSE believes that there is a potential that the electric potential 2019 IRP conservation guidance will be larger than the 2017 guidance.

Although PSE is relatively confident that the natural gas potential will not deviate from the 2017 data as significantly as the electric potential, staff included a Portfolio Build-out in the natural gas portfolio as well.

During the 2019 planning process, program staff explored:

- *Enhancement of value-add services*, such as bundling controls with commercial lighting, or expanding delivery channels, and expanding commissioning services in the Commercial/Industrial Retrofit program.
- *Expanding service offerings where possible.* For instance, PSE is planning an expansion of its Home Energy Reports program.
- Engaging the Midstream model when practical and advantageous.
- *Enhancing marketing and outreach efforts* to connect with the maximum number of customers.
- *Maximizing trade ally relationships*. Ensure that the trade ally channel is installing as many measures as possible.

These efforts are incremental to those required to supplant savings impacted by lost lighting savings, lower UES values, and reduced cost-effectiveness resulting in the retirement of some key measures. The resultant incremental savings target of Additional Portfolio Buildout will be 74,336 MWh.

Thus, when all of the savings categories are added up, the electric Total Utility Conservation Goal is:

Savings Category	Savings Total, MWh
EIA Target (Includes NEEA):	359,861
Decoupling:	17,993
Firm Savings:	9,198
Pilots with Uncertain Savings:	15,080
Additional Portfolio Buildout:	74,336
TOTAL UTILITY ELECTRIC CONSERVATION GOAL:	**476,468**

By summing the applicable savings categories, the natural gas Total Utility Conservation Goal is:

Savings Category	Savings Total, Therms
CPA Pro-Rata Share (No NEEA savings):	6,160,000
Decoupling:	308,000
Firm Savings (449s and Special Contracts):	0
Pilots with Uncertain Savings:	320,000
Additional Portfolio Buildout:	986,516
TOTAL UTILITY NATURAL GAS CONSERVATION GOAL:	**7,774,516**

D. RTF Measures' Impact

As a proportion of Residential Energy Management's (REM's) overall conservation goal (and also contributing to a portion of Business Energy Management's [BEM's] savings goal), another key consideration of PSE's 2020-2021 conservation goal is the examination of RTF UES measures.

The 2020-2021 savings and budget figures are substantial in light of continued downward revisions of many key prescriptive measure UES values, both electric and natural gas. Energy Efficiency program staff demonstrated creativity and adaptive management in developing innovative solutions and services that will sustain 2019's momentum in light of these adjustments. Very few programs, both in REM and BEM, were unaffected by these UES value revisions however. To varying degrees, adjustments included LED lamps, several appliance types, insulation, window, and air-sealing measures. Some adjustments resulted in measures becoming cost-ineffective. PSE put these measures on hiatus or cancelled them, and PSE will not offer them in 2020. PSE notes prescriptive measure elements, including savings values and unit count projections in the applicable program detail pages of Exhibit 1.

The 2020-2021 BCP reflects, when applicable, RTF UES values that were in effect and published on the RTF website as of September 1, 2019. To accommodate program planning needs and WAC requirements,[58] Energy Efficiency's Measure Revision Guidelines indicate that when a prescriptive measure's UES value is in effect and published by September 1 of one year, PSE will align to that value in January of the following year. In applicable cases, PSE will follow accepted methodology and protocols to develop a PSE UES value[59] that is consistent with WAC 480-109-100(5)(a).

1. RTF Prescriptive Measures

WAC 480-109-100(5) requires PSE to use the Regional Technical Forum's (RTF) UES[60] measure savings values; unless, as indicated by (5)(a), evaluation data, engineering analyses, or other reliable sources substantiate the use of a different savings value.

PSE consistently complies with these requirements, and presents its measures and their savings values in Exhibit 5: *Prescriptive Measure Values* for CRAG review (as required by WAC 480-109-100(5)(b)).

2. RTF Measure Revisions - Timing

The RTF adjusts the savings values of measures throughout the year. Each year, PSE tracks the RTF revisions as program staff set their upcoming biennial savings target and natural gas goal.

The savings targets are typically established in July of a planning year, consistent with requirements, using (where applicable) the RTF UES values in place at that time. Program staff have an opportunity to make final adjustment to RTF UES measures employed at the end of August of the planning year. When the RTF adjusts UES values after PSE locks the target on September 1, it will adjust the savings reported in the year following the next program year.

[58] WAC 480-109-110(3) requires utilities to provide their advisory groups with a draft conservation filing 30 days in advance of the filing. This requirement significantly compresses the planning process. Thus, the time to lock measure savings values is moved up a month.

[59] In cases where PSE pursues the conversion of a measure from RTF UES to PSE Deemed, the measure cannot be used until the evaluation, engineering analysis, or actual usage studies are completed and approved. This affects PSE's ability to meet its savings targets and goals.

[60] The current RTF designation for prescriptive measures is UES: Unit Energy Savings.

3. Using Every RTF Measures is Administratively Unrealistic

PSE employs only those RTF measures that it can accurately track, meet cost-effectiveness expectations,[61] achieve a sustainable customer demand, are supported by contractors and trade allies, and lend themselves to effective verification. PSE evaluates the potential impact of these measures, regularly reviewing those that can be offered to customers and effectively managed. However, there are far more measures in the RTF database than can be effectively managed or accounted for with a high degree of accuracy within a program's suite of offerings.

Given the number and considerable variety of different RTF measures, the key management consideration for incorporating RTF measures is, "Can program staff accurately track every measure variant at the risk of incurring a disallowance?" It is important to note that PSE incorporates a significant number of RTF measures in Energy Efficiency's measure portfolio.

The range of measure variables that a program manager must administer makes it clear that it isn't possible to manage a suite of offerings effectively, and with a degree of accuracy that includes every RTF measure.

Since the RTF updates its measure tables at irregular intervals, keeping track of each iteration for every measure table becomes administratively burdensome. Furthermore, program staff must consider the engagement of its vendors and trade allies.

a. Measure Offering Complexity can affect Accuracy and Constituency Participation

Program staff must also consider trade allies. As program staff add measures they must assess the ability to clearly discern unique measure attributes by customers and in the field—by contractors and Verification Team staff. "R-0 to R-19" versus "R-0 to R-11" insulation is very difficult to differentiate in the field, for instance. As previously noted, an increase in product complexity is a disincentive for PSE trade allies.

[61] Although the RTF indicates expected cost-effectiveness in the measure table of a particular measure's workbook, PSE delivery methods, incentive levels, regional differences, etc. may change the final actual cost effectiveness.

An unwieldy catalog of measures also presents challenges for customer presentation. In order to spur customer action to engage in energy-efficiency programs, it is necessary to maintain simple and easy-to-understand brochures, rebate applications, digital tools, and other collateral. Increasing the complexity of measure offerings makes developing effective tools more difficult and costly.

In light of these issues—for some RTF measures—it becomes cost-ineffective to offer them.

4. Implementing RTF Measures

To ensure the highest degree of accuracy and mitigate the risk of potential disallowances and potential resultant penalties, PSE's follows a systematic strategy for implementing RTF UES measures:

a) Selecting as many RTF measures that can be implemented, tracked and accurately reported as possible,
b) Regular review of RTF measure tables for potential offering inclusion,
c) Participation in RTF meetings to ensure that PSE program staff are engaged in measure development and planning,
d) Actively managing all tracking and reporting data, systems and databases to ensure accuracy,
e) Actively manage the savings adjustment process, as outlined in the Energy Efficiency *Guidelines for Ensuring the Accuracy of Electric and Gas Savings Reports,*
f) Implement measure revisions at the beginning of each year, consistent with PSE's *Measure Revision Guidelines, and*
g) Adopt suitable new RTF measures throughout the year, compatible with adaptive continuous improvement principles.

Energy Efficiency's comprehensive list of all prescriptive measures—RTF UES and PSE UES—is Exhibit 5: *Prescriptive Measure Tables*. Because Exhibit 5 is intended to be a list of all measures currently available, PSE will provide the 2020-2021 Exhibit 5 to the CRAG as a part of its Annual Reports. Until then, planned prescriptive measure UES values are available in each program's detail page of Exhibit 1: *Savings and Budgets*.

E. 2020-2021 Program Challenges and Opportunities

As the 2020-2021 BCP development progressed, Energy Efficiency program staff incorporated strategies to address several challenges and opportunities they faced. Two key issues are 2019 legislation impact on programs and 2019 IRP uncertainty. LED general-purpose lighting standards and lower prescriptive UES values have challenged program design, and Low Income Weatherization cost-effectiveness continues to challenge program design.

New construction projects will continue to provide both a challenge and opportunity: the continued growth in the region is an opportunity to capitalize on energy efficient new construction. However, with more stringent codes enacted (expected in July 2020), PSE expects that there will be a decrease the potential savings available for new construction projects.

The evolving energy-efficiency market and the need to develop enhanced contractor engagement strategies, and the loss of general-purpose LED lighting and some appliance measures are examples of additional hurdles that Energy Efficiency staff will overcome.

1. Revisions to Lighting Baseline Standards

The increase in the EISA (Energy Independence Security Act) and House Bill 1444 lighting standard will have a significant impact on PSE's Energy Efficiency Portfolio composition. PSE was required to eliminate more than 24 percent of Energy Efficiency's total savings potential at the beginning of 2020. The Residential Energy Management Retail Lighting program will eliminate a majority of its overall savings for the coming biennium.

Other programs, also dependent on residential LED lighting, will also be negatively impacted. An additional impact will be cost-effectiveness. Residential lighting is considerably more cost-effective than other measures. Supplanting the eliminated savings with measures that are less cost-effective will impact the overall Portfolio.

2. Back-Loaded Savings Potential

When PSE set its 2018-2019 Total Utility Conservation Goal, the 2017 IRP indicated that the pro-rata share (20 percent) of the 10-year potential was 359,830 MWh. However, that figure did not represent the highest amount of achievable economic conservation potential in 2018-2019.

PSE compared the timing of 2018-2019 savings potential with the ramp rates modeled in the IRP versus the two-year pro rata share of the ten-year potential and selected the greater of those values as the guidance from the IRP by accelerating lighting measures that were still eligible in the 2018-2019 period, but not the remainder of the 10-year period.

3. Other Product Efficiency Baseline Revisions

While the residential lighting revised baseline will have a tremendous impact, other measures' adjusted baselines, including but not limited to cooking equipment, showerheads, and appliances, are also impacted by the effects of HB 1444. This will also present a challenge in offering a robust, comprehensive, and suitable suite of measures with which customers will engage.

4. IRP Uncertainties

The delay of the 2019 IRP has caused significant program planning challenges. As noted in IV.E.2, PSE selected the 2020-2021 pro-rata share of its 2017-indicated 10-year conservation potential as the basis for the 359,681 MWh CPA Pro-Rata Share. However, key attributes that are used to determine cost-effective, reliable, and feasible conservation are uncertain at the time of the 2020-2021 BCP.

In order to minimize the potential of significantly under-stating the savings goal, however, PSE built its Total Utility Conservation Goal with an "Additional Portfolio Build-Out"[62] savings value of 74,336 MWh. This additional savings element brings the overall Portfolio total to a value that (1) is more aligned with previous biennia, and (2) is intended to mitigate the potential for a significant increase from the 2017 IRP guidance figure.

5. Lower UES Values

Program staff must address constantly-evolving RTF and PSE UES values that occur as measures achieve market saturation, as evaluation studies verify realization rates, and as energy codes make some measures obsolete.

In addition to addressing program measure mix concepts, product delivery alternative, and innovating marketing approaches, program staff incorporated RTF Non-Energy Impacts (NEI or NEIs) for all applicable and available prescriptive measures.

[62] Savings that are incremental to the Portfolio's standard categories.

Not all NEIs are strictly limited to water-savings (such as non-energy impacts associated with showerheads, aerators, and clothes washers). In the last biennium, an NEI was calculated for measures that replace wood-burning units as the primary heat source. It is important to note that the RTF did not assign NEIs to all measures.

6. Market Conditions

Many of the measures that are anticipated to make up for retail lighting lost savings include high-cost items, such as heat pump water heaters (HPWHs), and ductless heat pumps, according to the draft 2019 CPA. However, PSE's experience indicates that there are several market actors in the supply chain that are unprepared or resistant to providing these measures.

For instance, many water heater contractors are reticent to stock heat pump water heaters. Instead, they are equipped for emergency replacements of customers' standard water heaters. Additionally, as a result of current market conditions,[63] some HPWHs are cost-ineffective, and thus, do not qualify for utility incentives.

7. Increasing Up-Front Costs

As lower-cost measures, such as LED lamps, are eliminated from the portfolio, higher-cost measures are expected to supplant those savings. The higher acquisition costs, though, have a negative impact on cost-effectiveness, and make program planning more difficult from a measure mix standpoint.

8. Low Income Weatherization Added Requirements

The Low Income Weatherization (LIW) program faces several cost-effectiveness challenges to its suite of electric and natural gas offerings.[64] Natural gas measures continued the trend of low cost-effectiveness and lower UES values. To ensure access to comprehensive offerings for low-income customers in 2020-2021, PSE will maintain several adaptations of its LIW cost-effectiveness considerations for both the electric and natural gas LIW program.

[63] Heat pump water heaters have had a slow consumer uptake, with low unit counts over the last few years. Higher levels of market intervention required has kept the Total Resource Cost (TRC) lower than preferred.

[64] It is important to recall that PSE does not limit LIW agency spending for any conservation projects.

Particularly impactful to the LIW program planning are numerous requirements imposed by Orders in recent Dockets. The 2018 Multiparty Settlement Stipulation and Agreement, Docket U-180680, for instance, outlines nine requirements for the management of the LIW program to which PSE agreed. Some were carried over from existing Orders and agreements.

When added onto the already-significant LIW program management requirements, administrative obligations are increased, which has a negative impact on program effectiveness and costs. PSE provides additional detail in its Low Income Weatherization program discussion in Chapter 6.

9. Residential/Business Balance

The impact of residential appliances and lighting code changes means that Energy Efficiency's commercial programs will provide a larger share of the energy savings Portfolio.

F. Key Considerations Shaping PSE's 2020-2021 Program Savings

The majority of conservation programs that Energy Efficiency has successfully managed over the past biennia remain intact. Consistent with its established adaptive continuous improvement business development process, program staff examined their entire suite of measure offerings. They then incorporated applicable new measures, innovative delivery methods, and suggestions received through the Energy Efficiency RFP/RFI process to build a savings portfolio designed to meet the 2020-2021 electric and natural gas savings goals. Unless otherwise noted, percentage difference notations are relative to PSE's 2018-2019 figures.

1. Highlights of Key Electric Savings Drivers

a. Energy Efficiency's Residential Lighting is considerably impacted by the revised standards outlined in House Bill 1444. 2020-2021 savings will be approximately 71 percent[65] lower than 2018-2019. Lighting savings are very cost-effective; supplanting these savings while endeavoring to sustain the cost-effectiveness of the overall Portfolio has a number of cascading Portfolio impacts, as noted throughout the Plan.

[65] Approximately 26 percent of the entire Portfolio.

b. Although the standards revisions go into effect at the start of 2020, Residential Lighting savings will be counted until January 31, 2020, per an agreement with the CRAG.[66]
c. The updated lighting standards also has an effect on other residential programs that provide general-purpose, leave-behind LED lamps, including Multifamily Retrofit, Low Income Weatherization, and Home Appliances, and Smart Thermostats, which will lose the potential savings from these initiatives.
d. Particularly affecting Home Appliances, Thank You Kits are retired as a result of removing LED lamps.
e. Home Energy Assessments savings, which also depended on the very cost-effective leave-behind LEDs and showerheads, will be approximately 40 percent lower than the previous biennium.
f. HB 1444 will also result in several showerhead models becoming cost-ineffective at the start of 2021. Offsetting the potentially lost savings, the program will explore new channels of measure availability for customers to increase overall savings by an expected 39 percent.
g. The impact of 2019 legislation on appliance standards will reduce the Home Appliances savings by approximately 71 percent from 2018-2019.
h. The Smart Thermostats program savings are approximately 40 percent lower, due to the elimination of thank you kits. Additionally, staff reduced projected install volumes based on current trends.
i. The Multifamily Retrofit program will also see an approximate 25 percent overall reduction in savings due to targets more aligned with 2018-2019 projected actual savings, an anticipation of fewer weatherization projects, and updated savings value and cost-effectiveness calculations.
j. Program staff expect to see the Home Energy Reports program an approximate three-fold jump in savings, resulting from a new contracted offering channel.
k. Single Family and Manufactured Home New Construction will generate an increase in savings, resulting from the start-up efforts of the previous biennium.
l. The Business Lighting program will increase savings through bundled controls and new delivery channels.

[66] PSE's residential retail lighting rebates will continue through January 31, 2020 to align with the end date of our 2018-2019 Memorandums of Understanding (MOUs) with lighting partners. The new 2020-2021 MOUs will begin on February 1, 2020 at which time the changes to PSE's residential retail lighting program rebates will take place. The CRAG agreed to this approach during the June 19, 2019 CRAG meeting.

m. The C/I Retrofit program will expand commissioning projects.

n. The C/I New Construction program will experience a slight reduction in savings, due to the saturation of indoor agriculture lighting projects.

o. The Commercial Midstream program savings plans to be approximately 18 percent higher than projected in the previous biennium, resulting from an expansion of product offerings and learnings taking effect.

p. As the Large Power User/Self-Directed program will be in the second and third year of its 2019-2022 4-year cycle in the coming biennium, savings will be Savings typically ramp up in the third and fourth years of the cycle.

2. Highlights of Key Natural Gas Savings Drivers

a. The LIW program's natural gas savings are expected to be more than 100 percent higher than the 2018-2019 BCP amount, resulting from boiler installations exceeding expectations in recent years.

b. The Residential Showerhead program's natural gas savings is planned to be slightly lower than 2018-2019 levels, due to the saturation of product in the retail market, and updated efficiency standards.

c. As is the case in the electric portfolio, Home Energy Reports are expected to contribute significantly increased savings from the previous biennium, and could make up approximately 35 percent of REM savings overall.

d. Also aligning with the electric efforts, the Single Family New Construction program, after gaining traction in the previous biennium is expected to increase natural gas savings two-fold.

e. Multifamily Retrofit expects natural gas savings to finish the upcoming biennium 60 percent lower than 2018-2019 levels, resulting from the saturation of natural gas measures in this market, re-aligning expectations, and reductions in central boiler and central HVAC projects.

f. Commercial/Industrial Retrofit natural gas savings will be slightly lower than the previous biennium primarily due to the shift of many prescriptive measures to the Commercial Midstream model.

g. Two Commercial Rebates programs: Commercial Kitchens & Laundry (approximately 77 percent increase) and Commercial Midstream (approximately 140 percent increase—coincidental to point f above) expect significantly higher savings from the previous biennium. Plans to explore the expanded capabilities of the midstream model, expanded product offerings, and utility coordination are some of the key impacts.

G. Key Considerations Shaping PSE's 2020-2021 Portfolio Anticipated Expenditures

The primary driver of electric and natural gas Portfolio expenditures is the cost to acquire the targeted savings, and will be somewhat commensurate with the variations of savings by program in Residential Energy Management and Business Energy Management Sectors, Pilots and Regional Efficiency Programs.[67]

It is important to note, when comparing 2020-2021 anticipated expenditures to 2018-2019 budgets, that a direct savings-to-spending correlation isn't possible.

This is due to a variety of factors, including but not limited to energy code revisions, market saturation, customer measure acceptance, and other circumstances that account for a dynamic energy-efficiency marketplace. PSE bases its anticipated expenditures in the Portfolio Support, Research & Compliance, and Other Electric Programs on calculations that account for, but are not limited to:

- Number of staff necessary to support data and accounting systems needed to collect, archive and report on energy savings and expenditures,
- Number of staff required to create, update, and maintain digital energy efficiency customer portals,
- Staff required to provide direct interfacing with Energy Efficiency customers; at events, in outreach efforts, and on the telephone,
- System enhancements needed to meet evolving reporting and data security requirements,
- Marketing and communications required to drive energy-efficiency participation, and
- The number and scope of required evaluations and savings reviews.

1. 2020-2021 Electric Budget Key Drivers

The majority of the electric anticipated expenses of $176.47 million are directly related to program savings and customer incentives. Energy Efficiency forecasts that some programs' anticipated expenditures would increase, while others' will decrease or will be eliminated altogether, relative to the previous biennium.

[67] The exception is Conservation Voltage Regulation and Generation/Transmission savings projects. In accordance with condition (9)(c), these costs are recovered through PSE's general rate case process.

Overall, the Portfolio electric budget reflects a decrease from the 2018-2019 budget of approximately 2 percent ($183.83 million, versus a 2020-2021 total of $176.47 million).

The increases in the electric budget consider, but are not limited to the following key drivers:

a. All budgets reflect corporate labor overhead rates for the 2020-2021 period: 65 percent for 2020 and 2021. Micro-overhead[68] rates will be 21 percent.
b. The increase of approximately 55 percent in Customer Digital Services is a result of PSE inadvertently and unintentionally omitting a significant cost in Customer Awareness Tools in the previous biennium.[69]
c. Program staff plan a major upgrade of its Automated Benchmarking system, which will need to accommodate customer data supplied throughout the PSE territory, rather than only the City of Seattle, consistent with requirements outlined in House Bill 1257. This will result in an approximate 60 percent increase in the anticipated spend.
d. Low Income Weatherization's Funding Commitments resulted in an approximate 25 percent increase in the anticipated spend from the previous biennium.
e. PSE expects that the Single Family New Construction program, which gained initial traction in the previous biennium, will significantly increase its activity in the coming biennium.
f. Similarly, the Home Energy Reports program is expecting a three-fold increase in customer reports provided.

[68] This budget category reflects assessments (both labor and non-labor, such as office supplies, departmental meetings, group trainings, etc.) that were formerly calculated, aggregated, and then represented in the Labor category. A result of PSE accounting revisions implemented in 2017, this enhancement will provide a more direct view of expenditures that assess over a cost center, rather than directly to an order number. With 2017 actual costs now available for this budget category, it is possible to make a more accurate representation of anticipated future allocations.

[69] PSE corrected its error in the 2019 ACP, where the Customer Awareness Tools budget was accurately reflected.

g. Program staff expect that the additional efforts required to meet the requirements of increasing participation in the Pay for Performance program will result in an almost two-fold increase in expenditures.
h. Net Metering distribution system accounting[70] increased approximately $750,000 from the 2018-2019 biennium.

Highlights of key Energy Efficiency electric budget decreases include:

a. The Large Power Users/Self-Directed program is in the second and third year of its cycle in 2020-2021, when savings projects have been historically low, resulting in an approximate 50 percent spending reduction from the previous biennium.
b. The Events and Brochures functions are expected to have significantly lower expenses due to a re-focus on how general energy-efficiency information is presented and delivered to PSE customers.

2. 2020-2021 Natural Gas Budget Key Drivers

Similar to the electric Portfolio anticipated expenditures, savings acquisition costs are the primary driver of the natural gas budget of $36.2 million. These are largely a result of the continued low natural gas avoided costs, and energy code and standards updates.

These affect measure cost-effectiveness and PSE's concerted efforts to maintain a robust suite of natural gas offerings. In addition to eroding per-measure prescriptive savings values, there are also fewer available measures. In some cases, some measures become cost-ineffective—while the cost of implementing those measures continues to increase. Unlike the electric portfolio, natural gas low-cost prescriptive measures are meager.

PSE's adaptation to these ongoing conditions resulted in a natural gas budget that is 17 percent higher than the 2018-2019 BCP: $36.2 million, versus a 2018-2019 BCP figure of $31.07 million.

[70] As required by the Commission's accounting order in Docket UE-990016, which authorizes PSE to collect unbilled distribution services used by Customer-Generators.

The natural gas budget increases consider, but are not limited to the following key drivers:

a. All budgets reflect corporate labor overhead rates for the 2020-2021 period: 65 percent per year. Micro-overhead rates will be 21 percent.
b. As noted in the Electric Budgets Key Drivers discussion, the Single Family New Construction program expects to ramp up activity, and the Home Energy Reports program should expand significantly. Each has a commensurate budget increase.
c. The Low Income Weatherization natural gas budget reflects increased funding requirements, as well as increased natural gas conservation projects.
d. As was the case in the electric portfolio, the Customer Digital Services budget inadvertently and unintentionally omitted a sizeable amount from the 2018-2019 Plan. The 2020-2021 budget accurately reflects its inclusion, and doesn't necessarily represent incremental expenditures.

Highlights of key Energy Efficiency natural gas budget decreases are:

a. Costs of participating in NEEA's natural gas market transformation pilot have lessened for their 2020-2024 business plan. As a result of unused PSE ratepayer funding during the previous 5-year cycle, NEEA will refund approximately $1.5 million to PSE over the course of 2020-2021.[71] Therefore, there is an apparent reduction in budget from the 2018-2019 biennium. The budget figures exclude PSE staff costs.
b. As is the case in the electric portfolio, PSE expects the Events and Brochures functions to have significantly lower expenses due to a re-focus on how it presents and delivers energy-efficiency information to PSE customers.

H. 2020-2021 Sector-Level Savings and Budgets

Table IV-5 and Table IV-6 present the electric and natural gas budgets and savings goals by Energy Efficiency Sector. The electric savings values noted represent goals necessary to achieve the additional 5 percent required in the approved decoupling mechanism, which PSE discusses in further detail in Section IV.C.2. PSE presents detailed savings goals and budgets by program in Exhibit 1: *Savings and Budgets*.

[71] NEEA will true-up the actual amount due PSE by June of 2020, following its standard accounting procedures.

Table IV-5: 2020-2021 Savings Goals by Exhibit 1 Sector Grouping

2020-2021 Energy Efficiency				
Sector Savings Goals				
	REM	BEM	Pilots	Regional (NEEA + Generation)
Electric	172,370 MWh *19.7 aMW*	263,954 MWh *30.1 aMW*	15,080 MWh *1.7 aMW*	25,064 MWh *2.9 aMW*
Natural Gas	4,386,852 therms	3,067,664 therms	320,000 therms	0

Source - Exhibit 1: *Savings and Budgets*

Table IV-6: 2020-2021 Budgets by Exhibit 1 Sector Grouping

2020-2021 Energy Efficiency							
Sector Anticipated Expenditures							
	REM	BEM	Pilots	Regional (NEEA + Generation)	Portfolio Support	Research & Compliance	Other Electric Programs
Electric	$61,482,825	$78,252,846	$2,590,195	$9,841,195	$14,377,862	$6,533,169	$3,393,615
Natural Gas	$18,670,776	$9,277,714	$201,825	$3,864,081	$2,956,458	$1,019,210	$0
Sector Total	$80,153,601	$87,530,560	$2,792,020	$13,705,276	$17,334,320	$7,552,379	$3,393,615

Source - Exhibit 1: *Savings and Budgets*

1. Potential Penalties

PSE is subject to potential penalties for falling short of its Commission-approved electric and natural gas targets.

a. Electric Penalties

The EIA financial penalty of potentially $62 - $64[72] per MWh of savings shortfall applies to the Commission-approved EIA Savings Threshold. The decoupling penalty—which will be subject to the same financial penalty approach that is used for the EIA Penalty Threshold—applies only to the specific incremental decoupling amount.[73]

PSE adjusted the penalty amounts annually—beginning in 2007—for the rate of change in the inflation indicator, gross domestic product-implicit price deflator, per RCW 19.285.060(1). Electric penalties would apply only after PSE exhausts its available excess conservation from eligible previous biennia.[74]

PSE will exclude 23,564 MWh of NEEA savings from its EIA Target of 359,861 MWh to reach a proposed EIA Penalty Threshold of 336,297 MWh. PSE's Decoupling Threshold will be 17,993 MWh.

b. Natural Gas Penalty

PSE's potential penalty range in the case of a natural gas conservation shortfall is outlined in Section M.39 and M.43 of the Stipulation Agreement, Exhibit F of Order 01 in Docket UG-011571:

> "39. Achievement of annual targets for savings from cost-effective electricity conservation programs and from cost-effective natural gas programs, as established in Section D, shall be subject to a penalty mechanism. …*(Electric discussion replaced by Docket UE-100177)*…PSE shall compute, every two years, the total natural gas savings captured through PSE natural gas efficiency programs during each two-year time period, and divide this total by two, to determine an average annual natural gas savings achievement for that period. *[Continued on next page]*

[72] The indicated potential penalty amount is based on the 2018 rate of inflation—the latest available at the time of the 2020-2021 BCP development. The actual penalty amount will change, depending on the 2019-2020 inflation rates.

[73] PSE's Amended Petition for Decoupling Mechanisms, Docket Nos UE-121697 and UG-121705, page 17, Section G.31: "[…] Specifically, while the electric decoupling mechanism is in place, PSE will agree to achieve electric conservation five percent above the biennial targets set by the Commission, **and PSE will agree to voluntarily submit to financial penalties for failing to meet this higher level of conservation achievement.** […]" (emphasis added)

[74] At the beginning of the 2020-2021 biennium, PSE has 38,906 MWh of excess conservation available. This is the amount remaining following its 2014-2015 achievement. Per WAC 408-109-100(3)(c), PSE may apply that amount to potential shortfalls of either the 2016-2017 or 2020-2021 biennial achievement.

> These computations shall determine whether the Company achieved each of the minimum savings targets, on average. If the Company achieves its average annual savings goals, as determined with the Advisory Committee, during a two-year period, then no penalty will be applied for that two-year period. If the average annual savings targets are not achieved during a two-year period then a penalty is assessed according to Paragraph 43; the penalty applies only to each individual year in which that year's actual annual target is not met."
>
> "43. The financial penalties for failure to achieve the annual conservation savings targets are as follows.
>
> - Achieve savings that are 90 to 99% of the goal: $200,000 penalty applies
> - Achieve savings that are 75% to 89% of the goal: $500,000 penalty applies
> - Achieve savings that are less than 75% of the goal: $750,000 penalty applies"

As a standard practice, PSE will subtract NEEA's natural gas savings forecast from its natural gas CPA Pro-Rata Share to arrive at its proposed Natural Gas Penalty Threshold. At the time of the publication of the BCP, however, no natural gas savings are forecast for NEEA in the coming biennium. Therefore, PSE's Natural Gas Penalty Threshold will be 6.16 million therms.

PSE's proposed natural gas decoupling penalty ranges from $20,000 for meeting 4.5 percent to 5 percent of the natural gas decoupling threshold, $50,000 for meeting between 3.75 and 4.5 percent, and $75,000 for meeting less than 3.75 percent of its decoupling threshold.[75]

I. 2020-2021 DBtC Ratios

PSE attributes expenses to its DBtC that can be directly linked to customer benefits and directly linked to conservation savings. Direct benefit expenses currently exclude Labor (Program + Marketing Labor), Overhead, Marketing, and Employee Expenses.

The two examples below are the most useful measures of DBtC. All methodologies excludes Other Customer Programs' expenses.

[75] Docket UG-170034, Public Version Testimony, (UE-170033) 2017 GRC Piliaris direct, page 145 of 159.

1. Sector-Level DBtC

PSE calculates its DBtC at the Sector level, comparing the DBtC of its Sectors to the expenditures of those same Sectors. Energy Efficiency Sectors are: Residential Energy Management (REM), Business Energy Management (BEM), Pilots, and Regional Programs. This view results in four individual ratios.

This view compares the ratio of direct benefits provided to customers against the expenses of the programs that generated the commensurate electric or natural gas savings. As noted in the orange cells in the Sector View tabs in Exhibit 1: *Savings and Budgets*, the Sector-level calculations are:

Sector	Electric DBtC	Natural Gas DBtC
Residential	75%	75%
Business	76%	63%
Pilots with Uncertain Savings	55%	76%
Regional	63%	0%

2. Programs-Level DBtC

The second ratio that PSE uses to compare year-to-year DBtC ratios is its Programs view, which sums the above-noted Sectors:

$$\frac{\text{(Total value of REM + BEM + Pilots + Regional Programs DBtC expenses)}}{\text{(REM + BEM + Pilots + Regional Programs total costs).}}$$

This approach yields a DBtC electric ratio of 74.6 percent, and a natural gas DBtC ratio of 62.1 percent (70.7 percent without NEEA Natural Gas Market Transformation).

3. Portfolio-Level Expense Ratios

There is another potential method for calculating DBtC that is less suitable. It is prone to single-time charges, regulatory requirements, and outside influences. This ratio is therefore a less-useful view of PSE's DBtC because it does not represent direct benefit. Although some of these functions contribute some intrinsic level of customer benefit, year-to-year variances make direct comparisons less relevant.

The Portfolio view accounts for Energy Advisors, Market Integration, Strategic Planning, Market Research, and other Portfolio support costs (all part of the Portfolio Support and Research & Compliance Sectors), in addition to the Programs-Level view. This representation of DBtC only adds these functional groups' expenses to the already-calculated Programs-Level DBtC.

Rather than incorporate Portfolio Support and Research & Compliance in an overall DBtC ratio, it is preferable to compare these functions' year-to-year expenses directly instead, and separately from REM, BEM, Pilots and Regional Programs.

J. Portfolio Cost Effectiveness

Table IV-7 on page 92 presents the projected 2020-2021 electric and natural gas program cost-effectiveness estimates, as measured using the Total Resource Cost (TRC) test and the Utility Cost (UC) Test. It is important to note that cost effectiveness calculations performed for planning purposes rely on measure cost, customer incentive, and savings projections. PSE finalizes definitive cost-effectiveness rates only after PSE accumulates and reports actual costs. PSE will provide the 2020 actual cost-effectiveness results, based on 2020-2021 biennial estimates presented in this BCP in the Annual Report of Conservation Accomplishments in March 2021.

1. Application of Non-Energy Impacts

PSE's approach to cost-effectiveness incorporates RTF-calculated Non-Energy Impacts (NEIs) into the TRC calculation for the majority of electric prescriptive measures using RTF UES values. RTF-calculated NEIs now extend beyond simply water savings, as well; they include environmental impact, societal impact, as well as water savings. There are also Non-Energy Costs for a limited number of measures (heat pump water heaters installed in conditioned spaces,[76] for instance), where the installation of a measure actually results in reduced benefits. It is important to note that PSE uses only RTF-calculated NEIs and those validated in evaluation studies.[77]

PSE applied this approach to its suite of natural gas measures as well.

[76] The Residential Water Heat program requires that heat pump water heaters be installed in non-conditioned spaces.

[77] In addition to RTF-calculated NEIs, PSE also incorporates the regional NEI for ductless heat pumps that replace wood as a home's primary heating source.

The RTF indicates the first-year value of the applicable NEI,[78] and that value could be based on square footage or per unit (for instance, attic insulation versus showerheads). In its Exhibit 2 cost-effectiveness calculator, PSE then applies that first-year NEI value to the measure life to determine the total NEI value for each measure.

For its suite of prescriptive natural gas measures, PSE incorporated NEIs through (1) using the kWh-to-therm savings conversion tool for natural gas weatherization measures that are not indicated in RTF measure workbooks or based on RTF electric UES values, then (2) applying the RTF-calculated electric first-year NEI figure.

2. Low Income Weatherization Cost-Effectiveness

In the upcoming biennium, the Low Income Weatherization (LIW) program faces continued challenge to offer cost-effective measures. As this circumstance could possibly affect eligible customers' access to needed measures, program staff will continue to abide by LIW cost-effectiveness considerations put into place in the 2018-2019 biennium. Program staff are committed to sustaining the program's offerings and maximize the benefit that PSE provides to low-income customers, in spite of new administrative duties enacted by regulatory requirements. PSE plans to implement the following steps to its LIW-specific cost-effectiveness methodology.

a. Update Schedules 83 (Electric Conservation Service) and 183 (Natural Gas Conservation Service)

Historically, the LIW program had the latitude to offer a suite of measures which, taken in aggregate, were allowed to achieve a Total Resource Cost (TRC) of 0.667, per the special conditions in two Sections of PSE's Schedule 83, *Electricity Conservation Service*, and Schedule 183, *Natural Gas Conservation Service*. Section 4: Definitions, number aa (electric Total Resource Cost Test) and y (natural gas Total Resource Cost Test):

> … [ ] Where there are a significant amount of Non-quantifiable Benefits (or Costs), then Total Resource Cost may be up to 150 percent (150%) of the Energy Efficiency Cost Effectiveness Standard, with a Total Resource Cost benefit/cost ratio of 0.667 or greater.

[78] In many RTF workbooks, non-energy attributes—benefits or impacts—are referred to as Non-Energy Values in the Input/Output worksheet.

Non-quantifiable Benefits (or Costs) are defined in number p (electric) and o (natural gas) of Section 4:

> Benefits (or costs) of undertaking energy efficiency improvements, as determined by society and the utility. Benefits (or costs) may include, but are not limited to: legislative or regulatory mandates, support for regional Market Transformation programs, low income health and safety, low income energy efficiency or experimental and pilot programs. The Company may use these Non-quantifiable Benefits (or Costs) to demonstrate cost-effectiveness based on the Total Resource Cost Test.

The Energy Efficiency Cost Effectiveness Standard is defined as Avoided Cost in number a. of the Definitions Section of both Schedules. Furthermore, Section 9.a *Special Conditions* in both Schedules provided that LIW may provide funding to agencies that would result in a minimum measure TRC of 0.667.

For the 2020-2021 biennium, PSE proposes to keep language added in 2018 to Section 9.a of Schedules 83 and 183 for the LIW program, and revise the Sections to sustain a broader application of cost-effectiveness. The proposed language in electric Schedule 83 would read (the struck-through language represents the 2018-2019 version):

9. Special Conditions

a. Low Income: Low Income Customers are qualified by government agencies, using federal low-income guidelines. Approved Low Income agencies may receive Measure funding equal to the less of one hundred percent (100%) of the Measure Cost or the value that will result in a Total Resource Cost Benefit/Cost ratio of a minimum of 0.667. ~~*During the period of January 1, 2018 through December 31, 2019,*~~ M~~*m*~~easures will be deemed to be cost-effective if they meet either the Department of Commerce Weatherization Guide cost-effectiveness requirements, consistent with WAC 480-109-100(10)(a) or meet a TRC test of 0.667, whichever provides the greater benefit to qualifying Low-Income Customers. Funding is in accordance with funding described in Electric Energy Efficiency Schedule 201.

The same revised language will appear in the natural gas Schedule 183.

This will benefit eligible customers by allowing PSE to fund projects that either achieve a 1.0 SIR test ***or*** a 0.667 TRC, whichever results in the maximum measure value for the customer. PSE filed this revised tariff sheet language contemporaneously with the 2020-2021 BCP.

b. Exclude LIW from Portfolio-Level Cost-Effectiveness Calculations

Beginning with the 2019 Annual Conservation Plan, PSE excluded the LIW program from the Portfolio cost-effectiveness calculations. LIW electric and natural gas saving and expenditures, though, are still separately reported. Exhibit 2: *Cost-Effectiveness Calculations*' Summary page electric and natural gas tables reflect this approach.

3. 2020-2021 Portfolio Electric Cost-Effectiveness

Energy Efficiency's electric portfolio's cost-effectiveness considerations remain intact, with very little change from previous biennia. Reductions in RTF UES values and market saturation increase pressure on program staff to balance their programs' measure mixes. Electric avoided costs have been relatively stable since the last biennium. PSE estimates that all electric programs have a TRC benefit-to-cost ratio of over 1.0, with the overall Portfolio TRC estimate of 1.26. PSE calculates the overall electric Portfolio UC to be 1.54 for the coming biennium.

4. 2020-2021 Portfolio Natural Gas Cost Effectiveness

Natural gas avoided costs continue to be low, and codes and standards have made many natural gas measures cost-ineffective. The majority of natural gas measures are high-cost, with very long measure lives. Thus, Energy Efficiency program staff exercise skillful management in every program in order to sustain the Portfolio's natural gas offerings. The Portfolio natural gas calculations indicate a TRC of 1.28 for 2020-2021, while PSE calculates the UC to be 1.64.

PSE does not project NEEA natural gas savings in 2020-2021 for the Regional Natural Gas Market Transformation Initiative. Thus, the initiative will be hard-pressed to achieve cost-effectiveness in 2020-2021.

c. Conservation Benefit Adder

PSE also applied a 10 percent conservation benefit and risk adder, consistent with the electric program requirement discussed in condition (10)(a),[79] which states in part that PSE must demonstrate that the cost-effectiveness tests incorporate quantifiable non-energy benefits, a risk adder, and a 10 percent conservation benefit adder, consistent with the Council's approach.

The topic of a incorporating a 10 percent conservation credit and other adders was discussed in a Commission open meeting in November 2012, and at the April 2013 Commission workshop. The Commission issued no decision or Order on the topic.

5. 2020-2021 Cost-Effectiveness Estimates

As indicated in Table IV-7, the overall Portfolio exceeds an estimated TRC of 1.0 for its electric programs, consistent with the requirement of WAC 480-109-100(8).

PSE's natural gas conservation programs also exceed an overall TRC of 1.0.

Table IV-7: 2020-2021 Sector-Level Energy Efficiency Cost Effectiveness Estimates

Sector	Type	TRC	UC
Portfolio	Electric	1.26	1.54
	Natural Gas	1.28	1.64
Residential[80]	Electric	1.39	1.95
	Natural Gas	1.36	2.29
Business	Electric	1.48	1.84
	Natural Gas	1.78	1.91

[79] Although condition (10)(a) applies only to electric programs, PSE has consistently applied the conditions related to the EIA to its natural gas programs. The condition does not specifically indicate that the overall portfolio must achieve at least a TRC of 1.0, it is generally understood that "… Puget Sound Energy's portfolio must pass the TRC test. …" means a TRC benefit-to-cost ratio of at least 1.0.

[80] The indicated Residential cost-effectiveness ratios exclude the Low Income Weatherization figures. LIW cost-effectiveness is calculated and noted in the electric and natural gas program detail pages of Exhibit 2: Cost-Effectiveness Calculations.

K. Implementing Energy Efficiency Programs

Chapters 5 through 11 provide, by Sector (following the organization of Exhibit 1's Portfolio View), details of 2020-2021 Biennial Conservation Plan strategic initiatives that will be put into effect to meet PSE conservation targets.

PSE intentionally left this page blank.

V. Residential Energy Management Sector Overview

Consistent with the application of its adaptive management approach, the Residential Energy Management (REM) Sector has demonstrated exceptional results for over a decade. With a focus on maximizing customer participation and continuous improvement, the Sector will continue to provide its proven comprehensive mix of offerings to a wide range of customers throughout the PSE territory. Program staff will also make enhancements and revisions to several program strategies and measure offerings, consistent with its continuous improvement principles. It will also implement new and advanced programs in order to meet its 2020-2021 savings goals.

Program staff made many of these revisions to adapt to recently-enacted legislation, and updated RTF and PSE Deemed electric UES values: smart thermostats, refrigerators, and showerheads are noteworthy examples.[81] LED general-purpose lamps are particularly impacted by legislative requirements, as noted throughout this Plan.

Lighting EISA standards adopted by House Bill 1444 removed approximately 71 percent of the Retail Lighting savings: almost 24 of the total Portfolio savings. Replacing these highly cost-effective measures with higher-cost measures, such as Ductless Heat Pumps and Heat Pump Water Heaters, is particularly challenging. Additionally, accounting for market acceptance of some retail products, along with energy code updates, cost-effectiveness challenges, and increasing customer expectations are among the hurdles that REM program staff addressed in designing their 2020-2021 offerings, and will actively manage throughout the biennium. The following discussions will focus on several significant revisions that REM will implement in 2020-2021.

With few exceptions, REM's natural gas programs remained largely unaffected for 2020. Program staff are maintaining attentiveness to potential impacts on 2020 offerings.

A. Program Revisions

As a part of its consistent application of adaptive management principles, and in response to evolving market conditions, new requirements and updated codes, REM is making several revisions to its programs. In this section, PSE provides highlights of key changes.

[81] Program staff make prescriptive measure savings adjustments consistent with PSE's *Measure Revision Guidelines.*

1. Home Energy Assessments Revision

In past biennia, the Home Energy Assessments (HEA) program relied on highly cost-effective LED lamp and showerhead leave-behinds—provided to customers as part of the free onsite service—to maintain program cost-effectiveness. With the enactment of HB 1444, such a program is no longer cost-effective.

In response, program staff have created a modified Home Energy Assessment program that focuses more on a more targeted approach, providing in-home information and conservation advice, along with assistance in directly installing energy-efficiency measures for customers in hard-to-reach segments.

2. Home Energy Reports Program will Expand

In response to PSE's 2019 RFP, there is the potential for one or more new vendors to provide Home Energy Reports. Accordingly, PSE plans to expand its Home Energy Reports program in the next biennium, providing reports to up to 340,000 customers.

3. Low Income Weatherization Funding Requirements

The Low Income Weatherization program will be managing a number of different conservation-related requirements in the coming biennium, including managing funding made available through the 2016 Special Contract, low-income access to renewables, increased administration fees to agencies, and disburse a lump $2 million over five years, among others.

4. PSE Retires Thank You Kits

As a result of the loss of general-purpose LEDs, PSE must retire its thank-you kits, which had been distributed to customers participating in Home Appliance, Smart Thermostat, and Home Energy Assessment programs. These types of LEDs comprised the key element of the Thank You Kits.

5. More Programs are Pursuing Alternate Customer Access Channels

The midstream fulfillment model, which has proved successful for commercial HVAC and water heat products, is an attractive program augmentation to existing customer access channels. For instance, incenting distributors to stock more energy-efficient heat pumps and ductless heat pumps will benefit residential customers.

Similarly, if a residential customer has increased access to more energy-efficient water heaters in retail establishments, this may influence contractor behavior.

B. Attention to Hard-to-Reach/Proportionately Underserved Segments

Many of Residential Energy Management's (REM's) ongoing programs affect and provide services for several of the segments identified in the Council's 7th Power Plan,[82] including Low Income Weatherization (LIW), Multifamily Retrofit, Single Family Weatherization, Retail Lighting, and Retail Appliances. LIW in particular has been serving qualifying PSE customers for over two decades.

1. Adapting LIW Deliverables

As discussed in the upcoming LIW program highlights, the program will continue its favorable cost-effectiveness evaluation criteria for both electric and natural gas measures. This will ensure a continued suite of services that PSE can provide to this key constituency. Additional funding for low-income customers' access to renewables, increased administration fee funding, and lump-sum funding provided to agencies are anticipated to increase access to cost-effective conservation for this customer segment.

LIW also plans to complete a low-income needs assessment in 2020, and will continue its ductless heat pump upgrade collaboration with The Energy Project, providing no-cost incentives to eligible customers.

2. Manufactured Homes

As discussed in Chapter 3, during most of the past biennium, REM program staff made significant enhancements for this customer segment. Initiatives ranged from broader communications, increased incentives, and additional services that will continue into the next biennium.

[82] PSE provides a more extensive discussion on Hard-to-Reach/Proportionately Underserved segments in Chapter 3: Key Focus Areas, on page 34.

3. Enhanced Moderate Income Focus

As another potential hard-to-reach, proportionately underserved segment, REM will continue to explore opportunities to reach moderate-income[83] customers. PSE will offer increased rebate amounts on numerous space and water heat, and weatherization measures for this customer segment that does not qualify as low-income, but also may not have access to the resources of other customer segments.

The Home Energy Assessment program will also focus marketing efforts on areas with a high proportion of moderate-income customers.

4. Advanced Customer Communications through "Transcreation"

For PSE's English-as-a-second-language customers, there are some concepts that do not translate well from English to another language. In addition to providing word-for-word translation of PSE's services, PSE has implemented Transcreation. This novel tool allows staff to convey the concepts behind some of the more technical terms and ideas associated with conservation. Many of REM's programs have already undergone the transcreation process, and PSE will continue to refine the communications in the coming biennium.

C. Cost-Effectiveness Considerations

Program staff applied RTF-developed qualifying Non-Energy Impacts (NEIs) to evaluate the Total Resource Cost (TRC) of applicable measures, including wood smoke NEIs for its ductless heat pump offerings for homes that have electric heating, and heat primarily with wood.

Program staff will implement new program solutions and customer engagement strategies designed to maximize natural gas savings. REM is able to continue offering a respectable suite of natural gas incentives for PSE customers, with a 20 percent higher natural gas goal than in 2018-2019.

In addition, as discussed in various sections of the BCP, PSE adjusts the LIW program's cost-effectiveness criteria to ensure that the program can continue to offer a range of services for that customer segment.

[83] Moderate income is currently defined as 200 – 250 percent of federal poverty level. As PSE monitors the impact of the proposed Clean Energy Transformation Act (CETA) low-income weatherization income guideline changes, it will adaptively manage applicable programs to adjust moderate income eligibility criteria as needed.

1. REM Total Resource Cost B/C Ratios

The overall REM electric Total Resource Cost (TRC) benefit-to-cost ratio is 1.39 and the Utility Cost (UC) ratio is 1.95.

With the exception of Single Family Water Heat and Single Family New Construction, all electric programs are expected to achieve a TRC ratio above 1.0.[84]

On the natural gas side, REM's Single Family Water Heat (0.39 TRC), Single Family Weatherization (0.90 TRC), and Home Energy Reports (0.73 TRC) programs are estimated to achieve a TRC of less than 1.0 in 2020-2021. As these are all crucial components of REM's overall suite of conservation offerings, and because they do not negatively affect REM's overall natural gas TRC of 1.36, these are acceptable ratios.[85] PSE calculates that REM's UC ratio will be 2.29.

D. Tariff Schedule Adjustments

Residential Energy Management has minimal adjustments to its Conservation Scheduled in 2020-2021. The following Tariff Schedules are revised effective January 1, 2020:

- Schedule E/G 201, Low Income Weatherization: adjusted a reference to the Washington State Low Income Weatherization Manual.

E. Sector Highlights

For 2020-2021, notable REM highlights include:

- Coordination with regional utilities
  - Retail lighting strategies, in response to legislative initiatives.
  - Delivery of water-savings measures and energy savings with Cascade Water Alliance.
  - The Water Heat and Multifamily Retrofit programs collaborate on services and measure offerings with partnering area utilities.

[84] Although it is excluded from the REM Sector electric UC and TRC subtotals, LIW is also expected to achieve a TRC of 0.70, with a UC of 0.39.

[85] Also excluded from REM's natural gas UC and TRC subtotals, PSE expects the LIW program to achieve a TRC of 0.60, with a UC of 0.29.

- REM expects that the highly cost-effective Home Energy Report program will contribute more than 25 percent of the REM's electric savings and more than 30 percent of the Sector's natural gas savings.
- Retail Lighting, although continuing to offer rebates on linear LEDs, and some decorative lighting, will lose more than 70 percent of its savings from the previous biennium.
- The Single Family New Construction program is expected to increase its savings more than two-fold from the previous biennium, while bolstering its whole-house offerings with selected standalone measures.
- The Single Family Space Heat program will explore the potential of integrating a midstream fulfillment process.

Table V-1 provides a summary of the Residential Energy Management Sector's 2020-2021-savings goals, specific budgets, and cost-effectiveness estimates.

The following program discussions note several constituents of these figures. PSE thoroughly reviews details of specific budget and savings changes in the budget detail sheets for each program in Exhibit 1: *Savings and Budgets.*

In addition to the following program planning overview discussions, Exhibit 3: *Program Details*, contains comprehensive reviews of program offerings, customer incentives, target markets, and marketing and outreach initiatives.

Table V-1: 2020-2021 REM Conservation Targets, Budgets & Cost-Effectiveness Estimates

2020-2021 Residential Energy Management			
	Total Savings *Electric: MWh Natural Gas: Therms*	**Budgets**	**Total Resource Cost**
Electric	172,370 MWh	$61,482,825	1.39
aMW	*19.7*		
Natural Gas	4,386,852 therms	$18,670,776	1.36
Total Budget		$80,153,601	

Note: consistent with WAC 480-109-100(10)(b), Low Income Weatherization (LIW) electric figures are excluded from REM and Portfolio TRC ratios. LIW natural gas figures are also excluded from REM and Portfolio cost-effectiveness totals.

VI. Residential Energy Management Program Discussions

Chapter 6 provides program-specific discussions of plans that program staff put in place to meet customer expectations, achieve 2020-2021 savings goals, and ensure the prudent application of PSE customers' funding. PSE presents discussions in order of their Conservation Schedule order.

A. Low Income Weatherization

Schedules E/G 201

Key factors affecting the LIW program include, but are not limited to: continuing cost-effectiveness concerns; stipulations articulated in the 2013 Decoupling Order; requirements outlined in the 2017 Special Contract; conditions noted in the 2017 General Rate Case; and settlement terms listed in the 2018 Settlement in the Sale of Indirect Interests.

1. Cost-Effectiveness

For 2020-2021, there are a limited number of cost-effective measures available to the program. This circumstance puts eligible customers' access to needed measures at risk, and makes offering a cost-effective LIW program a potentially untenable proposition without revisions to its cost-effectiveness calculation methodology. For the 2020-2021 period, PSE plans to apply the following steps (also discussed in Chapter 4, Section J.2) to its electric and natural gas offerings.

a. Update Schedules 83 (Electric Conservation Service) and 183 (Natural Gas Conservation Service)

For the 2020-2021 biennium, PSE proposes to revise the Sections to allow for a broader application of cost-effectiveness, making more measures available to qualifying customers.

The revised language, applicable to the 2020-2021 biennium in both Schedules is:

> (…) Measures will be deemed to be cost-effective if they meet either the Department of Commerce Weatherization Guide cost-effectiveness requirements, consistent with WAC 480-109-100(10)(a) or meet a TRC test of 0.667, whichever provides the greater benefit to qualifying Low-Income Customers. (…)

PSE provides the complete revised language in electric Schedule 83 and natural gas Schedule 183 in Chapter 4, Section J.2.a.

PSE expects that the continuation of the last biennium's adaptation will make more measures available to qualifying customers by allowing PSE to fund projects that pass either the SIR test ***or*** a TRC of 0.667. PSE will file this revised tariff sheet language contemporaneously with the 2020-2021 BCP.

b. Exclude LIW from Portfolio-Level Cost-Effectiveness Calculations

PSE proposes that it excludes its LIW program from the overall electric and natural gas Portfolio cost-effectiveness calculations. LIW saving and expenditures, though, would continue to be tracked and reported.

With the implementation of these steps, PSE foresees a viable LIW program through the 2020-2021 biennium.

2. Decoupling Commitments

PSE made LIW-specific commitments in its decoupling Amended Petition, which was subsequently supported by the Commission's Order 07 in Dockets UE-121697 and UG-121705 (PSE Amended Petition for Decoupling Mechanisms, consolidated), and UE-130137 and UG-130138 (PSE's ERF, consolidated) Granting (PSE's decoupling) Petition and its associated Attachments.

PSE's decoupling amended petition indicated that it would contribute an additional $100,000 annually to its LIW Shareholder funding. In addition, PSE would add $500,000 to its annual electric Conservation Rider LIW funding. It is important to note that PSE did not add an incremental $500,000 each year since decoupling's approval (for example, $500,000 in 2014, $1 million in 2015, $1.5 million in 2016, etc.). That was not the intention of the language in the petition.

While it isn't possible to delineate these amounts from within the overall LIW budgets, Stakeholders can be confident that program staff developed the 2020-2021 plan with a great deal of attention to the requirement, and that the amounts are indeed included.

Some of the agreements that PSE made in the Decoupling Order and 2017 GRC are replicated in the 2018 Multiparty Settlement, in Docket U-180680.

3. Special Contract Requirements

The Special Contract that PSE and Microsoft developed in the middle of 2016, Docket UE-161123, provides that Microsoft make certain payments to PSE, including those that will benefit low-income customers in PSE's service territory.

The first indicates that Microsoft will contribute $0.000614 per delivered kWh to PSE's low-income HELP program. The second indicates that Microsoft will make an additional payment of $0.000307 per delivered kWh for the 20-year term of the Special Contract. PSE's Low Income Weatherization manager will manage the funds, paid into a separate account. PSE projects that, for the 20-year life of the contract, the LIW program will manage funds of approximately $145,000 per year[86] for the intended projects.

As the purpose of the commitment is to expand energy efficiency services and renewable energy technology to benefit eligible low-income customers in PSE's service territory, funds may be used for:

- Installation of advanced energy efficiency equipment in low-income weatherization projects, including but not limited to energy monitoring equipment and equipment capable of using "smart grid" technology,
- Distributed generation resources, including but not limited to on-site renewable energy resources, such as photovoltaic, community solar projects that benefit low-income customers, or
- Repairs needed for the installation of WA State Department of Commerce-approved efficiency upgrades.

For the 2020-2021 biennium, PSE plans that the funds will be applied primarily to low-income renewables projects.

4. 2018 Settlement in the Sale of Indirect Interests

Particularly impacting the LIW program planning are the numerous requirements agreed to in the 2018 Multiparty Settlement Stipulation and Agreement, Docket U-180680. Some were carried over from existing Orders and agreements.

[86] $145,000 is based on current, 2019 estimates. Funds will be managed with a high degree of rigor and stewardship, regardless of the amount.

Table VI-1 provides a description of and PSE's response to all LIW-specific requirements outlined in the 2018 Sale of Indirect I Settlement Stipulation.

Table VI-1: LIW Stipulations Outlined in U-180680

REQUIREMENT	FULFILLMENT
PSE and Puget Holdings commit to maintain existing low-income programs or as such programs may be modified in any future proceeding. In addition, PSE and Puget Holdings commit to increase the budgeted funding of low-income energy efficiency programs in future years at a level commensurate with increases in funding for energy efficiency programs for other residential customers through the CRAG process.	Change in LIW funding is budgeted to exceed change in REM funding.
PSE and Puget Holdings commit to continue to work with low-income agencies to address issues of low-income customers.	PSE will continue to work with low-income agencies.
PSE agrees to continue to fund low-income weatherization programs that the low-income agencies inform PSE they can feasibly achieve with an annual base funding level of no less than $4.43 million for low-income weatherization programs through December 31, 2022, which amount includes the following:	PSE will track spending to verify that a minimum of $4.43 million in low-income weatherization dollars are made available. It is also important to note that PSE will not limit the amount spent on approved Low Income Weatherization projects.
(a) continued annual contributions of $400,000 from shareholder funds for the Low-Income Weatherization Program; and	This requirement is carried over from the 2008 PSE Merger Settlement. PSE will bill Low-Income repair expenses directly to a shareholder accounting order number.
(b) continued annual contributions of $500,000 to the Low-Income Weatherization Program for so long as decoupling adopted in Dockets UE-121697 and UG-121705 continues.	This requirement is carried over from the 2013 Decoupling Settlement. The incremental $500,000 is included in each annual LIW budget submitted since 2014.
PSE shall contribute financial and staff resources to assist in conducting a low-income needs assessment study, which study is intended to provide better understanding of the needs related to energy affordability of low-income households in PSE's service territory, including data related to energy efficiency/weatherization needs and opportunities.	PSE is currently working with regulatory stakeholders to determine the scope and direction of the needs assessment. PSE is targeting June 1, 2020 to complete the needs assessment.

REQUIREMENT	FULFILLMENT
PSE shall maintain a project cost allowance of thirty percent (30%) for Administrative/Indirect Rate associated with the delivery of the Low-Income Weatherization Program. The appropriateness of the project cost allowance of thirty percent (30%) will be evaluated regularly through the low-income weatherization advisory committee.	PSE will continue to and will maintain a project costs allowance of 30%. PSE will consult its advisory group to determine the appropriateness of this rate ongoing.
Puget Holdings shall make a one-time contribution from shareholder funds in the amount of $2 million to the Low-Income Weatherization Program to be disbursed over a five-year period.	PSE will demonstrate that an additional $400,000 will be spent annually from a shareholder account.
PSE shall take reasonable steps to include equitable participation of low-income households in renewable energy programs available to residential customers.	In 2019, PSE utilized funds collected through the Green Power Program, combined with Department of Commerce dollars to award approximately $450,000 for solar grants to three low-income housing agencies. The purpose of the grants was to put more renewable energy out into the communities we serve, while sharing the benefits of solar with low-income communities. In 2020, PSE plans to award another $350,000 in grants to agencies serving low-income families in transition. By reducing the organizations energy costs, these organizations are able to put more money towards their core mission.

When added onto the already-significant LIW program management requirements, administrative obligations are increased, which impacts program effectiveness and costs.

5. LIW Program Plans

LIW will provide electric and natural gas incentives to partnering agencies that are the higher of either the PSE deemed measure cost or statewide average measure cost.

The program expects that there will be relatively little change in electric savings from the previous biennium. LIW will continue to make available a comprehensive electric measure mix, incorporating the full range of insulation measures, including duct sealing and structural sealing.

It will continue to offer refrigerator replacements, heat pumps, heat pump water heaters, and aerators. As with other residential programs impacted by the updated EISA codes and HB 1444 standards, LIW will now only offer LED lamps as a healthy and safety or repair measures. Thus, the savings derived will not be reported by the program, but as a part of a comprehensive offering, the customer will benefit.

Program staff expect that almost 25 percent of electric savings will be derived from ductless heat pumps, and that SIR measures[87] installed as a result of agencies using TREAT modeling, will add more than 1.2 million kWh of savings, with the majority of those savings resulting from ductless heat pumps.

By employing broader cost-effectiveness parameters, LIW will continue to offer a range of natural gas measures, including a variety of insulation, and duct and structure sealing. The program will also continue to offer showerheads, water heaters, and natural gas furnaces, which will add a significant portion of the savings. Program staff expect that natural gas savings for the program will increase by over 50 percent from 2018-2019, due to the City of Seattle exceeding boiler installation expectations since 2018. Additionally, since PSE's health/safety/repair reimbursements increased, other agencies have been able to expand their service to natural gas customers.

PSE will collaborate with internal and external stakeholders during the 2020-2021 biennium to disburse the Special Contract settlement funds in a way that engages agency partners to provide maximum benefit to low income customers throughout the PSE service territory. Additionally, program staff will continue to target low income customers in the manufactured home sector, using the findings of the Cadmus study, the Macquarie Transfer Needs Assessment, and the Department of Health cumulative impact assessment to inform program design and customer engagement. Overall, the goal of the low income program will be to be more data-driven, not just with regard to the manufactured home segment, but customer segments considered by the State as at risk or vulnerable.

In response to the results of the Cadmus study, some priority customer groups for the 2020-2021 biennium include:

- Spanish Speaking Customers
- Out of Park Customers

[87] The discussion on incorporation of SIR calculations, as applicable to Low Income Weatherization savings, begins on page 90.

PSE will leverage a variety of tactics including social media, community-based social marketing, email, and transcreated collateral to engage this hard to reach customer segment to participate in Weatherization and Bill Payment Assistance programs and other relevant PSE offerings. The program will put particular emphasis on ductless and air source heat pump offerings.

Finally, PSE will be concluding its manufactured home replacement pilot at the end of 2019, and will continue to explore scalable program designs in the 2020-2021 biennium. Once the proof of concept analysis is completed, PSE will explore more potential partnerships and funding sources to support a permanent program.

The LIW program will provide measures for approximately 1,500 customers per year, and contribute approximately 2 percent of the overall REM electric savings. The program's natural gas savings contribution will be slightly more than 1 percent of the overall Sector total.

B. Single Family Existing

Schedules E/G 214

This Sector group is the largest contributor of savings in REM and is made of the programs that operate under terms of Schedule 214, Existing Residential Single Family:

- Retail Lighting,
- Space and Water Heat,
- Home Energy Assessment,
- Home Appliances,
- Smart Thermostats,
- Showerheads,
- Weatherization, and
- Home Energy Reports.

In 2020-2021, the programs will focus on the quality of measures and initiatives while maximizing customer participation. The group will maximize customer value through market research intelligence, measuring success, assessing, refining, and testing. PSE implements this adaptive management approach to:

- Increase energy-efficiency equity within stores (attribution issue).
- Leverage rebate and product pricing structures.
- Enhance knowledge of the real barriers to customer participation.
- Provide programs designed to meet PSE customers' needs.

1. Retail Lighting

The primary focus of the Retail Lighting program is residential consumers, participating in the Company's program offerings at retail establishments, community events, and electronic channels such as ShopPSE for instance. Management of the Retail Lighting program includes the Lighting to Go program.

Although Energy Efficiency considers the Lighting to Go program a retail offering, its primary focus is the commercial market. Accordingly, PSE discusses Lighting to Go in more detail in the Commercial Rebates section of the Business Energy Management chapter, Section VIII.F.1, page 135.

The program is significantly impacted by the updated EISA (Energy Independence and Security Act) codes,[88] which were adopted in House Bill 1444. The program's electric savings will be reduced by approximately 71 percent from the 2018-2019 Plan, with the majority of general-purpose lighting within the bill's definitions removed. These LED lamps include, but are not limited to A-lamps, Candelabra, Globe, and Reflector. PSE will continue to coordinate with other local utilities to monitor for any rise in the sales volumes of incandescent and halogen bulbs in the absence of LED rebates.

The program will still contribute almost 20 percent of the REM electric savings in the coming biennium by continuing to offer rebates on patio style LED string lights, T8 LED fixtures, and T8 LED retrofit bulbs. Additionally, PSE's CRAG agreed that it was appropriate to report savings achieved through the end of January 2020, when existing Memorandums of Understanding (MOUs) expired.

PSE will implement a highly-focused marketing and promotional plan[89] that focuses on providing customers options to help choose the best energy-efficient products for them. Some strategies includes the creation of materials to encourage the adoption of specialty LEDs, limited-time offers, in-store events and signage, paid advertising (ferry and bus transit ads, for example), web banners, etc. The program will continue its implementation of the sales associate education guide and in-store training performed during store visits, as well as high-impact events hosted in stores.

Due to the nature of this business model, where retailers provide a vast array of product in various configurations, it isn't possible to track and report the number of actual customers served through Retail Lighting.

2. Space Heat

The Space Heat program will comprise a significant portion of the REM 2020-2021 electric and natural gas savings: over 14 percent almost 26 percent, respectively.

The primary measures in its program suite include ductless heat pumps, air source heat pumps, and forced air furnace-to-heat pump conversions.

New for 2020-2021, the program will augment the availability of products by piloting an effort to employ a midstream distribution model, which staff expect to generate

[88] Earlier in 2019, those codes were rolled back, but were "backstopped" by HB 1444.

[89] Detailed marketing plans are included in the Exhibit 3: *Program Details* discussions and Exhibit 7*: Marketing & Outreach Executive Summary.*

approximately 33 percent of the electric savings. This will be in addition to the incentives provided to customers purchasing products through contractors.

As a program that relies of contractor referrals, the midstream model is efficient, incentives distributors to carry more energy-efficient products, and will help PSE connect more effectively with its trade allies.

Natural gas savings will be derived from 95-percent efficient furnaces, 95-percent AFUE boilers, and integrated space and water heat systems. The majority of natural gas savings will be generated by furnaces. It is important to note that PSE is applying a Non-Energy Impact (NEI) value for ductless heat pumps that replace wood-burning appliances as the primary heat source. Using this NEI allowed the overall program to maintain its cost-effectiveness, and provided program staff with a more robust suite of measure offerings.

PSE will utilize direct customer marketing and collaborate with its Trade Ally Network (TAN) to maximize customer awareness and provide instant rebates. Staff expect the Space Heat program to provide services to almost 18,000 customers per year.

3. Water Heat

Similar to engage the midstream channel in the Space Heat program, in 2020-2021, PSE will pilot a midstream product offering to encourage distributors and contractors to stock and install higher-efficiency heat pump water heaters. In addition to contractor referrals, the program will also focus on increasing the product availability of natural gas tank and tankless water heaters to consumers through retail outlets. PSE continues to collaborate with other “I-5” utilities on coordinating these efforts.

The program will utilize data analytics to drive customer referrals to PSE’s Trade Ally Network (TAN), and ensure that customers understand their energy-efficiency options through clear and concise messaging. Program staff will also collaborate with manufacturers, distributors, and contractors to provide special discounts and limited-time customer offers.

PSE anticipates that it will provide Water Heat services to approximately 3,000 customers annually. Program staff expect it to generate 1 percent of REM’s total electric savings, and almost 3 percent of REM’s overall natural gas savings.

4. Home Energy Assessment

EISA code updates and HB 1444 standards had a significant impact on the Home Energy Assessment (HEA) program, primarily due to the high number of general-purpose LED lamps used as a key element of the value-add service.

As a result of these measures being eliminated, Energy Efficiency could not run the program as originally designed. Program staff continued to examine potential alternatives, including potential pilot activities, direct-install measures, bundling opportunities, etc., that would allow the Company to continue offering this valuable in-home service.

Their efforts led to a revised HEA program. The new offering will focus on providing onsite energy-efficiency information and measure installation assistance to customers in the moderate-income segment. HEA may find synergies with the Home Energy Reports program, which staff may employ to test the reliability of the savings. Program staff will focus on creating marketing and collateral communications that includes options for groups that may overlap with the target segment: in particular, low-income and manufactured home customers. Staff will ensure coordination with their Energy Efficiency colleagues to provide the broadest spectrum of services.

PSE expects that the revised HEA program will generate approximately 3 percent of the overall REM electric savings.

5. Home Appliances

Until updated avoided costs are confirmed in the final 2019 IRP, Energy Efficiency plans to continue the appliance decommissioning measure. Depending on cost-effectiveness revisions and Regional Technical Forum (RTF) analyses, this may only be for the start of the upcoming biennium. PSE may need to retire these measures during the biennium.

As a result of updated EISA codes incorporated into HB 1444 standards, Energy Efficiency retired the Thank You kits provided to customers who participated in a Home Appliance offering. Additionally, due to cost-effectiveness issues, the program will no longer offer rebates on refrigerators. Home Appliances' electric savings are expected to finish the upcoming biennium approximately 70 percent lower than in 2018-2019, with a 50 percent drop in natural gas savings over the same period.

The program will base its planned electric savings on Energy Star® electric clothes dryers—both vented and ventless—faucet aerators, and clothes washers. PSE will also report natural gas savings for clothes washers, aerators and a small number of showerheads installed in PSE gas-only territories where natural gas is the primary water heat fuel source (for instance, a qualifying clothes washer installed in the Seattle City Light service territory).

The Home Appliance program is exploring the potential of developing an instant rebate validation concept, using a coupon—either in-store, through an app, etc. —applied at the point-of-sale. The program's marketing will focus on limited-time offers, in-store events, and signage, social and earned media, direct mail and email, website and paid advertising.

In the coming biennium, Home Appliances will provide incentives for approximately 25,000 customers per year. The program will comprise almost 2 percent of the total REM electric and less than 1 percent total REM natural gas savings.

6. Smart Thermostat

PSE revised the program name from the 2018-2019 "Web-Enabled Thermostats" to "Smart Thermostats" in 2020-2021, to denote that PSE will issue rebates for Energy Star® smart thermostats that control electric heating in addition to gas heating in residential structures.

PSE projects that the number of smart thermostats installed controlling natural gas heat will be substantially higher than those controlling electric heat—a greater than five-fold difference. The program may add an instant rebate option for purchases made through online channels, maximizing the ease of program participation for customers. In 2020-2021, program staff will focus on improving the customer training associated with the installation of smart thermostats in order to maximize the effective savings. Staff also recognize that smart thermostats provide a mechanism for potential demand response pilots.

PSE forecasts that the program will serve approximately 11,000 customers annually. Savings for this measure will constitute almost 1 percent of the overall REM electric savings. The program's natural gas savings will make a up a large percentage of total REM savings—almost 15 percent—as gas is the primary heating fuel for the majority of eligible PSE customers.

7. Showerheads

In the upcoming biennium, PSE will communicate a variety of showerhead purchasing options to electric and natural gas customers, and streamline the purchasing process with clear point-of-sale materials and improved online functionality. Examples include instant rebates in retail stores, pop-up retail events, and an improved online experience at ShopPSE.

Updated standards enumerated in HB 1444, and the requirement to meet the requirements in the California Cod of Regulations, Title 20, Section 1605.3 makes 2.0 Gallons per Minute (GPM) the base efficiency at the start of 2021. Therefore, some measures' rebates will end, and the above-code energy savings will be lower for remaining measures.

Customer communications will emphasize customer choices and that high-efficiency showerheads do not necessarily equate to a low-quality shower. Staff are also investigating the potential of shifting its current pop-up retail events to an enhanced online ShopPSE platform in the coming biennium. In addition to a variety of showerheads and showerstart adaptors, the program will continue to offer WaterSense faucets (including efficient aerators), offered through retail delivery, online, and mail-in request.

Program staff project an electric anticipated showerhead savings increase of approximately 39 percent from the previous biennium, and approximately 65 percent savings reduction in natural gas. Program staff plan to enhance customers' access to efficient showerheads through a more robust alternative to its existing online store, ShopPSE. It is anticipated that the offering will increase the electric savings. The natural gas program savings will see a greater impact from the updated efficiency standards in HB 1444.

PSE expects to serve approximately 42,000 customers per year in the coming biennium. The showerhead program will contribute approximately 2 percent to the REM electric savings, and almost 3 percent of natural gas savings in 2020-2021.

8. Weatherization

PSE's Single Family Weatherization is one of REM's long-standing programs, and its suite of offerings remains largely unchanged from the last biennium. Similar to other programs affected by marketplace conditions and RTF UES value adjustments, savings values are lower than the previous biennium. The Weatherization program has adapted its complement of measure offerings for the coming biennium to minimize potential shortfalls. The Weatherization program is also integral in Energy Efficiency's focus on all of the shell measures installed in manufactured homes—including duct sealing—as well as its standard suite of insulation, sealing, and window measures.

There is a fairly even distribution of electric and natural gas savings across the wide variety of offerings, with Prescriptive Duct Sealing and Insulation, and Single-Pane Windows garnering the higher savings quantities. The majority of weatherization measures are calculated on a square-foot basis (insulation, windows, for instance).

Program staff are exploring the potential to bundle shell measures and offer higher incentives to customers that pursue a more "whole house" approach. The program will also offer a new measure: combined air sealing and insulation. The Weatherization program will rely on its TAN partners to install the qualifying measures and provide instant rebates, and expects to install one or more measures in approximately 6,000 customers' homes annually.

PSE expects that the Weatherization program will contribute approximately 2 percent to the overall REM electric 2020-2021 savings. On the natural gas side of the program, contributions to the overall REM Sector savings will be approximately 16 percent.

9. Home Energy Reports

In the upcoming biennium, PSE plans to expand its Home Energy Reports (HER) program, providing approximately 150,000 additional reports to participating customers, with a more evenly-distributed electric to natural gas ratio than in prior biennia. Program staff expect that this expansion can result in an approximate four-fold increase in electric savings from the previous biennium, and a ten-fold increase in natural gas savings from the 2018-2019 Plan.[90] PSE will provide the reports via paper and electronic media. Additionally, as a part of its focus on manufactured home customers, PSE provides Home Energy Reports to approximately 30,000 manufactured home customers.

PSE will continue to enhance and adapt the energy saving messaging provided to customers based on their input and feedback. PSE will also evaluate this program on an annual basis, as it has since the program's inception. For planning purposes, a deemed value, based on the previous year's actual is used, while the verified savings trues up the reported savings in the following year.

Home Energy Reports will make up more than 26 percent of REM electric savings and almost 35 percent of REM natural gas savings in 2020-2021.

10. Overall Single Family Existing Savings Contribution

Overall, the Single Family Existing suite of programs will contribute roughly 76 percent of the total 2020-2021 electric savings for the REM Sector, while its natural gas savings make up a substantial 93 percent of the 2020-2021 total.

[90] It should be noted that PSE inadvertently and unintentional omitted a portion of planned natural gas savings in the 2018-2019 plan, thus inflating the biennial variance.

C. Moderate-Income Residences

Although termed a pilot program, the Moderate Income pilot does not rely on uncertain savings. It is therefore excluded from the Pilots with Uncertain Savings line of Exhibit 1. In fact, the program will not attribute any savings at all; savings generated from this initiative will be reported through the Single Family Water Heat, Space Heat, Weatherization, or Multifamily programs. Indicated 2020-2021 budgets represent only program staff administration or marketing expenses.

The intent of the program is to address a potentially hard-to-reach customer segment. Moderate income customers do not quite meet the qualifications of low-income customers, and quite often do not have the same resources as other customer segments. The optimal program operation will be in conjunction with property portfolio managers or owners.

Program staff expect that PSE may serve as many as 1,000 moderate-income customers through this effort, resulting in an approximate 10 percent increase in the servicing programs: Single Family Space & Water Heat, and Weatherization.

D. Single Family New Construction

Schedule E/G 215

In recent years, program staff worked with the Northwest Energy Efficiency Alliance to refine the REM/Rate™ modeling database in order to provide accurate whole-house savings models. Doing so allowed PSE to offer prescriptive whole house—versus component—incentives for new construction. This approach will also align well with Built Green® certification standards, and provide for potential new measures in the future, based on their models. In response to the current construction boom, program staff designed the retailer incentive to encourage builders to bring the entire structure to a 20 percent-better-than-code efficiency prior to construction completion.[91] Certified energy rates develop energy models for participating homes. If efficiencies can't be designed into the structure, it represents a lost opportunity.

[91] PSE expects that, with the passage of more stringent building codes in 2020, program cost-effectiveness will limit cost-effective opportunities to exceed code for the Single Family New Construction whole-building approach. However, the ability to capture energy efficiency savings from projects that exceed minimum code efficiencies will still be present.

PSE will offer four whole-home electric prescriptive measures: two all-electric homes, and two dual-fuel homes. Each is split between four-and five-star Built Green standards. Its natural gas offerings will be for natural gas-heated homes.

Certain prescriptive measures will also be offered to supplement the whole-home suite of measures. PSE expects that work establish to design these offerings in the previous biennium will yield dividends in the coming biennium. Electric savings are expected to increase two-fold, while natural gas savings will similarly increase.

PSE will also offer two manufactured home incentives: one for Energy Star®, and one for NEEM (National Energy Efficient Manufactured homes) 2.0 standards. PSE is coordinating its efforts to influence customer's purchase of efficient manufactured homes with NEEA. PSE expects to provide over 100 Single Family New Construction incentives per year in the coming biennium.

PSE expects that the Single Family New Construction program will add almost 1 percent of the overall electric savings, and slightly over 1 percent of REM's natural gas savings.

E. Multifamily Retrofit

Schedules E/G 217

In 2020-2021, the Multifamily Retrofit program will provide comprehensive whole-building and property design services that aggregate both residential and commercial (common area) conservation opportunities. Multifamily campuses may consist of a combination of building types, and may include two to four buildings. Program staff developed this approach to reduce customer confusion and create residential program consistencies.

Similar to several REM programs impacted by EISA code and HB 1444 standard updates, more limited savings opportunities required program staff to adaptively managing its overall suite of offerings. The extensive array of electric measures would be comprised of both calculated, custom, and prescriptive measure types. Live voltage and web-enabled thermostats become standard offerings, as will common-area HVAC, variable-frequency drives, heat-recovery ventilators, and tub spout diverters. Only savings from general-purpose LED lamps that are directly installed in place of incandescent lamps will be reported for 2020. These will then be phased out in 2021. On the natural gas side, the program will add a conservation building tune-up measure, and HVAC controls to its existing suite of tankless 0.90 EF (Efficiency Factor) and storage tank 0.67 EF natural gas water heater, insulation, boilers, and window measures.

The Multifamily Retrofit program partners with several multifamily associations who manage industry events to generate energy-efficiency leads. The program will also work with the Energy Efficient Communities team to develop and implement target outreach strategies for both business partners and customers.

Program staff will communicate with property managers, owner, and tenets through quarterly e-newsletters, and they are investigating the potential of providing energy-use monitoring devices.

The program typically uses a bundled approach to provide print advertisements in trade publications, direct mail and E-blasts, social media, television advertisements, and contractor advertising, among others.

1. Strategic Energy Management

The program will continue its Strategic Energy Management offering, which it implemented in the 2016-2017 biennium. Leveraging the concepts established in the Commercial Strategic Energy Management program, the innovative service would engage property owners, managers, maintenance staff, and residents to achieve electric energy cost reductions of 5 percent over the property portfolio baseline. Program staff will manage the activities of a third-party implementer in a controlled rollout to a limited number of qualifying properties.

PSE will offer customers who meet the minimum consumption standards—at no cost to them—the development of a portfolio baseline, a portfolio energy management plan, energy management workshops, performance monitoring, and tenant gamification (contests, challenges, etc.). This interaction would also raise awareness of PSE energy efficiency initiatives in general, and create sustainable energy management practices.

Multifamily Retrofit will continue their “battle of the buildings” energy competition to motivate behavior change even further. Program staff will develop an array of prizes, and hopes to leverage Energy Star® resources. They are also exploring the continuation of portfolio benchmarking, which has proven to be a valuable gates to retrofit projects outside of SEM efforts.

The Multifamily Retrofit program expects to serve approximately 35,000 units annually. Staff expect that there will be a reduction in savings due to savings value and cost-effectiveness updates from its 2018-2019 Plan: approximately 25 percent in electric, and slightly more than 60 percent in natural gas. Program staff expect the program to provide 14 percent of the overall REM 2020-2021 electric savings, while its natural gas efforts will comprise slightly more than 1 percent of the Sector savings.

F. Multifamily New Construction

For 2020-2021, program staff will continue vendor-implemented efforts to maximize market penetration, including facilitating charrettes with members of the design community. These provide technical energy efficiency assistance and assure that structures have efficiency designed into them. This will build on momentum created in the previous biennium, and program staff anticipate that the program will surpass its 2018-2019 electric Plan by more than 90 percent, and will match its natural gas 2018-2019 Plan. Incentives are calculated on a square-foot basis, rather than a per-measure basis; this is more consistent with industry standards.

PSE also focuses on the affordable housing segment by ensuring that the program is aligned with the current Washington State Housing and Finance Commission guidelines, and by providing increased incentives for affordable multifamily new construction. These incentives help builders meet “total development cost per unit” loan requirements.

As new codes and standards take effect in 2020, there will be fewer savings opportunities. To compensate, program staff will drive to build on the continued demand and growth of a regional housing supply. The program will also create greater awareness through in-person and online presence with developers, renters, condominium buyers, and communities, concentrating on engaging decision-makers early in the design process. It will also develop post-construction marketing collateral that identify energy efficiency upgrades, and create letters to new residents, in-unit upgrades information, project completion plaques, and on-site project celebration events.

As is the case with commercial new construction projects, savings are often based on construction that may be underway for a period of more than one or two years, and can often be thought of as “lumpy”; a project with potentially considerable savings may be delayed or scaled back with little warning. The program’s electric and natural gas measures will consist of three whole-building options and an affordable housing offering.

The Multifamily New Construction program expects to serve almost 40 buildings, representing almost 7,500 units over the course of the biennium. The program’s contribution to overall REM 2020-2021 electric savings will be approximately 6 percent and approximately 3 percent in natural gas savings.

VII. Business Energy Management Sector Overview

The Business Energy Management (BEM) Sector has consistently achieved superior results through its proactive application of continuous improvement and adaptive management principles for almost two decades. By implementing strategies outlined in this Plan, PSE anticipates that this trend will continue in the next biennium. For 2020-2021, BEM program staff responded to customer feedback, technology advancements, process efficiencies, input from other regional utilities, regulatory requirements, and marketplace dynamics in designing wide-ranging programs, PSE forecasts that these will meet savings targets while prudently applying its customers' funding.

The Sector will continue to offer its proven comprehensive mix of offerings to a wide range of customers throughout the PSE territory. Program staff will also make enhancements and revisions to several program strategies and measure offerings, consistent with its continuous improvement principles.

A. Program Revisions

BEM program staff applied creative adaptation to their programs during the 2020-2021 planning process. A key electric program enhancement is the Sector's continued focus on adaptation to evolving market technologies and streamlining of business lighting project implementation processes. This initiative will significantly reduce customer confusion and application paperwork required of business customers. Program staff expect that the improvement will yield additional savings, maximize customer satisfaction, and improve trade ally relations. In fact, in the 2020-2021 biennium, business lighting will comprise almost 36 percent of all BEM electric savings. While the majority of BEM program offerings remain stable into 2020-2021, several other key developments are noteworthy.

1. Industrial Grants Becomes a Standalone Program

BEM's focus on industrial customers led to the creation of a standalone Industrial Energy Management program. A key enhancement for this potentially hard-to-reach customer segment is that Energy Efficiency will manage the program using in-house Energy Management Engineers (EMEs). PSE expects that this will lead to a more consistent flow of energy-efficiency projects, achieve greater synergies with other BEM programs, and broaden its reach to a greater number of industrial-class customers.

2. Indoor Agriculture Impacted by LED Lighting Saturation

As the indoor agriculture market matures, LED lighting installations have begun to gradually decelerate. Program staff have developed a standardized per-square foot incentive calculation to help maximize participation, and will continue to provide new construction grants for new or expanding facilities. PSE will offer custom incentives for indoor agricultural projects that include HVAC, dehumidification, and heat recovery as well.

3. Commercial Midstream is Expanding

Launched as a pilot in 2018, Energy Efficiency has expanded the Commercial Midstream program for 2020-2021. The program is considering expanding the breadth of product offerings, there is a potential that the Commercial Kitchens & Laundry may also employ the midstream model, and the Commercial HVAC program is investigating the possibility of moving ductless heat pumps to the midstream model.

4. Commercial Rebates Programs Noticeably Increase Savings Goals

The Commercial Rebates group (Lighting to Go, Commercial Kitchens & Laundry, Commercial HVAC, Commercial Midstream, and Small Business Direct Install) plan to increase their electric savings by more than 25 percent, and the natural gas savings by almost 90 percent. These increases are made possible by program staff potentially optimizing the midstream fulfillment model, partnering with other regional utilities, and broadening the scope of their measure offerings.

5. Leveraging Relationships with “I-5” Utilities

As noted in Chapter 3’s discussion on utility coordination that enhances the customer experience and expand opportunities to collaborate, BEM programs assumed leadership roles in several joint-utility initiatives. The Commercial Kitchens & Laundry program manages a single application for applicable customers in numerous utility territories. There is also a proposed agreement between PSE and Snohomish County PUD on the joint delivery of the Small Business Direct Install program, with potentially more on the horizon. PSE is also coordinating custom projects with Tacoma Power, Snohomish County PUD, and Seattle City Light. BEM’s updated Existing Building Commissioning (EBCx) program also coordinates with Seattle City Lights on the Building Tune-up Accelerator.

PSE also partners with the Electric League of the Pacific Northwest, the Association of Energy Engineers (AEE), Snohomish County PUD, Seattle City Light, and other utilities to sponsor the Power Business Conference and AEE West conferences, focused on promoting energy efficiency in the commercial sector.

B. Attention to Hard-to-Reach/Proportionately Underserved Segments

Many of Business Energy Management's (BEM's) programs address several of the hard-to-reach, potentially underserved segments identified in the Council's 7th Power Plan,[92] including the Small Business Direct Install program. BEM's Custom Lighting Grant program also provides valuable services to commercial tenants, and PSE's Community Blitzes[93] call on several businesses that may be unfamiliar with how to participate in Energy Efficiency's programs. BEM's newly-created Industrial Energy Management program and Large Power User/Self-Directed program also target industrial customers by providing specific services for this potentially hard-to-reach customer segment.

Throughout the 2020-2021 planning process, BEM program staff integrated considerations for how PSE would optimally serve these segments into their program designs. Although reviewed in more detail in the coming program discussions, PSE provides brief highlights here.

1. Small Business Direct Install Programs

The Small Business Direct Install program combines program staff management expertise to bring consistent messaging, comprehensive measure offerings, and broad outreach strategies to small businesses in agricultural, small to medium hospitality, and the commercial tenant potentially hard-to-reach customer segments. Program staff are thoroughly familiar with the unique requirements of each sector, many of which are typically in rural locations and have limited windows to evaluate and install efficient equipment. Program staff have expanded the suite of energy efficiency solutions that will address customers' needs.

Program staff will also expand the successful small business "blitzes", integrating visits to smaller, more geographically adjacent locations, and visiting small business owners who may also be commercial tenants.

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[92] PSE provides a more extensive discussion on Hard-to-Reach/Proportionately Underserved segments in Chapter 3: Key Focus Areas, on page 34.

[93] PSE discusses its Community Blitzes in Chapter 11: Portfolio Support, on page 155.

Measure applications will also be easier for customers to complete, and Energy Efficiency will gear its communications to the customers' business needs, facilitating potential for sector partnerships, and providing information for those English-as-a-second-language customers.

The program is also expanding its outreach efforts to include indigenous tribes.

2. Industrial Customers

As discussed in the previous section, PSE will provide a unique program that focuses on this market segment, with a comprehensive suite of offerings, including Industrial Strategic Energy Management, Industrial Tune-Up services, custom project development, and outreach to small industrial customer through equipment suppliers and trade allies. Other large power users (some of whom are classified as industrial) often qualify for prescriptive measures in addition to custom grants provided by PSE's Large Power User/Self-Directed program and its C/I Retrofit program.

C. Cost-Effectiveness Considerations

PSE calculates that the overall BEM Sector electric TRC will be 1.48, with a calculated UC of 1.84. With the exception of the High Voltage/Self-Directed (non-449) program, with an estimated TRC B/C ratio of 0.90,[94] all BEM electric programs will achieve a TRC benefit/cost ratio of over 1.0. The Sector will apply Non-Energy Impact figures in the Commercial Strategic Energy Management program, consistent with the findings in SBW Consulting Inc.'s 2013 evaluation study.[95]

BEM expects to finish the 2020-2021 biennium with a natural gas TRC of 1.78, and a UC of 1.91. Natural gas offerings are impacted by the continued low avoided cost of natural gas in 2020-2021. The Sector will be consistent with the Commission's policy statement on the treatment of natural gas cost-effectiveness calculation.[96]

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[94] When EMEs review High Voltage/Self-Directed RFPs during the competitive phase, some projects are accepted that have a projected TRC of slightly less than 1.0 if the effect on the program in negligible. The indicated TRC represents only a snapshot within the overall 4-year program cycle, which often results in uneven savings from year-to-year.

[95] This study, *Resource Conservation Manager* [sic] *Program Evaluation, November 25, 2013*, indicated that a ratio of 37 percent per project is appropriate. NEIs in RCM projects account for environmental benefits other than water savings. Sewage, garbage, recycling reduction and lower operations & maintenance costs, for instance.

[96] Docket UG-121207, Policy Statement on the Evaluation of the Cost-Effectiveness of Natural Gas Conservation Programs.

As a result, calculations indicate that only the Commercial Midstream program (0.95 TRC) may finish the biennium with a TRC below 1.0 in the BEM sector.

D. Tariff Schedule Adjustments

BEM has drafted revisions to the following Schedules for the upcoming biennium:

PSE removed fuel conversion/fuel switching discussions from the Availability or Measures section of each electric Schedule:

- 250-C/I Retrofit
- 251-C/I New Construction
- 258-Large Power User/Self-Directed
- 262- Commercial Rebates

E. Sector Highlights

For 2020-2021, notable BEM highlights include:

- Increased incentives for custom projects.
- In order to maximize the savings potential in custom lighting projects, PSE will offer increased incentives to customers that bundle controls with their fixture upgrades.
- BEM is revising the name of its Commercial Building Tune-Up program to a more industry-standard Existing Building Commissioning (EBCx).
- Program staff are considering expanding the Commercial Midstream model to include: Commercial Kitchens & Laundry; moving ductless heat pumps from the Commercial HVAC program to the Midstream program; and broaden its offerings to include additional measures.
- The Small Business Direct Install program will broaden its offerings to include HVAC measures, refine its approach to agricultural outreach, and provide service materials to indigenous tribes.
- The Commercial Strategic Energy Management (CSEM) program will begin the upgrading of its software systems used to benchmark and calculate energy savings in order to provide a more modern platform and system that can accommodate more customers.

Table VII-1 provides a summary of BEM's 2020-2021 BCP budgets, savings goals, and cost-effectiveness estimates. PSE provides program plan discussions in the following sections, with comprehensive reviews of target markets, marketing and outreach initiatives, and customer incentives contained in Exhibit 3: *Program Details*.

PSE provides comprehensive information on specific savings and budget data in the detail sheets for each program in Exhibit 1: *Savings and Budgets*.

Table VII-1: 2020-2021 BEM Conservation Targets, Budgets & Cost-Effectiveness Estimates

2020-2021 Business Energy Management			
	Total Savings *Electric: MWh Natural Gas: Therms*	**Budgets**	**Total Resource Cost**
Electric	263,954 MWh	$78,252,846	1.48
aMW	*30.1*		
Natural Gas	3,067,664 Therms	$9,277,714	1.78
Total Budget		$87,530,560	

VIII. Business Energy Management Program Discussions

Chapter 8 provides program-specific discussions of plans that program staff put in place to meet customer expectations, achieve 2020-2021 savings goals, and ensure the prudent application of PSE customers' funding. PSE presents discussions in order of their Conservation Schedule number.

A. Commercial/Industrial (C/I) Retrofit

Schedules E/G 250

The team of EMEs, supervisors and contract administration staff will engage with customers, developers, contractors and engineers to develop, evaluate, manage, and verify custom grants for both lighting-specific and other retrofit projects during this upcoming biennium. In addition, the staff will provide outside evaluation support, participate on RTF subcommittees and inter-utility initiatives, and contribute to a variety of NEEA advisory committees. In 2020-2021, this BEM group will expand its marketing and trade ally relations in order to increase electric savings from its 2018-2019 Plan.

In the upcoming biennium, PSE will consider funding any cost-effective measure that provides quantifiable, cost-effective energy savings. Electric, non-lighting incentives will be 35 per kWh, up to 70 percent of a project or incremental cost, while incentives for natural gas custom grants will be $5.00 per therm, up to 70 percent of the project or incremental cost. These adjustments are consistent with current industry standards. Typical measures include variable frequency drives (VFDs), chiller upgrades, boiler replacements, compressed air system upgrades, refrigeration system improvements, etc. PSE will continue its Advance Rooftop Controls (ARC) offering, which partners with other "I-5" utilities to standardize applications and incentives, creating a seamless customer experience. Also in coordination with the I-5 utilities, PSE is pursuing ways in which custom grants can be seamlessly managed across different jurisdictions. PSE is also exploring the potential of expanding the scope of industrial measures.

The C/I Retrofit team will rely on internal PSE channels, including Business Services, Energy Efficiency Communities contacts to assist in awareness and project lead generation. The Energy Efficient Communities team will conduct presentations to a range of constituents including local governments. Additionally, BEM will be increasing its engagement efforts with external partners such as trade allies, engineering design firms and professional organizations in order to both increase awareness and generate more projects.

The group's marketing materials and communication pieces will be more awareness-driving than project-generation focused and its internet focus will be on providing more effective program offerings communication. Program staff are also engaged in developing and providing new incentive payment mechanisms, such as on-bill incentive payments/credits.

The C/I Retrofit team expects to manage electric and natural gas projects affecting approximately 1,800 sites annually.

1. Custom Lighting Grants

In 2020-2021 C/I Retrofit Custom Lighting Grants will comprise more than 70 percent of the C/I Retrofit group's electric savings. The program manages custom lighting grants for upgrades to commercial, industrial, agricultural, and street lighting projects, up to 70 percent of the project cost.

The program is planning to increase their custom lighting incentives, and will offer increased incentives for customers that bundle lighting controls with fixtures to maximize electric savings. The program is also pursuing improvements to streamline the application for small-quantity fixture replacements, and a standardized approach for tenant improvement projects. The program will also offer tiered incentive levels:

- Retrofit lamp, CFL to LED or HID to LED: $0.125/kWh.
- Full retrofit kit or a new fixture: $0.175/kWh.
- Adding a new automatic control: the incentive goes up $0.05/kWh.

Program staff are also exploring the potential of working directly with property managers and school districts to enhance their understanding of the value proposition for installing advanced controls during any lighting upgrades. Finally, the program is considering a pilot with a contractor who does a substantial amount of service work for property management firms, and partner with them to not just replace with what was there but upgrade to LED when individual fixtures fail.

2. C/I Retrofit Standard Approaches

In addition to C/I Retrofit's custom grant process, which, as the name implies, requires the work of an energy management engineer (EME) to evaluate, make recommendations, and verify conservation projects on an individual basis, there are also projects that implement a standardized, straightforward approach.

a. Existing Building Commissioning

PSE customers with a building larger than 50,000 square feet are eligible to participate in the Existing Building Commissioning (formerly CBTU) program. A qualified commissioning provider must conduct assessments. PSE maintains a database of qualified building commissioning providers for eligible customers' reference. PSE will provide (1) incentives based on square footage, and (2) performance incentives. BEM collaborated with Seattle City Light in enhancing the Existing Building Commissioning program, which is tied to the Building Tune-up Accelerator. As a result, the shared customers are able to leverage the two programs for both their natural gas and electric conservation efforts.

b. Major Controls

The C/I Retrofit group of programs will also place a greater focus on major controls projects, which is receiving increased prominence in the department. These projects will focus on upgrading the central building control systems, and follow ASHRAE Guideline 36 that defines energy efficient HVAC control sequences.

Grants will be comprised of a base incentive plus a performance incentive—based on achieved savings—up to 50 percent of the project cost.

c. Variable Refrigerant Flow Projects

These projects deal with heat pump and HVAC technology for multi-zone commercial facilities, and are applicable to offices or schools with more than 10,000 square feet.[97] The standard incentives for VRF projects is $1.00 per square foot.

3. Focus on Industrial Businesses

For the coming biennium, BEM has created a separate Industrial Grants program to spotlight this potentially hard-to-reach customer segment. PSE expects that this increased attention will result in a higher number of custom grant activity. A key element of this initiative is moving from a contractor-managed Industrial Systems Optimization Program (ISOP) to an expanded program managed by BEM EMEs.

[97] Buildings that are less than 10,000 ft^2 are managed through the custom grant process.

The program's offerings will be concentrated on four components:

1. Industrial Tune-Ups: Focus on tuning-up industrial systems to increase efficiency and reduce energy usage – compressed air, refrigeration systems, process heating, wastewater systems.
2. Industrial Strategic Energy Management (I-SEM): Holistic approach to energy management that includes assessment of energy management practices, goal setting, action planning, and employee engagement.
3. Custom Project Development: Levering industrial Tune-Ups and I-SEM to develop additional and deeper levels of projects with customers.
4. Small Industrial Customers – Focus on improved trade ally relationships and simplified tools to develop custom projects in smaller industrial sites. – for instance, compressed air, and variable frequency drives. This customer class usually is comprised of entities that supply airplane components, food processing, breweries, or a small machine shop. These often supply goods to the larger industrial customers.

4. Savings Contribution

The C/I Retrofit group will contribute 50 percent of the 2020-2021 electric savings to the BEM Sector. On the natural gas side, the C/I Retrofit organization expects programs to contribute slightly over 20 percent of the overall BEM natural gas savings. Program staff expect that the natural gas savings may be approximately 20 percent lower than the previous biennium's goal, as PSE plans on shifting many prescriptive measures to the Commercial Midstream model.

B. Commercial/Industrial New Construction

Schedules E/G 251

The C/I New Construction program will continue its application of three incentive pathways in 2020-2021:

- Component Measures: That include custom analysis funding of individual, non-lighting measures, and may be up to 100 percent of incremental cost to exceed code, and may include measures such as boilers, chillers, or industrial processes.
- Whole Building Analysis: (For natural gas customers, PSE must also provide electric service.) The program bases these incentives on the percent savings over code baseline as determined by building energy simulation analysis. PSE will provide design team and energy model development support. PSE works with other utilities on a project-by-project basis. Utility cooperation will be discussed at an upcoming utility energy conservation engineering roundtable meeting.
- Lighting: PSE will use the Washington State Energy Code Lighting Power Allowance (LPA). It will calculate savings from lighting compliance forms.

In the coming biennium, the program will also develop a standardized energy modelling guideline for whole-building approach projects, and will explore piloting early design assistance incentives. The program will also enhance the marketing of prescriptive measures applicable to new construction projects, and increase outreach to developers, architects, and engineers. The program is piloting an Early Design Assistance Incentive of up to $2,500, as the cost of hosting a design meeting for developers is considered a barrier to incorporating energy efficiency into the initial building design. The program's collateral will reflect customers' need for a more comprehensive representation of program offerings, while electronic content will be updated and optimized. PSE will employ standard energy models, including EQuest and code models, to standardize evaluations and streamline the custom grant processing.

To adapt to market conditions and customer adoption, New Construction lighting projects must meet a standard of 20 percent better than the energy code for 2020-2021. New Construction lighting incentives will better align with Business Lighting incentives.

The engineering staff expect that the indoor agriculture market will generate slightly lower savings than in previous biennia, potentially the result of market saturation of new construction projects. PSE created a standardized lighting incentive of $25.00 per square foot of illuminated canopy area for new or expansion projects. Non-lighting incentives—HVAC, dehumidification, heat recovery, etc.—are available on a custom basis.

PSE expects that many indoor agriculture initiatives will turn to more retrofit projects, as some businesses expand, or move to upgrade their HVAC and controls measures. Program staff expect that this will lead to a slight reduction of electric savings of the overall program.

On the natural gas side, program staff based savings forecasts on custom projects that are due to be completed in 2020-2021. In past biennia, some of these projects tend to be very large, with an apparent few projects usually contribute the largest amount of natural gas savings. If these projects are delayed, it can cause a substantial variance of projected-versus-actual savings. Due to the long planning and development timeline for new construction projects program staff may spend a portion of their time in 2020-2021 working on projects that have the potential to deliver savings in 2022 or beyond.

The C/I New Construction team forecasts that they will manage projects at nearly 100 sites per year for 2020-2021.

1. Savings Contribution

Based on projects about which program staff are aware, expected electric savings in the New Construction program will comprise slightly more 13 percent of the 2020-2021 BEM total. The program will also contribute approximately 6 percent of the Sector's natural gas savings.

C. Commercial Strategic Energy Management

Schedules E/G 253

BEM expects that the award-winning Commercial Strategic Energy Management (CSEM) program will generate highly cost-effective electric and natural gas savings. Participation qualifications for customers managing a portfolio of qualifying buildings will remain at 1,000,000 kWhs, and 135,000 therms or equivalent per site. In order to serve a potential hard-to-reach segment, PSE will refer industrial customers interested in the CSEM program to ISOP, where they will receive no-cost engineering support, and operational and management improvement recommendations.

A key requirement for the program in the coming biennium is the need to upgrade its MyData Manager software, used for building benchmarking. Originally intended to meet the City of Seattle requirements, the software now needs to encompass the entire PSE service territory. The replacement solution must provide service to PSE's internal constituency (used for data analysis) and its external constituents, providing easy and safe customer access.

In the 2020-2021 biennium, the Commercial SEM program will continue to offer the following services to portfolio customers:

- Program start-up support,
- Resource accounting software,
- Technical assistance,
- Education and training,
- Energy audits, and
- Financial incentives.

The CSEM program utilizes a broad array of marketing materials and training activities to reach its customer base. The nature of the CSEM program and its need for ongoing communications efforts with customers merits an integrated approach to support this program. The program's communication strategy will focus on existing customers, with recognition and awards to outstanding customers, enhancing the ease of tool usage and ownership, and improving the Commercial SEM web pages.

To attract potential new customers, program staff will continue to develop case studies, and feature them in monthly newsletters. The CSEM team will also leverage internal PSE groups, including the Energy Efficient Communities and Business Services to communicate program information and updates.

PSE staff will also implement SEM work throughout PSE's facilities to drive energy savings, and to test and analyze energy management methods and techniques to be shared with CSEM program participants. PSE will fund the SEM position through the Conservation Rider. PSE will utilize the standard Commercial grant process, subject to all other program eligibility requirements for projects that result from SEM efforts. PSE will pay all other expenses outside of the CSEM program (such as equipment upgrades) from non-Rider funding.

PSE will provide services for approximately 60 customers, representing over 1,000 buildings, over the course of the coming biennium.

1. Savings Contribution

The Commercial SEM program will contribute approximately 10 percent of BEM's electric savings and approximately 37 percent of BEM's overall natural gas savings for 2020-2021.

D. Large Power User Self-Directed

Schedule E258

In 2020-2021, the Large Power User/Self-Directed program will be in the second-and third-year of its 2019-2022 cycle. Thus, the combined 2020-2021 electric savings will be approximately 50 percent lower than the previous biennium's Plan.[98] Due to the nature of large power user participants' conservation project plans, and RFP participation during the competitive-versus-noncompetitive phases of the 4-year cycle, 2021-specific savings are expected to be slightly more than double the savings expected for 2020: 11 million kWh in 2021 versus 5 million kWh for 2020.

At the start of the current cycle in 2019, PSE created an Energy Engineering Study measure. Program staff created the measure as a way to provide customers a means to participate in the RFP process. The measure provides customers who were not able to participate in the RFP due to the lack of technical expertise availability reimbursement for an energy-efficiency evaluation. It is hoped that this then, would lead to project proposals.

Current Schedule 40 customers, who will be converted to the next applicable rate Schedule in 2020, will still be able to participate in the non-competitive phase of the program. When the competitive phase starts in 2021, those customers will be ineligible to participate. They will, however, be able to participate in PSE's C/I Retrofit or C/I New Construction programs.

The program's mid-cycle electric savings will contribute approximately 6 percent of BEM's overall 2020-2021 achievement.

[98] It is important to note that the 2018 Large Power User/Self-Directing program's savings—the last year of the cycle—was planned to be approximately 15 million kWh. This four-year trend in savings is quite typical for this program.

E. Technology Evaluation

Schedules E/G 261

During the 2020-2021 planning process, there were no new energy-efficient technologies on the horizon that weren't already being evaluated in other forums, such as the 2019 RFP/RFI process. Therefore, no savings or expenses were budgeted for 2020-2021. PSE program staff will continuously scan for new technologies throughout the year and will consider, in consultation with the CRAG, amending the Technology Evaluation status for the 2021 Annual Conservation Plan.

F. Commercial Rebates

Schedules E/G 262

The Commercial Rebates organization is comprised of several rebate programs that focus on commercial customers, some of which are considered hard-to-reach or proportionately underserved:

- Lighting to Go,
- Commercial Kitchens & Laundry,
- Commercial HVAC,
- Commercial Midstream, and
- Small Business Direct Install

1. Lighting to Go

Lighting to Go is a direct-purchase program in which PSE will utilize existing retail resources, including field services, store signage, marketing, outreach, and limited-time offers to support the commercial-focused efforts. EISA code and HB 1444 standards revisions did not impact the program to the extent as the impact to residential lighting programs, primarily due to the applications and types of commercial lighting.

Although the majority of general-purpose lighting will no longer be viable, commercial applications, such as wall packs, area lighting, linear lamps, and fixture conversions, will be incentivized through the program.

Program staff expect to expand Lighting to Go's product offerings, with measures including three different T5 fixture retrofit options: a ballast bypass, a "plug-and-play", and an entire fixture replacement. The program will also offer point-of-sale rebates on LED replacements for High-Intensity Discharge (HID) lamps, and pin-based LEDs for CFL replacement. Broader offerings will also include linear LEDs, and program staff are examining the potential for exterior lighting LED products.

The Lighting to Go program will focus its marketing and communications efforts on ensuring that instant rebate vendors place Point of Purchase (POP) signage appropriately, and that collateral provided increases awareness of PSE's Retail Lighting program incentives.

Program staff are also working to develop non-English materials to assist those customers with purchases and to increase program awareness. These efforts will be coordinated with the Retail Lighting[99] program initiatives.

PSE forecasts that this electric-only program will provide rebates on the sale of approximately 150,000 units annually.

2. Commercial Kitchens & Laundry

This program focuses on a customer segment that is comprised of relatively large electric and natural gas users; the foundation of their businesses relies on energy-intensive equipment. They often require assistance in participating in Energy Efficiency programs, and service delivery must reach them in their preferred manner; commercial kitchens and commercial laundries have very specific time windows of availability.

Collaborating with seven electric and natural gas utilities, PSE administers an incentive program that provides customers with a uniform assortment of energy-efficient equipment, a single application form, and consistent incentives. This cohesive customer experience also benefits vendors and equipment distributors. Program staff are considering implementing a third-party administered midstream incentive model in addition to its standard implementation model. Program staff expect that this initiative will augment customer participation and driver increased savings.

Although the updated standard enumerated in HB 1444 affects some commercial cooking equipment, PSE expects that the program's measure offerings will align with the new requirements and accommodate customer needs. The program will coordinate market and outreach efforts with the Small Business Direct Install program, allowing program staff to assess, treat, educate, and connect customers with the rest of the PSE program portfolio. Examples include appliances, HVAC, and custom grant processing.

The program will engage local market partners to deliver a streamlined point of purchase (POP) experience in both the kitchen and laundry sectors. It will also translate its collateral materials for hard-to-reach customers, and will develop creative marketing campaigns to engage decision-makers more effectively.

[99] Included in Chapter 6: *Residential Energy Management Program Discussions*.

Program staff will also work to identify opportunities to cross-promote commercial kitchen and laundry programs to customers who have participated in other commercial efficiency programs, and continue its involvement in multi-channel initiatives and campaigns, including the Small Business Direct Install program.

With planned electric and natural gas savings approximately 69 percent and 76 percent higher than last biennium's Plan, the program expects to serve approximately 300 customers annually in the coming biennium.

3. Commercial HVAC

The Commercial HVAC program expects to provide rebates on Advance Rooftop Controllers (ARC), web-enabled thermostats, and ductless heat pumps. The program is an ideal next step for small commercial customers that have participated in the SBDI or Business Lighting Grants programs. Commercial HVAC is also investigating the possibility to offer incentives through a third-party administered midstream model, which would expand the savings potential.

Program staff will collaborate with manufacturers, distributors and contractors to co-promote HVAC incentives, and will direct outreach of its Premium HVAC service to large property management firms. PSE will participate in all relevant industry trade show and will examine opportunities to connect face-to-face with target customers and contractors.

PSE anticipates that the program will serve approximately 1,500 customers in conjunction with this initiative.

4. Commercial Midstream

2020-2021 will represent the first full biennium that the program has been operational. It is administered through a third party with PSE management oversight. By encouraging distributors and direct sales manufactures to focus more of their inventory on energy-efficient units, increased savings is possible. The program's electric savings projection is approximately 18 percent higher than the 2018-2019 period, and natural gas savings are expected to be 143 percent higher than the previous biennium.

Program implementation is currently centered on HVAC measures. Staff are considering adding water heat measures as well in the future. Program staff are proceeding with measured steps to ensure that there is no overlap with other Energy Efficiency programs utilizing a midstream fulfillment approach.

5. Small Business Direct Install

The Small Business Direct Install program provides services to a wide range of customer segments, including agricultural, lodging, and other small entities who receive service through PSE's rate schedule 24, rate schedule 25 when the building is less than 10,000 square feet, and natural gas rate schedule 31G. This group organization provides economies of scale, and drive consistencies where appropriate in these niche markets.

In order to provide a more comprehensive suite of electric and natural gas measures to small businesses, PSE will provide a wide range of services to customer classifications that can be considered hard-to-reach or proportionately underserved. These particular businesses may be located in rural areas, lack upfront capital due to low profit margins, rent their space, or may be uncertain about their longevity. PSE will continue to target outreach to tribal customers in the upcoming biennium, by building on its success[100] in piloting approaches to reach multi-cultural business customers.

Program staff plan to expand the measure offerings to include direct-install HVAC, and will facilitate custom measure installations. Staff also anticipate that the number of participating customers will increase from the previous biennium. A proposed agreement to coordinate the joint delivery of SBDI with Snohomish County PUD should also result in increased savings.[101]

SBDI's savings are only minimally impacted by code and standards revisions affecting general-purpose screw-in LEDs, as many of its lighting measures are HID conversions, TLED conversions, and integral LEDs.

PSE's very successful small business "blitzes" will continue in the coming biennium, with at least five per year planned. Program staff will migrate further away from metropolitan areas, with an effort made to combine blitzes in smaller towns that are geographically closer. The team will also develop segment-specific blitzes, such as agriculture outreach.

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[100] PSE's primary method of marketing, the community blitz model, doesn't effectively reach tribes, rural and multi-cultural business owners. In 2019, PSE approached the Lummi Tribe with a multi-program outreach campaign encompassing single family, multi-family, small business and larger commercial facilities. This was a successful endeavor, and program staff will model 2020-2021 strategies based on its success.

[101] As of the filing of this BCP, PSE and Snohomish County PUD will meet in the fourth quarter 2019 to discuss the particulars of the proposal.

As a part of the blitz visits, PSE teams will ascertain the interest level of the custom to consider additional measures that have a co-pay, and are in addition to those directly installed. The program will also engage local contractors to assist with the measures that require more installation expertise.

In order to provide a higher degree of efficiency and reduce turnaround, PSE will also locate field crews and inventory in the northern, central, and southern areas of its territory. This will provide an opportunity to communicate with several disparate businesses, rather than only those in a central location.

Staff will also coordinate marketing and promotional efforts with blitzes, and ensure that city officials and Chambers of Commerce are also engaged. The Residential and Commercial Sector Channels will promote product and rebate offerings between them. Program staff are developing materials specific to the needs of those hard-to-reach customers, including fliers illustrating partnerships with sector-specific organizations, multi-language collateral, and blitzes that occur in rural areas.

The Direct Install program allow PSE to offer electric and natural gas savings to a variety—rather than only one type, of small businesses. This will result in higher customer awareness of energy-efficiency opportunities, and lead to maximized electric and natural gas savings in this market sector.

The organization will manage over 300 individual measures and will serve approximately 500 customers annually.

6. Savings Contribution

The Business Rebates organization's savings contribution are expected to account for approximately 20 percent of BEM's electric savings, and 35 percent of the BEM natural gas savings total.

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IX. Pilots

Schedules E/G 249

As discussed in Chapters 4, several programs or measures can be considered pilots, but are incorporated into program offerings if there is a high degree of confidence in the expected savings. Those pilots with uncertain savings are excluded from PSE's EIA Penalty Threshold, and are listed in the Pilots section of Exhibit 1's Portfolio View. There are also pilots in groups that don't typically produce conservation savings.

A. Pilot-Analogous Initiatives

In 2020-2021, Energy Efficiency will implement pilot initiatives that leverage existing programs, leverage existing value-chain relationships, or consist of individual measures.

1. Commercial Midstream

As noted in several program discussions in Chapters 6 and 8, program staff are considering incorporating a third-party administered midstream model into their program offerings. These include Commercial Kitchens, Commercial HVAC, and Single Family Space and Water Heat. Doing so provides a new channel for the distribution of cost-effective measures with proven savings potential. Program staff are being cautious, however, to ensure that there are accounting safeguards in place that will prevent double-counting of savings or paying incentives to both customers and channel partners.

2. Early Design Assistance Incentive

Because there are additional costs inherent in new construction building design, the C/I New Construction team is piloting an Early Design Assistance incentive of up to $2,500. It is anticipated that this incentive will help offset some of those design costs, and enable energy efficiency to be a more relevant consideration during this crucial building phase.

The early design assistance incentive is geared toward facilitating an initial/early discussion with the customer, developer, and design team to provide information about PSE energy efficiency options and services to support high efficiency design, and identify energy efficiency opportunities within the proposed building. The incentive is not designed to cover a percent of the design costs, but rather to facilitate a design "charrette" early in the pre design process. The Whole Building Approach program can cover up to 100 percent of the incremental cost of high efficiency design choices versus minimum code compliant designs.

3. Moderate Income Residences

This pilot program, new for 2020-2021, is a collaborative effort within the REM Sector to focus on this hard-to-reach customer segment. It will rely on established, proven measures—primarily HVAC, weatherization, space and water heat—to encourage participation in a segment that doesn't quite meet low-income qualifications, but often lacks the resources or program awareness of other segments. PSE will report savings achieved through the pilot efforts in the respective programs.

4. Targeted DSM

This pilot program, which will entail energy-efficiency measure offerings and demand response projects, will employ avoided costs in specific localities, identified by PSE's Delivery Systems Planning group to have a potential for Non-Wires and Non-Pipe Alternatives (NWA, NPA, respectively). The specific avoided costs will allow the pilot to offer increased incentives to customers residing in those localities, with the intent of delaying need infrastructure improvements, sometimes for up to 10 years.

Since TDSM will utilize existing measure in established programs, all savings will accrue to those programs, and the PSE will not classify the pilot as a "Pilot with Uncertain Savings".

5. NEEA's Transformational Efforts

As NEEA scans the market for newly-developed energy-efficiency technologies, many of its initiatives could be considered analogous to pilots.

B. Pilots with Uncertain Savings

As opposed to pilots that utilize measures or initiatives that have verified, proven savings, the following pilots have some degree of uncertainty relative to their savings potential. A case in point is the Pay for Performance pilot, which encountered several implementation challenges in the previous biennium. Two of the following pilot programs incorporate the enhanced Advanced Metering Infrastructure (AMI) metering capabilities.

PSE forecasts that the combined savings potential for initiatives in this category will be 15,080 MWh and 320,000 therms for the coming biennium.

The following are pilots that PSE estimates have uncertain savings.

1. Pay for Performance

Consistent with the requirement enumerated in the Multiparty Settlement Stipulation and Agreement in Docket U-180680, Business Energy Management will continue this pilot, which targets the engagement of at least five large commercial or industrial buildings to produce both electric and natural gas savings. The pilot's objective will be the selection of customers with sites of at least 50,000 square feet with large savings potential. Program staff plan that incentives will be source-blind, and consist of a combination of capital, O&M, and behavior savings. Incentives would be based on conservation savings realized.

PSE is collaborating with Stakeholders such as the Northwest Energy Efficiency Council (NEEC) and its CRAG to optimally align the offerings to customer needs.

2. Retail Choice Engine

Presented to PSE during its 2019 RFP release, this pilot is designed to provide customers with an online marketplace, where they can compare energy-efficient products side-by-side, rather than researching products individually. The site will provide an "energy score", alongside pricing, customer ratings, product details, etc. Once implemented, program staff believe that this pilot could have a sizeable savings potential.

3. Single Family AMI Enhanced Engagement

This pilot uses AMI data to provide customers with near real-time energy usage information, with the intent of influencing conservation behaviors, resulting in reduced energy usage.

4. Small and Medium Business AMI Enhanced Engagement

Similar to its residential counterpart, the Small and Medium Business (SMB) AMI Enhanced Engagement pilot will provide a limited number of qualifying customers with very detailed analyses, and potentially disaggregated energy use reporting, providing participating customers with conservation calls to action.

5. Home Energy Assessments – Focus on Vulnerable Communities

A key element of the revised Home Energy Assessment program is a focus more on behavioral-related conservation, and may potentially coordinate with Home Energy Reports to assess the impact of the onsite consultation provided.

PSE has designed the pilot program to test the behavioral savings and energy-efficiency measure installation assistance, with a focus on moderate-income and vulnerable communities. Program staff will coordinate between the Energy Efficiency organizations, as well as area agencies providing services to eligible customers.

X. Regional Programs

Chapter 10 provides discussions of programs that do not fit into the Residential or Business Sectors, are of a more regional nature (consisting of sites, installations or facilities outside of PSE's territory), or are not directly managed by Energy Efficiency program staff.

A. Northwest Energy Efficiency Alliance

Schedules E254

NEEA's updated operations plan for PSE's territory in 2020-2021 is included in this BCP as a standalone document, Exhibit 10. It should be noted that at the time of the publication of PSE's 2020-2021 BCP, NEEA's board has not approved their 2020 operating plan. PSE extends its appreciation to the NEEA Staff for their gracious cooperation and the additional effort and resources expended to develop this content.

1. PSE Participation in NEEA Operations

Several Energy Efficiency staff members participate on NEEA committees, in partnership with other NEEA funders. Some committees are advisory in nature, and some are technically-oriented. NEEA also maintains selected sub-committees and working groups that report up to the senior committees. The majority of the operational committees advise four groups that provide advice and recommendations to the NEEA executive board and board of directors. PSE's director of Energy Efficiency sits on the board of directors, and has been its chairman in the past.

Energy Efficiency staff often participate on more than one committee or working group, as well as ad-hoc and limited-time work groups. PSE staff participation includes, but is not limited to contributions in the:

- Regional Portfolio Advisory Committee,
  - Strategic Market Strategy Working Group
  - Strategic Market Strategy Connectivity Working Group
  - Commercial Lighting Market Strategy Working Group
- Residential Advisory Committee,
  - Market Transformation Work Groups

- Commercial Advisory Committee,
  - Commercial Code Enhancement Program
  - Lighting Managers Committee
- Industrial Advisory Committee,
  - Training Committee
- Cost-Effectiveness Advisory Committee,
- Retail Product Portfolio Committee, and
- Emerging Technology Advisory Committee
  - Retac 2.0 Sub-Committee

PSE representatives that are a part of the Regional Portfolio Advisory Committee vote on broad initiatives. Other participants collaborate with committee or work group members outside of the committee forums, and bring issues and new initiatives to their groups.

In 2020-2021, PSE plans to participate in NEEA's savings-generating programs, as well as the currently-planned "optional" programs:

- SEM—Strategic Energy Management
- Multifamily Stock Assessment

As well as other that may be developed during the biennium.

PSE includes the source of NEEA's biennial savings forecast in the BCP's Exhibit 10, Supplement 1, which enumerates NEEA's conservation programs as allocated to PSE. It is important to note that, regardless of the delivery mechanism, if a savings classification is included in PSE's CPA, PSE will pursue it, whether delivered through NEEA or through an Energy Efficiency program.

2. Natural Gas Market Transformation

The Natural Gas Advisory Committee currently serves both technical and advisory functions. There are no sub-committees established for this pilot program as of the filing of this BCP. As a major funder, PSE staff also participate on this committee.

In 2020-2021 NEEA will continue its work in three key natural gas initiatives, as discussed in Exhibit 10:

- Gas heat pump water heaters,
- Combination water and space heat systems, and
- Rooftop HVAC.

consistent with its 2020-2024 Business Plan and its pending 2020 Operations Plan.

Actual implementation emphasis, however, will be focused on the gas heat pump water heater, and condensing rooftop units (CRTUs). Combi systems, and gas dryers will remain on NEEA's scanning schedule, while hearth products—unless a technical breakthrough is presented—will be relegated to a hiatus status. NEEA will continue to scan for and present to the Natural Gas Advisory Committee promising new technologies for consideration.

NEEA estimates that the first of these products to yield therm savings may potentially be the gas heat pump water heater. A large manufacturer is interested in commercializing the gas heat pump technology in the United States, and plans to launch a pilot, consisting of up 100 units nationwide, by the third quarter of 2020. In order to bring to bear sufficient resources to launch the gas heat pump water heater by 2022, NEEA will curtail focus on existing 0.67 natural gas water heater[102] market transformation.

Currently, PSE projects that there will be no natural gas savings forecast for NEEA's gas market transformation in 2020-2021.

NEEA does not attribute savings to the specific territory from which they originated. Rather, NEEA apportions savings according to the funder's share. In PSE's case, NEEA would assign 41.25 percent of the regional savings to PSE.

PSE's share of the natural gas market transformation funding is 41.25 percent, with a 2020-2021 total of $4.97 million. It is important to note that, in the previous funding cycle (2015-2019) PSE ratepayers provided approximately $1.5 million in unused funding for NEEA gas market transformation. NEEA will true-up the actual spending for the prior cycle and report to PSE the final overpayment in June, 2020.

[102] Although excluded from the initial five pilot measures, NEEA's natural gas market transformation budget also includes a scanning function. This activity provides for NEEA staff to examine the energy-efficiency marketplace for new technologies that may be incorporated into the suite of offerings.

At that time, Energy Efficiency expects that PSE will request a credit for that amount, to be recognized over a period commensurate with NEEA's standard billing cycle.

B. Targeted DSM

Schedule 219

Targeted DSM (TDSM) is an Energy Efficiency initiative to identify localized conservation and demand response potential, develop plans to achieve a defined percentage of that potential, then implement those plans to deliver identified energy efficiency and capacity savings.

The Targeted DSM program uses avoided costs for a specific municipality to calculate the cost-effectiveness of conservation measures. This allows PSE to offer rebates and incentives to PSE customers in these locations that are higher than those in its broader service territory. These rebates and incentives are available only during the duration of the specific NWA Project, as determined by PSE.

The TDSM pilot will offer the same measures that are available through standard Energy Efficiency programs. TDSM will offer, however, an increased amount on measure incentives in the specific localities, either through a bonus amount attached to the incentive, or additional, separate incentives. PSE provides a complete listing of available measures in Exhibit 3: *Program Details*.

For 2020-2021, PSE has identified two municipalities for the pilot: Bainbridge Island (primarily electric measures) and Duvall (primarily natural gas measures).

Schedule 219, Targeted DSM is a new Schedule, providing the terms and conditions for PSE's specialized services applicable to specific localities.

C. Distribution Efficiencies

Schedule E292

The Production and Distribution Efficiency program involves implementing energy conservation Measures within PSE's own production and distribution facilities that prove cost-effective, reliable and feasible. Within production facilities (power generation), conservation Measures reduce ancillary loads at the site and exclude efficiency improvements made to the generating equipment itself. These Measures may include, but are not limited to, lighting upgrades, variable speed drives and compressor upgrades. For transmission and distribution (T&D) efficiency, improvements are implemented at PSE's electric substations. These improvements focus on measures like phase balancing and conservation voltage reduction (CVR) (also referred to as voltage optimization [VO]). The methodology used to determine CVR savings is the Simplified Voltage Optimization Measurement and Verification Protocol provided by the Regional Technical Forum.

Analyses performed during 2020-2021 planning revealed that there are no cost-effective measures available for PSE generation facilities. Program staff will maintain examination of these facilities in 2020 and will adjust its 2021 Annual Conservation Plan, should conservation opportunities in generating facilities become cost effective.

For the 2020-2021 biennium, PSE plans to implement CVR at substations most likely to provide cost-effective energy savings. CVR involves lowering the feeder voltage settings in order to receive energy savings when operating the distribution system more efficiently and within the ANSI Standard of 114 – 126 V. The plan for CVR implementation includes required system upgrades, implementation of RTF prescribed measurement & verification protocols, as well as the required phase-balancing work, which is a precursor to successful CVR implementation. Energy Efficiency staff closely coordinate with PSE engineering staff, system planning teams, and major project teams to plan, track, report, and coordinate potential CVR projects. PSE's engineering, system planning, and third-party design teams engineer the projects, while PSE's major projects and third-party contractors build the projects.

These programs will operate under Schedule 292 and require coordination between various PSE departments. The review, classification, project design, and implementation is a dynamic process. As the profile of customer demand on a particular circuit evolves, so too does the circuit's feasibility for CVR: only select distribution substations prove to be eligible for CVR.

Circumstances that impact a circuit's CVR viability include, but are not limited to:

- The number of three-phase customers,
- The number of solar/net metered customers on the circuit,
- The potential for phase balancing,
- Potential load growth,
- Reliability issues with the suggested voltage settings,
- Difficulty of implementing CVR on Distribution Automation (DA) enabled circuits due to lack of integration with Advanced Distribution Management System (ADMS),
- Ratio of residential and small commercial in the substation,
- There are also instances in which, after applying the CVR feasibility study on a circuit, a voltage *increase* is required, rather than a reduction.

As of the third quarter of 2019, there are approximately 158 substations that have a potential for CVR. 10 have had CVR implemented, with an additional 4 in progress in 2019.

The plan for CVR implementation includes required system upgrades, implementation of RTF prescribed measurement & verification protocols, as well as the required phase-balancing work, which is a precursor to successful CVR implementation.

There are eight projects slated for 2020-2021: three in 2020 at substations most likely to provide cost-effective energy savings to customers from this added level of monitoring and control. Program staff expect that 2020-2021 CVR projects will yield 1,500 MWh of savings in 2020-2021.

A significant expansion in CVR project implementation is planned in future years, this expansion is tied to the implementation of the Advanced Metering Infrastructure (AMI) project and substation automation project. These two projects will enable Voltage Var optimization, an improved CVR method that allows for deeper levels of savings over PSE's current CVR implementation method of line drop compensation (LDC). For the 2020-2021 Biennial Conservation Plan, staff is investigating the need for a study that provides an updated energy savings methodology for Voltage Var CVR projects. The study scope and methodology investigation will be refined as more detail on the Voltage Var pilots are developed.

The pace of CVR implementation is planned to be increased in future Biennial plans, after the transition to volt-Var optimization and with continued AMI and substation automation project rollouts.

XI. Portfolio Support

Portfolio Support functions and activities provide needed services to Residential and Business Sector program staff. Services include delivering a wide range of options for customers to ask questions and obtain information about PSE's energy efficiency programs, and ensure that PSE's awareness messaging is consistent across all platforms. Portfolio Support staff process enormous amounts of rebate application and measure installation data, efficiently process and follow-up on rebate applications, integrate PSE cost-effectiveness and UES savings methodologies in the region, and provide resources for developing new and updated program offerings.

Over the previous biennia, PSE has endeavored to provide maximized transparency, while maintaining reporting consistency and efficiency. In the 2020-2021 biennium, PSE continues to improve its budget representations in the Portfolio Support group, as will be discussed in the following sections.

Tariff Schedule Adjustments

There are no tariff Schedule revisions required in the Portfolio Support organizations for 2020-2021.

A. Data and Systems Services

This team is responsible for reviewing and ensure data integrity from a wide variety of sources, including vendors, program staff, and contractors. They interface with several disparate data systems, including SAP, program databases, and the Measure Metrics archival system. The team provides systems for program staff to enter measure data on a monthly basis to feed reporting systems, and uses measure data and projections to build monthly forecasting models.

In 2020-2021, the team will continue employing adaptive management and Six-Sigma techniques to ensure updated and reliable data, reporting, and forecasting tools. Data and Systems Service staff are focusing on full-scale maintenance support of the DSMc (Demand Side Management central) system. Staff coordinated the deployment of the Public User Interface (PUI), which provides PSE customers with real-time access to their rebate application status. The team will focus on system enhancements, process improvements, and developing a trade ally portal.

The team is also developing data-driven dashboards to help program staff better monitor and improve program performance. Data and Systems Services staff are also working with the Rebates Processing team on a similar dashboard to monitor rebate processing metrics.

B. Programs Support

This functional group is responsible for ensuring that program staff have the most updated cost-effectiveness calculation data and receive information on regional measure savings trends. The team will provide NEEA-PSE savings attribution coordination, tracking and reporting, and will provide RTF subcommittee participation support.

C. Rebates Processing

This team plays a critical role in PSE's ability to achieve its customer participation and conservation goals, as they are a key energy-efficiency contact point for PSE customers. The staff must be well versed in all Energy Efficiency programs, the terms and conditions of PSE incentives, and be sensitive to how they represent the Energy Efficiency department to customers. The team also uses feedback provided by PSE constituents to collaborate with program staff to make process improvements within the programs throughout the year.

The Rebates Processing team will focus on continued process improvement gains, maximized customer satisfaction, and benefit for Residential and Business programs in 2020-2021. A key initiative for the coming biennium is the continued rollout of DSMc's Public User Interface (PUI), which provides a portal for customers to track their incentive application status. The team will collaborate with PSE's Information Technology and Marketing departments to create customer awareness of this service, with the ongoing emphasis on creating a purely digital portal. This has the potential of removing the need for customers to mail in hard-copy rebate application forms, and improves rebate analyst effectiveness, further improving incentive payment turnaround time.

D. Verification Team

The Verification team will perform on-site inspections and confirmations of randomly-selected participated homes and business to assure energy-efficiency measures are properly installed. The team will update verification policies, protocols, guidelines, and processes.

The following Verification continuous improvement activities will support mainstream field work in 2020-2021:

1) Data Systems

   The Verification tracking and scheduling database will be closely aligned with the DSMc system to continue simplifying and automating the project sampling and job-pulling process. This streamlines workflow between the program and verification teams.

The team will also explore a potential "virtual" inspection. This would use approved visual applications to interact with customers, improving incentive payment turnaround time. The concept would also reduce travel time, and increase productivity.

2) Sampling Rates

The team will base verification sampling rates on installation forecasts from the program teams and anticipated compliance/discrepancy rates. PSE expects that these forecasts will be finalized subsequent to the filing of the 2020-2021 BCP. In the last biennium, though, the team forecast over 2,000 random verifications, and the team anticipates that the upcoming biennium will require a commensurate number, based on savings goals. Individual measures/programs will each have a target number of verifications. Reviewing compliance rate results will inform program staff in the continued management of process improvements, data integrity, savings validity, and program delivery efficiency.

3) Additional Verification Measures

The Verification team will continue to assist in other areas of Residential or Business efficiency programs, including non-random visits. Non-random visits, typically performed at the request of program managers for case-specific interests, are considered quality assurance reviews. These may also result in documented discrepancies for program management follow-up. Additionally, new measures/programs are planned for the Verification portfolio, including phone Verification for Appliance Decommissioning, and site verification for Business Rebates-Commercial Kitchens.

E. Trade Ally Network

From an organizational standpoint, the Trade Ally Support (TAS) team is integrated within Energy Efficiency Strategic Initiatives with budget accounting falling within the Portfolio Support grouping in Exhibit 1: *Savings and Budgets*. The TAS team supports the development and enhancements of PSE's Trade Ally Network (TAN), previously the Contractor Alliance Network (CAN).

1. Integration Strategy

The Trade Ally Network is PSE's formal conduit for trade ally engagement with and participation in PSE's Energy Efficiency Programs. The TAS team engages approximately 250 independent contractors through the network who deliver energy efficiency (and ancillary) products and services to PSE's customer base.

In addition, the TAS team develops tools and resources to engage broader groups of trade allies including distributors, manufacturers, professional organizations, etc., to support more inclusive opportunities for trade ally partnerships.

Trade allies are identified as playing a critical role in achieving cost-effective energy savings. Trade allies are sometimes considered Energy Efficiency's "boots on the street", they are often the first to learn of marketplace trends. These insights may include customer preferences, expectations, product innovations, process improvements, and market readiness of technologies and services. The TAS team works closely with program staff to engage and interact with trade allies to learn from and refine program delivery strategies.

As discussed in Chapter 3: *Key Areas of Focus*, the TAS team will continue to develop a trade ally portal and Partner database to maximize trade ally integration within the EE conservation programs. The portal will help facilitate the TAS team strategies by enabling broader communications across all trade allies, TAN members and non-members. Furthermore, the portal will serve a pivotal role in refining account management strategies to help the EE team:

1. achieve cost-effective energy savings;
2. adaptively manage targeted marketing and outreach activities;
3. explore the possibility of non-incentive value-add services for customers receiving conservation measures.

F. Trade Ally Memberships

The Trade Ally Memberships function manages PSE's memberships in trade associations that benefit PSE's Energy Efficiency customers. Memberships in these organizations often lead to ideas for innovative service offerings, a broader understanding of market and industry trends, and insight into customer behavior. In combination with Energy Efficiency's TAN organization, Energy Efficiency can significantly broaden its customer reach and exposure.

In 2020-2021, the Trade Ally Memberships team will support services for energy-efficiency programs, including those provided by:

- BOMA—Building Owners & Managers' Association,
- CEE—Consortium for Energy Efficiency,
- ESource,

- Electric League,
- ESC—Energy Solutions Center, and
- NEEC—Northwest Energy Efficiency Council.

PSE provides extensive discussions of the objectives satisfied for each Energy Efficiency Trade Ally organization, including organization description, the nature of the expense, the need for PSE participation, and if there are associated sponsorships or events in Exhibit 3: *Program Details*.

G. Automated Benchmarking System

This free website, called *MyData* and launched in the autumn of 2013, provides building owners an easy to use, self-service portal that allows users to set up automated monthly reporting of their building's energy usage. The tool was designed and offered by PSE, and provides building owners, managers and operators a convenient way to track and assess energy consumption of their buildings. Customers register their property to receive quick and accurate data on a monthly basis for their building. Customers can track energy usage for a portfolio of buildings, track the results of energy efficiency projects, develop Energy Star® ratings, and comply with state and city regulations.

In 2020-2021, an extensive upgrade is planned for the software, which now must serve the data needs of building owners and operators throughout the PSE service territory, consistent with requirements of HB 1257. The Automated Benchmarking System budget reflects the anticipated increased funding required to build the new system.

H. Energy Advisors

The Energy Advisor department will continue to locate energy advisor staff in local PSE offices, in addition to the Bellevue-based core team—including Olympia, Bellingham, and South Whidbey Island. Energy advisors are also "embedded" with program staff; each Energy Efficiency program team has an energy advisor as a member of the team. This provides a heightened level of expertise in addressing customer questions, and allows program staff to receive "real world" customer feedback from the energy advisor. The team expects to handle over 120,000 phone calls, 16,000 email responses, and staff over 200 outreach events in 2020-2021.

I. Energy Efficient Communities

The Energy Efficient Communities team collaborates with, and adds value to many organizations within Energy Efficiency. The team will emphasize proactive, direct residential and business customer outreach, with a focus on in-person engagement.

This strategy will augment the other forms of energy-efficiency exposure that customers receive, including telephone contact, digital (including social media, radio, television), and print. The team works to discover locally-appropriate ways of engaging with customers by leveraging PSE's resources, community knowledge and partner support. Customer engagements may include, but will not be limited to:

- Small Business Direct Install blitzes,
- Door-to-door initiatives,
- Cross-program (Residential and Commercial) promotions.

As Energy Efficiency considers its hard-to-reach and potentially underserved customers, the Energy Efficient Communities team will focus their attention on the design of new- and expansion of its existing- outreach tactics to reach these customers. Energy Efficient Communities team members are located in regional offices to provide an improved connection to the multiple community stakeholders that Energy Efficiency serves throughout the service area. The team works to find areas with lower program participation to directly target engagement with customers. They provide leads for the small business programs through partnerships with cities, local business associations and community groups, through designing door to door engagements as well as through presentations to the small business community.

For example, the team has found efficiencies in targeting two smaller communities for the small business direct install blitzes instead of just one. This tactic utilizes local contractors, who are most familiar with the community’s businesses. Focusing on local businesses is also the most efficient application of the contractor’s time. This approach also allows PSE to increase awareness of its programs in communities where its presence is impactful and appreciated.

The team will assist in designing Energy Efficiency's outreach materials to foster creative local partnerships, ensuring that PSE is easy to partner with (for instance, bill inserts with a city,[103] a piece of collateral that can be inserted into a food bank bag, delivering presentations to new audiences like home owners associations, tabling at existing local events hosted by business/nonprofit organizations, etc.).

In order to stand out in an already-cluttered space, the Energy Efficient Communities team will concentrate on new ways to engage with PSE customers, and plan to implement these and apply them to the next initiative going forward.

J. Digital Customer Services

Customer interactions with PSE are no longer limited to the internet or to phone calls. Customers expect PSE to communicate its energy-efficiency offerings in a wide variety of electronic media, and expect the information in the form and at the time they want it, rather than driving them to a PSE-designated site. This group will continue to improve the ways in which it communicates with energy-efficiency customers, and support energy analysis tools. The Customer Digital Services team will also support interactive content development, e-newsletters, database, and web hosting services.

K. Market Integration

For 2020-2021, the Market Integration group will continue supporting the enhancement of online energy-efficiency tools, and coordinating with traditional communications strategies and tactics.

L. Events

The Energy Efficiency Events team will continue to manage requests from communities—including those considered to be hard-to-reach or proportionately underserved—the team will coordinate Energy Efficiency participation in trade shows, and other interested organizations in approximately 150 events per year.

[103] There have been instances where Energy Efficiency has partnered with cities where Energy Efficiency provides a bill insert (conforming to the city's size specifications) showcasing one of its programs and the city mails it out inside their water utility bills.

The Energy Efficient Communities team seeks out events and presentation opportunities while engaging with organizations and municipalities as part of the overall outreach strategy for each of our Energy Efficiency programs.

The team will provide materials and moving services for custom interactive displays, using a tracking database to ensure consistent and accurate logistical flow. Major conferences planned for the 2020-2021 biennium will include targeted business-focused conferences.

M. Brochures

This Energy Efficiency department category includes brochures that are not program-specific. Since PSE is discontinuing paper generalized energy-efficiency brochures and converting to electronic media, PSE re-allocated the duties and anticipated spend for developing and distributing electronic brochures into the Events function.

N. Education

Schedules E/G 202

PSE will discontinue its Independent Colleges of Washington grants in 2020-2021, due to a lack of interest. In past biennia, it has been challenging for ICW and PSE to sustain an engagement and project visibility.

XII. Research & Compliance

The primary deliverables of this group are providing critical market research, customer information, such as survey results, demographic information, etc., evaluations, and assistance in the management of programs, and the development of PSE's Conservation Potential Assessment every two years.

Tariff Schedule Adjustments

There are no tariff Schedules in the Research & Compliance group.

A. Conservation Supply Curves

The 2020-2021 focus of this group will be to select a consultant for the 2021 potential assessment, and provide staff support for the development of the 2021 Integrated Resource Plan (IRP).

B. Strategic Planning

The Strategic Planning group's 2020-2021 primary activities will include completion of an oversample of regional Commercial Building Stock Assessment, begun in 2019, and continued implementation of more efficient research methods. For the upcoming biennium, the group's electric budget reflects PSE's $60,000 contribution to the completion of the Commercial Building Stock Assessment (CBSA) oversample, and the Regional End-Use Load Research study, with PSE's share estimated to be $700,000.

C. Market Research

The Market Research activities include energy-efficiency customer satisfaction surveys and tactical program target-marketing support. This team of analysts will provide much-needed customer data, including an understanding of customer perceptions, barriers to the adoption of energy-efficient behavior, and tracking customer awareness of energy-efficiency programs. They will also support program-specific requests for analyses of localized customer characteristics, attitudes, energy-usage trends, and behaviors.

D. Program Evaluation

Exhibit 6**:** *Evaluation Plan*, describes an ongoing process for prioritizing measures and programs, as well as the four-year timetable to evaluate all Energy Efficiency programs, consistent with condition (6)(c).

Exhibit 6 provides a detailed table of evaluations planned for the upcoming biennium.

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XIII. Other Customer Programs

PSE segregates the Other Electric Programs category from other Customer Solutions Electric and Gas Rider programs because they are not used in calculating cost-effectiveness of the overall Portfolio. For the 2020-2021 biennium, only Net Metering will be included in this category.

Tariff Schedule Adjustments

PSE created new tariff schedules for natural gas targeted Demand Response: G249A and G271.

A. Net Metering

Schedule E150

At the end of 2019, PSE will have approximately 9,300 net metered customers, with approximately one-third of those added during the 2018-2019 biennium. Program staff anticipate that strong adoption will continue into the next biennium due to the following balance of positive and negative policy and market conditions: an increase to utility net metering requirements in Washington as of July 2019; declining equipment prices; a fully obligated budget for the State Renewable Energy Production Incentive Program as of June 2019; the return of state sales tax exemption for solar installations as of July 2019; and upcoming reductions to the federal investment tax credit. PSE also anticipates that during the 2020-2021 biennium, Washington's Clean Energy Transformation Act may begin to bring new opportunities for customer generation to sectors that have previously been under-served by the State's renewable energy incentive programs.

The UTC accounting Order[1] for the treatment of distribution costs resulted in an increase in the program's 2020-2021 budget versus the 2018-2019 biennium.

B. Targeted Demand Response

Schedule E/G 249A, E/G 271

The purpose of the Localized Demand Response Pilot (DR) is to evaluate DR options applicable to identified Non-Wired Alternatives (NWA) projects in specific, targeted localities. This pilot program attributes to evaluate include technology requirements and performance,

[1] Commission Order in Docket UE-990016, in response to PSE's petition to authorize deferral of Net Metering expenditures and recover those expenditures in the Schedule 120 Conservation Rider.

customer behavior and preferences, impacts and integration of DR to Company operations, program costs, demand reductions achieved, energy savings achieved, and localized distribution system benefits. PSE expects to gain experience with DR technologies, a greater understanding of customer acceptance and tolerance of Demand control, the need for customer incentives (financial or other), and demand reduction effectiveness and reliability.

For 2020-2021, PSE will pursue Targeted Demand Response projects in the cities of Bainbridge Island and Duvall. Demand Response projects will be both electric and natural gas. PSE provides a complete discussion of the pilot in Exhibit 3: *Program Details*.

XIV. Compliance

PSE will continue its commitment to comply with regulatory requirements, as reflected by its long-running track record of Stakeholder engagement and compliance transparency.

A. Compliance with RCW 19.285

This BCP and its Exhibits are consistent with RCW 19.285.040 (1)(a), which indicates that utilities must identify their achievable cost-effective conservation potential, reviewing and updating the assessment every two years thereafter. The BCP also satisfies § (b), which states that utilities shall establish and make publicly available a biennial acquisition target for cost-effective conservation consistent with their identification of the achievable opportunities.

B. 2019 Legislation

PSE looks forward to actively participating in the Commission's rulemaking process as it moves forward to implementing the requirements of the 2019 Clean Energy Transformation Act (CETA) in the coming biennium. PSE is eager to gain an understanding and defining specific terminology in order to have a common baseline from which to measure compliance with the requirements. In addition to implementation plans that must be developed and submitted by January 1, 2022 (outlined in Section 6), there are two requirements indicated in Section 12 that require Energy Efficiency action within the coming biennium.

Specifically, Section 12(3) indicates that by July 31, 2020, the WA Department of Commerce must collect and aggregate data relative to the energy burden and energy assistance need for each electric utility. The Energy Efficiency department will be required to provide many of the data points listed as Department deliverables within the section.

Also, in Section 12(2), electric utilities are required to make programs and funding available for energy assistance to low-income households by July 31, 2021, giving priority to low-income households with a higher energy burden, pursuant to a biennial assessment, required in Section 12(4). While Energy Efficiency's Low Income Weatherization and PSE's Low Income Assistance programs are exemplary within the State, staff will need to develop the extensive reporting capabilities needed to comply with the assessment requirements.

Another piece of legislation that will have an impact on the Energy Efficiency department is House Bill 1257. Due to the requirement to collect and make reporting available for building performance, PSE is undertaking a significant upgrade to its Automated Benchmarking System in 2020 to comply with the requirement, and will develop the administrative processes to provide incentives by the indicated deadline.

Energy Efficiency's Business Energy Management Sector is developing a list of potentially impacted buildings, as well as a communications plan for potentially affected customers, which it expects to roll out in 2020.

Lastly, HB 1444, which sets new baseline standards for lighting, appliances, and other efficiency measures, has significantly impacted several residential programs through compliance with the updated requirements.

C. Compliance with WAC 480-109

Throughout the BCP, PSE provides references to the applicable WAC section. PSE ensures that its conservation operations are in compliance with WAC rules in a manner similar to the process that it uses to track and report compliance with the biennial conditions, Exhibit 9: *Condition Compliance Checklist*. PSE tracks and reports on WAC compliance by incorporating the WAC requirements that are unique, in addition to PSE's biennial conditions, into its Exhibit 9.

Consistent with the requirements outlined in WAC 480-109-100(1) through (3), addressing the development of the 2020-2021 BCP, PSE conducted 15 Integrated Resource Planning Advisory Group (IRPAG) meetings over the course of 2016 and 2017. Energy Efficiency maintained a close collaboration with the CRAG throughout the BCP development process.

PSE held CRAG meetings to discuss specifics around the development of the 2020-2021 BCP on June 19, July 24, August 28, and September 25, 2019.[104] PSE also conducted a presentation on the development of PSE's Conservation Potential Assessment (CPA) on October 23, 2019. In addition to these in-person meetings, PSE maintained a high level of CRAG engagement, as required in applicable sections of WAC 480-109-110(1), including sub-sections (e) through (g), (i), (j), and (m).

As referenced in Chapter 11: *Exhibit Summary*, Exhibit i satisfies subsections (ii), (iv) and (v) of WAC 480-109-120(1)(b).

[104] These meetings were also consistent with conditions (3)(e), outlining the BCP deliverables timeline and (3)(c), requiring that PSE involve the CRAG in Conservation Potential Assessment and establishing the conservation potential.

The remaining subsections of WAC 480-109-120(1) are satisfied in other Chapters and Exhibits in the 2020-2021 BCP, as noted in Table XIV-1.

Table XIV-1: WAC 480-109-120 Requirements Addressed in the 2020-2021 Biennial Conservation Plan

(All Section (1) of WAC 480-109-120. Requirements are paraphrased.)

Requirement	2020-2021 BCP Content
(a) Biennial Conservation Plan filed by November 1 of each odd year.	The 2020-2021 BCP and its Exhibits.
(b)(i) Must include a request that the Commission approve the potential and target	Executive Summary and Introduction
(b)(iii) The plan must include the potential, target, program details, biennial budgets, and cost-effectiveness calculations	▪ Potential & Target: Executive Summary, Introduction, Exhibit i ▪ Program Details: Exhibit 3 ▪ Biennial Budgets: Exhibit 1 ▪ Cost-Effectiveness Calculations: Exhibit 2
(b)(vi) The plan must include the evaluation, measurement & verification framework (and sub-parts A through C).	Exhibit 8 Sub-part C is addressed in Exhibit 6.

D. Six Sets of Requirements in Commission Orders

Throughout the decade-long evolution of conservation regulatory expectations, PSE has sustained successful compliance with an ever-increasing and complex set of requirements. Since 2013, in order to consolidate reporting and tracking of those requirements, PSE migrated requirements from a diverse set of Commission Orders[105] into its Exhibit 9: *Condition Compliance Checklist*. Since Exhibit 9 is a "look-back" document, PSE files it with its Annual Reports on March 1 of each year, rather than with its planning publications. PSE provides a list of the Docket numbers containing the requirements in Table XIV-2.

[105] The 2001 Stipulation Agreement is formally known as Exhibit F of PSE's 2001 General Rate Case, Docket UE-011570 and UG-011571. PSE added these natural-natural gas unique requirements to Exhibit 9 for tracking and reporting purposes.

Doing so maximized PSE compliance efficiencies and provided Stakeholders added value in reviewing PSE compliance with conservation requirements in a single document.

Table XIV-2: Dockets Containing Conservation Orders, Requirements and Rules

Docket Number	Summary of Requirements
UG-011571	First set of natural gas conditions & established the CRAG
UE-100177	First biennial conditions. Sections A – J & L remain in effect. Section K has been replaced by subsequent biennial conditions.
UE-152058[106]	2016-2017 conditions
UG-121207	Commission Policy Statement on natural gas cost-effectiveness recommendations
U-072375	Merger Agreement; Low-income funding commitment and net metering
UE-121697 UG-121705	Decoupling Order, requiring Low Income Weatherization funding increases.
U-170034	2017 GRC, containing reference to PSE's commitment to implement a natural gas decoupling adder of 5 percent.
U-180680	Sales of Indirect Interests, Multiparty Settlement, outlining several LIW requirements, and

PSE continues to operate its natural gas conservation programs under the set of requirements and deliverables enumerated in the 2001 Stipulation Agreement, where the natural gas requirements remain in effect.

[106] PSE will track any conditions with a deliverable in 2018 from Order 01 in Docket UE-152058, along with the Docket that's created when PSE files this 2020-2021 BCP.

E. Specific Conditions Applicable to the Biennial Conservation Plan

During 2020-2021, PSE will continue to proactively and adaptively manage its conservation programs under the guiding principle of condition (2):

> Nothing within this Agreement relieves PSE of the **sole responsibility** for complying with RCW 19.285 and WAC 480-109, which requires PSE to use methodologies consistent with those used by the Pacific Northwest Electric Power and Conservation Planning Council ("Council"). Specifically, the conditions regarding the need for a high degree of transparency, and communication and consultation with external stakeholders, **diminish neither PSE's operational authority** nor its **ultimate responsibility** for meeting the biennial conservation target approved herein.

During the development of the BCP, PSE met the requirements of conditions (3)(c):

> (c) Puget Sound Energy must consult with the Advisory Groups starting no later than July 1, 2019, to begin to identify achievable conservation potential for 2020-2029 and to begin to set annual and biennial targets for the 2020-2021 biennium, including necessary revisions to program details. See RCW 19.285.040(1)(b); WAC 480-109-110.

And (3)(e):

> (e) Prior to filing the Biennial Conservation Plan, Puget Sound Energy shall provide the following information to the CRAG: draft ten-year conservation potential and two-year target by August 1, 2019; draft program details, including budgets, by September 1, 2019; and draft program tariffs by October 1, 2019.

This 2020-2021 BCP also addresses, completes, or initiates compliance with other Sections, Orders, and conditions specific to the BCP's contents. Table XIV-3 provides highlights of deliverables with which this report complies, and in what section or chapter PSE addresses the compliance requirement.

Table XIV-3: Conditions Addressed in the 2020-2021 Biennial Conservation Plan

Section/Condition Subject	Plan Chapter
F(11), UE-100177 – Annual detailed program budget	Chapter 1: Executive Summary, Chapter 2: Introduction Details: *Exhibit 1: Savings and Budgets*
(4)(a) UE-152058 – PSE mst submit annual budget, with program details.	Chapter 1: Executive Summary, Chapter 2: Introduction, Details – *Exhibit 1*
(5) - Program details on file with UTC	*Exhibit 3: Program Details*
(6)(c) – PSE must spend a reasponable amount of its conservation budget on EM&V.	EM&V spending is highlighted and summarized in magenta in *Exhibit 1*
(7)(c) – PSE may spend up to 10 percent of its conservation budget on programs whose savings impact has not yet been measured.	10 percent spending is highlighted and summarized in blue in *Exhibit 1*
(8)(a) – The Commission uses the TRC test as its primary cost-effectiveness test.	*Exhibit 2: Cost-Effectiveness Calculations*
(10)(a) – PSE will continue to review the feasibility fo pursuing cost-effective conservation in generating facilities it owns in whole or in part.	Chapter 8, Regional Programs *Exhibit 3: Program Details*

PSE provides the CRAG with compliance progress updates routinely throughout the year, using its Exhibit 9 formatting. PSE also includes references to applicable conditions in each CRAG meeting slide presentation. PSE will focus on continuously improving the value of information provided, and update the CRAG regularly in the upcoming biennium.

F. Compliance with Stakeholder Requests

Beginning in 2019, Regulatory Stakeholders requested PSE to consider certain issues and requests from different constituencies during the 2020-2021 BCP development process.

PSE addressed those requests, as highlighted in Table XIV-4.

Table XIV-4: Stakeholder Requests Addressed in the 2020-2021 Biennial Conservation Plan

Request	Highlight of Disposition	Chapter Reference
Incorporate "Deep Retrofit" principles.	Business Energy Management developed the Pay for Performance pilot.	Chapter 9: Pilots
Focus on the manufactured home market segments.	PSE discusses specific initiatives that target these segments throughout the BCP.	Chapter 3: Key Areas of Focus, Chapter 5: Residential Energy Management Overview
Focus on NEEA	Provide a backward-looking review of work that PSE has done with NEEA in 2019. Discuss optional NEEA programs that PSE has been involved with. Discuss the value of NEEA.	Chapter 10: Regional Efficiency Programs
SB 5116, Clean Energy Act	Discuss PSE's current evaluation of the conservation impacts, and provide a preliminary estimation of 2022 implementation roll-out.	Chapter 14: Compliance
Create a new condition that addresses BCP target revisions	Insert a condition that will outline the process for filing BCP revised targets once the 2019 IRP is filed in January, 2020.	Chapter 1: Executive Summary, Chapter 2: Introduction, Exhibit 11: Conditions
Distribution Efficiency	Expand and increase the transparency, including discussions on impact of AMI integration.	Chapter 9: Regional Efficiency Programs
Coordination Between Utilities	Explore ways in which coordination between utilities could improve customers' experience.	

G. Energy Efficiency Compliance Controls

PSE and Energy Efficiency routinely evaluate and examine compliance controls. Staff consistently update and test management review, compliance processes, and compliance tracking. Over the span of several years, PSE has put into place controls to ensure compliance not only with the above-noted conditions, but also with other business management subjects:

- Ensuring that Rider funds are spent appropriately,
- Ensuring that invoices are approved only by applicable managers,
- Providing segregation of duties for financial activities (such as incentive payment processing & reporting),
- Effectively coordinate CRAG meetings, associated summary briefs, and all CRAG-related exchanges, information and communications,
- Confirming savings accuracy, including all savings adjustments,
- Substantiating financial reporting accuracy, and
- Others, as required.

Highlights of some of the most important compliance controls that PSE maintains and updates at regular intervals include the following steps:

- Clearly defined signature authority for invoice approval,
- Clearly defined delegation of commitment authority policies,
- Clearly defined regulatory training,
- Clearly defined measure guidelines, including implementation of new measures, revision of existing measures,
- Segregation of duties provide cross-checks and ensures that payments cannot be mis-appropriated, and
- Energy Efficiency employs a dedicated compliance management staffing to oversee regulatory deliverables compliance.

Additionally, one of the best and most effective compliance controls is clear and consistent communication with Regulatory Stakeholders.

H. Development of the 2020-2021 Conditions

PSE engaged the CRAG in the development of the draft 2020-2021 conditions in its July 24, 2019 CRAG meeting. Throughout the 2020-2021 planning process, PSE collaborated with Commission Staff and provided the CRAG with opportunities to review and comment on the condition draft revisions.

Commission Staff proposed the addition of two new conditions, dealing with deliverables required by SB 5116, the Clean Energy Transformation Act (CETA), and updated BCP filing targets, and the need to file updated savings figures subsequent to the final 2019 IRP filing. As of October 1, PSE has not received CRAG comments on the draft conditions language. PSE and the CRAG continued to collaborate on the final draft of the 2020-2021 conditions through the BCP filing period.

PSE intentionally left this page blank.

XV. Exhibit Summary

This section provides a brief overview of the contents of each Exhibit included with the 2020-2021 Biennial Conservation Plan.

A. Exhibit i: Ten-year Achievable Conservation Potential and Biennial Conservation Acquisition Targets

The 2020-2029 Ten-year Achievable Conservation Potential and 2020-2021 Biennial Conservation Targets Exhibit discusses the development of the electric ten-year achievable conservation potential and two-year conservation target.[107] Exhibit i may be referenced as "The Ten-year Potential and Two-year Target", "Two-year Target", or "2020-2021 Biennial Target". Each designation has the same meaning for purposes of referencing the development of the electric 2020-2029 Ten-year Achievable Conservation Potential and 2020-2021 Biennial Conservation Targets.

Exhibit i provides an overview of PSE's Integrated Resource Plan (IRP) guidance and Conservation Potential Assessment (CPA) development processes, which satisfy the requirements of WAC 480-109-100(1)(a)(i), (2) and (3). The Exhibit also notes the extent of public participation in the development of the 10-year potential and 2-year target, as prescribed by WAC 480-109-120(1) sub-section (b)(ii). Another sub-section addressed in Exhibit i is (b)(v), which requires that a utility provides a description of and support for any changes from the assumptions or methodologies used in the utility's most recent conservation potential assessment.

PSE reviewed the majority of the ten-year potential and two-year target development points with the CRAG throughout the latter half of 2019. A key requirement met in these meetings is condition (3)(c) which required PSE to engage the CRAG in the scope and design of the 10-year conservation potential analysis and to identify the achievable conservation potential for 2020-2029. Additionally, many CRAG members also participated in the Integrated Resource Planning Advisory Group (IRPAG) meetings between 2018 and 2019.

PSE has kept the CRAG closely engaged as it navigates the uncertainty surrounding the pending 2019 IRP filing in January 2020, and will continue to work with the CRAG as it develops updated conservation savings figures that will be derived from the updated IRP.

[107] This document only discusses electric conservation.

Exhibit i indicates that, based on the 2017 IRP data,[108] PSE's 2020-2029 ten-year achievable electric conservation potential is 1,799,000 MWh, or 205.36 aMW. Following adjustments made to the pro-rata share of the 10-year potential, the 2020-2021 two-year electric conservation potential is 359,861 MWh, or 41.1 aMW of first-year savings, as measured at the customer meter.

B. Exhibit 1: Savings Goals and Anticipated Expenditures

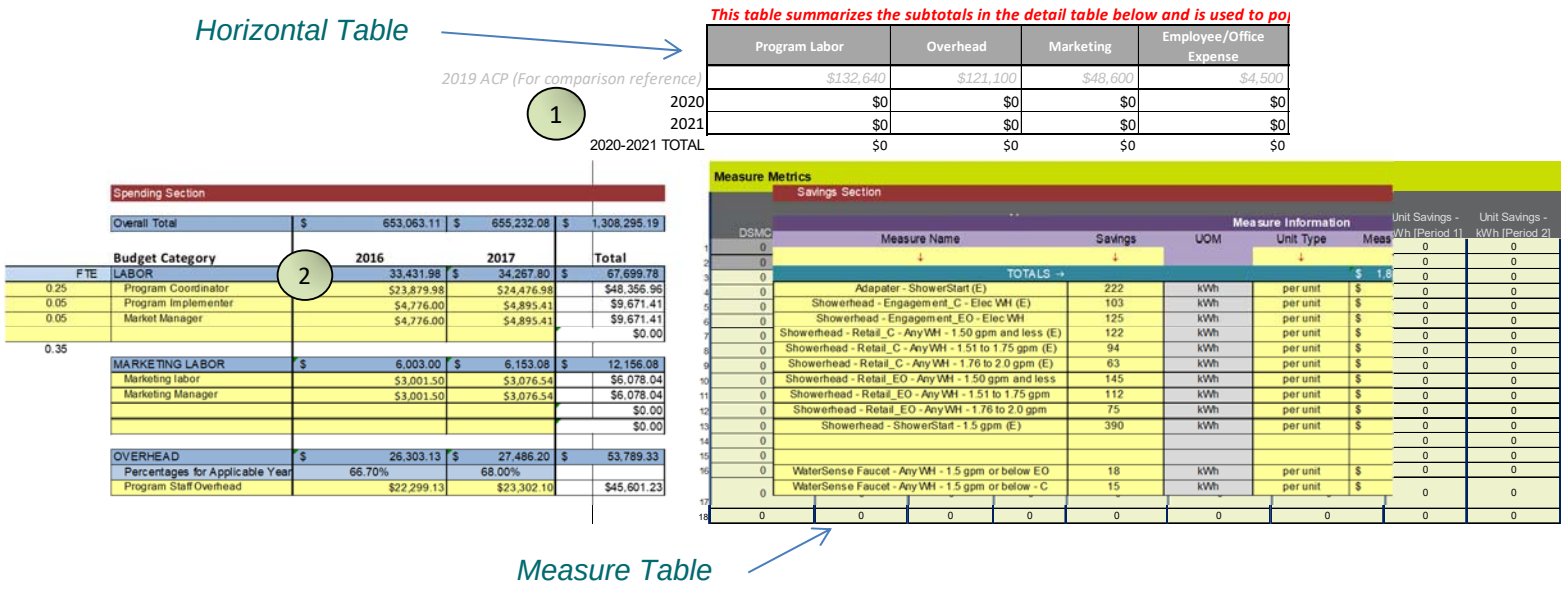
Exhibit 1: *Savings and Budgets* represents a detailed view of every Energy Efficiency program; PSE provides a separate view for the programs' electric and natural gas area. Each program detail page rolls up to a Sector view, which sums the budget categories ("Labor", "Overhead", "Employee Expense", etc.). In the Sector views, there are separate electric and natural gas pages for each year of the biennium. Finally, the Sector views roll up to the Portfolio views. PSE presents each Sector and Portfolio view in a two-year, and separate 2020 and 2021 views. This presentation is also consistent with condition (4)(a), providing separate, annual budget and conservation target views.

The format of Exhibit 1 remains unchanged from the previous four biennia, providing a high degree of consistency for Stakeholders. In keeping with its adaptive management principles, it is PSE's intention to enhance the presentation of the budget and measure details with each iteration. PSE takes into account development and reporting efficiencies of PSE staff, with a keen eye towards Stakeholder needs, requests, and observations.

[108] Consistent with Order 01 in Docket UE-180607.

Program detail pages contain the finest granularity of the 2020-2021 savings and budgets. The "Total" figures noted in the top horizontal tables are calculated using the 2020 figure plus the 2021 figure ("1" in Figure XV-1). PSE extracts the "2019 ACP (for comparison)" figures from the 2019 ACP, and includes them for comparison purposes only. The figures in the blue sub-totals in the budget table ("2" in Figure XV-1) on the left of each page are linked to the totals (individual year and overall totals) in the horizontal table.

Figure XV-1: Example of an Exhibit 1 Program Detail Page (1 of >120)



As a courtesy, and to enhance Stakeholders' reviewing experience, PSE also incorporated sub-total comparisons to the 2020-2021-specific figures in the 2-year electric and natural gas Sector views. Aids built into Exhibit 1 that will enhance Stakeholders' review include, but aren't limited to:

- The Exhibit 1 electronic Microsoft® Excel™ hyperlink buttons are color-coded, for easier differentiation between electric and natural gas pages, and Portfolio and Sector views. Navigation buttons eliminate the need to scroll tab-by-tab through over 130 pages of the workbook.
- Each sheet is double-and triple-checked; at the point of the workbook's creation, and at every point of update. The workbook is linked to all source workbooks, so that updates are automatic, rather than hand-entered. Check-offs by coordinating staff members ensure accuracy.
- PSE added a global reference page to the workbook, reducing the number of one-time entries needed on each page.

- PSE added a program-by-program comparison table, outlining the specific differences from 2018-2019 program figures.
- Measure tables (included in programs that utility prescriptive measures) indicate more comprehensive first- and second-year date, by measure.

C. Exhibit 2: 2020-2021 Cost Effectiveness Estimates

Table IV-7 on page 92 (Chapter 4: *Developing PSE's 2020-2021 Biennial Conservation Plan*) provides PSE estimates of the Portfolio-level cost effectiveness of its electric and natural gas programs. Exhibit 2 provides program-level cost-effectiveness figures, as well as electric and natural gas-specific program calculation pages.

D. Exhibit 3: Energy Efficiency Program Details

Discussions of program-level strategies and tactics are located in Exhibit 3: *Program Details*. It is notable that PSE maintains a running version control number (for instance, "**version**: two **replacing version**: one") in the footer section of Exhibit 3. This version numbering practice commenced with the 2011 Annual Conservation Plan filing.

Each program that generates conservation savings[109] contains an overview of program elements, including the:

- Purpose of the program,
- Program description,
- Delivery method,
- Implementation management,
- An overview of customer incentives,[110] including electric and natural gas measure tables, consisting of a description, eligibility, and rebate amount,

[109] Programs or functions such as Evaluation or Conservation Supply Curves do not generate savings and for the most part, do not interface with PSE customers. Therefore, program elements such as *Customer Incentives* and *Target Market* do not apply to these.

[110] PSE provides a detailed listing of measure incentives in Exhibit 4: *Energy Efficiency Measures, Incentives & Eligibility*.

- The program's target market,
- The marketing plan,[111] and
- Outreach plan.

Programs, functions, and activities in the Portfolio Support, Research & Compliance, and Other Electric Programs Sectors also provide a Purpose and Program Description discussion.

E. Exhibit 4: Energy Efficiency Measures, Incentives & Eligibility

When PSE combined the measure tables of Exhibit 4 with the program details contained in Exhibit 3 as a part of the 2019 ACP, it retired Exhibit 4. This enhancement was well-received, and reduced the need to reference two Exhibits for a given program.

Rather than re-name all of the subsequent Exhibits (5 through 12), PSE simply omits a reference to "Exhibit 4" henceforth.

F. Exhibit 5: Prescriptive Measures

Energy Efficiency's comprehensive list of all prescriptive measures—RTF UES and PSE Deemed—is Exhibit 5: *Prescriptive Measure Tables*. Energy Efficiency's Measure Revision Guidelines require that the Director, Energy Efficiency, approve all measure revisions (either updated savings values or new measures). These measures are then archived in PSE's DSMc system for access and savings reporting.

Accordingly, 2020 measure values aren't archived in DSMc by the time that the 2020-2021 BCP is filed in November 2019. PSE will provide the 2020 Exhibit 5 to the CRAG when it updates the first quarter 2020 filing of Exhibit 3: *Program Details*. Until then, planned prescriptive measure UES values are available for review in each program's detail page of Exhibit 1: *Savings and Budgets*.

It is important to note that when PSE develops and files its conservation plans, not all UES measures have been updated by the RTF, or are in the process of being updated at the time that PSE is required to file the BCP.[112]

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[111] A summary discussion of the Energy Efficiency Marketing Plan can be found in Exhibit 7: *Marketing & Outreach Executive Summary*. PSE provides detailed marketing plans by program in Exhibit 3: *Program Details*.

[112] In order to comply with the requirement of WAC 480-109-110(3), which requires PSE to provide the CRAG a draft BCP filing 30 days in advance of the filing, the Measure Revision Guidelines were adjusted so that henceforth, PSE will employ RTF UES values or PSE Deemed values that are effective on September 1 of each planning year.

PSE will make any necessary adjustments to align the savings values with RTF UES values at the beginning of 2021, if the RTF values are published after September 1, 2019, consistent with PSE's *Measure Revision Guidelines*.

G. Exhibit 6: Energy Efficiency Evaluation Plan

Exhibit 6 provides a view of all efficiency program evaluations and the strategy that Energy Efficiency Evaluation staff will use to implement the evaluations in the most effective manner, over a four-year cycle, along with the guiding principles of the Evaluation Team.

H. Exhibit 7: Marketing and Outreach Summary

The Energy Efficiency Marketing and Outreach Summary, Exhibit 7, Includes overarching views of marketing and outreach strategies that PSE will employ to call customers to action, motivate them to install energy efficiency measures, and engage with PSE on energy efficiency initiatives. Exhibit 7's content is intended to serve more as an overview or summary. PSE discusses Marketing and Outreach strategies that apply to specific programs in detail in Exhibit 3.

I. Exhibit 8: EM&V Framework

The EM&V Framework is included as Exhibit 8 to the 2020-2021 BCP. Exhibit 8: *EM&V Framework* provides discussions on how PSE will conduct evaluation, measurement, and verification activities to estimate savings and other metrics associated with its Energy Efficiency department programs.

J. Exhibit 9: Requirements Compliance Checklist

Exhibit 9 is excluded from PSE's planning documents, as the Requirements Compliance Checklist is a backward-looking document, which is more applicable to PSE's Annual Reports of Energy Conservation Accomplishments.

K. Exhibit 10: Northwest Energy Efficiency Alliance Plan

NEEA plans and reports are standalone documents, comprising Exhibit 10. Treating this document in this manner reflects the significant effort expended by NEEA Staff to create these references for inclusion in PSE filings.

L. Exhibit 11: Tariff Revisions

PSE created Exhibit 11 to provide the CRAG with mark-up versions of the Conservation Schedule tariff sheets that PSE plans to file and request Commission approval, contemporaneously with the 2020-2021 BCP. PSE will request that the revised Tariff Sheets be made effective on January 1, 2020.

It is important to note that in the tariff filing process, only those Tariff Sheets being revised are filed, rather than the entire Schedule or complete set of Conservation Schedules. As a courtesy to readers, though, PSE includes a PDF of the entire (current, non-revised) Schedule for easier reference in Exhibit 11, with the revisions noted in mark-up Microsoft® Word™ versions.

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Glossary of Terms

This section provides descriptions of commonly-used Energy Efficiency terms and acronyms.

A. Commonly-Used Terms

Calculated Savings	This savings type is different from deemed values (described below). This term indicates that there is a pre-approved, stipulated input savings value (or cost) per measure. This value (or cost) is then multiplied by site-specific input values to arrive at the overall savings value (or cost).
Conditions	Specific deliverables and stipulations with which the Company must adhere through the course of operating and managing energy efficiency programs. In addition to compliance requirements outlined in the Settlement Terms Sections A through J and L in Docket No. 100177, 2018-2019 conditions are listed in Appendix A of Order 01 in Docket UE-171087. Conditions are typically included in Commission Orders approving PSE's biennial conservation targets.
Custom Savings	This savings type applies to conservation projects where a PSE EME performs specific evaluation and review of a unique customer site to determine savings values—therms or kWh—that apply only for that site. For this type of measure, there is insufficient information, the occurrence is too infrequent, or it cannot be specifically defined to justify development of a Calculated or Deemed protocol.
Deemed Measure	As in a measure's deemed savings value; a savings (or cost) value that applies to a unit of specific measure, regardless of where or how the measure is installed. Measures for which it is possible to "deem" per-unit energy savings, cost, and load shape based on program evaluation data and engineering estimates. (For instance, one residential interior CFL lamp may have a deemed value of 24 kilowatt-hours per year.) This classification applies to both RTF and PSE Deemed (noted on the following page). This term has been supplanted by "UES", defined below.
Direct Benefit to Customer (DBtC)	A PSE-specific term, indicating rebates, grants, credits or services that are of value to customers. Services can include, but aren't limited to, credits on a monthly bill, upstream incentive provided to channel partners or trade allies—either within the PSE service territory or regionally—and free energy efficient devices available by mail.
Direct-Install Measure	A conservation measure that is installed by a PSE representative—rather than a PSE customer—into a qualifying structure.

Glossary, continued

Distribution	For the purposes of Schedule 292, means electrical facilities within the State of Washington that the Company owns or operates to convey electricity from the point of generation or purchase to the point of use by a Customer. Distribution includes transmission and distribution lines related substations and transformers.
EIA	Energy Independence Act. A reference to the 2006 voter initiative, The Washington Clean Energy Initiative. The vote resulted in the creation of RCW 19.285 and WAC 480-109, which is now referred to as the Energy Independence Act. The EIA was also sometimes colloquially referred to as "I-937".
I-937	An informal reference to the 2006 voter initiative, The Washington Clean Energy Initiative. The vote resulted in the creation of RCW 19.285 and WAC 480-109, which, by law, is now referred to as the Energy Independence Act ("EIA").
Measure	A product, device, piece of equipment, system or building design or operational practice used to achieve greater energy efficiency or to promote Fuel Conversion and Fuel Switching. Unless specifically enumerated in a specific Energy Efficiency Program, all Measures, proposed by Customers or otherwise, shall meet or exceed the efficiency standards set forth in the applicable energy codes, or, where none exists, "standard industry practice" as determined by the Company. Measures will meet common construction practices, and meet industry standards for quality and energy efficiency.[113] Measures should also meet cost-effectiveness standards.
Orders (see also Conditions)	Overarching instructions to an entity under the purview of the Washington Utilities and Transportation Commission (UTC or Commission). Orders may be made at the conclusion of a Docket proceeding or throughout the course of a Docket's existence. At the time of the publication of this BCP, PSE is operating under Order 01 of Docket UE-171087, along with other Orders in various Settlement Stipulations or Agreements.
Program	Programs may consist of a single measure, an assortment of related measures or a suite of measures that are related strictly by delivery type or customer segment.
PSE Deemed	Relative to measure savings types (Custom, Calculated, PSE Deemed or RTF Deemed), these measures are supported by PSE engineering calculations or evaluation studies, in compliance with WAC 480-109-100(5).

[113] Schedule 83, section 4, Definitions, #m. Schedule 183, section 4, #l.

Glossary, continued

RTF Deemed (see also UES)	A legacy term, only used in the Source of Savings database. Relative to PSE savings types (Custom, Calculated, PSE Deemed or RTF Deemed), supported by RTF analyses, in compliance with WAC 480-109-100(5).
Savings	Savings (both natural gas and electric) are defined and reported as those recognized in the first year of a measure's total expected life. PSE reports the total savings for the year that the measure was implemented, regardless of when it is installed. Electric savings are counted at the customer meter, not the busbar. Gas savings are counted at the customer natural gas meter. It is important to note that all measures have an associated life, during which the noted annual savings accumulate. Each measure has a different life, as determined by rigorous evaluation. The average measure life per program can be found in the Energy Efficiency Cost-Effectiveness tables in Exhibit 2 of this report. As noted above, measures have associated savings beyond the first year; those savings continue to accrue to the benefit of PSE.
System	In this document, System may have the following meanings: 1) Any software program—supported by PSE's IT department or otherwise—or physical apparatus used to record, track, compile, report, archive, audit energy savings claims or financial data. 2) Electrical, and/or natural gas equipment that is either attached together or works in concert to provide space conditioning, plumbing functions or other end-uses associated with structures, such as HVAC systems, pumping systems, etc.

B. Savings Terminology

"Definition" cells highlighted in green are key/important terms that are most frequently referenced in PSE filings.

PSE's formerly used terms[114]	Updated Terms *(Implemented in the 2019 ACP)*	Definition
Total Biennial Potential	**CPA Pro-Rata Share**	Pro-rata share of the utilities IRP's Conservation Potential Assessment's 10-year potential or 2 year total (whichever is greater). Includes NEEA.
Total Base Savings	**EIA Target**	Equals the CPA Pro-Rata Share, applicable to electric savings
Decoupling Penalty Target	**Decoupling Threshold**	[EIA Target (electric) CPA Pro-Rata Share (gas) * 0.05]
Total Portfolio Target	**Total Utility Conservation Goal/Achievement**	All savings programs funded by Conservation Riders [EIA Target + Pilots + NEEA + 449/Special Contracts + Decoupling Threshold]
Excluded	**Adjusted Programs**	Programs approved by the Commission to be excluded from a Penalty Threshold. For last three biennia, these included NEEA and Pilots with Uncertain Savings.
Utility-Specific Savings	**Utility-Specific Conservation Goal/Achievement**	[Total Utility Conservation Goal/Achievement – (Excluded programs (for instance, NEEA, Pilots with uncertain savings, retail wheeling accounts, etc.) + adjustments)]
EIA Penalty Target	**EIA Penalty Threshold**	[Utility-Specific Conservation - Decoupling Threshold]
Excess Savings (1)	**Excess Savings for Carbon (Dept of Commerce driven)**	(Referencing results, rather than targets) The difference of [Total Utility-Conservation Achievement – Total Utility Conservation Goal]
Excess Savings (2)	**PSE Excess Savings for Penalty Thresholds (UTC Driven)**	(Referencing results, rather than targets) The difference of [(Total Utility-Specific Conservation Achievement) - (EIA Penalty Threshold + Decoupling Penalty Threshold)]

[114] These would be the terms noted in PSE's 2018-2019 BCP.

C. Acronyms

ACP	Annual Conservation Plan
aMW	Average MegaWatt. An expression of energy (versus "power"). It is used to express very large amounts of energy. The term represents an average of power (Megawatts [MW]) used over time (the standard term being one year or 8,760 hours). Thus, 1 aMW = 8,760 MWh.
BCP	Biennial Conservation Plan
BEM	Business Energy Management
BOMA	Building Owner and Managers Association
CBTU	Comprehensive Building Tune-Up (program in the BEM Sector).
CFL	Compact Fluorescent Lamp
C/I	Commercial/Industrial. References programs in the Business Energy Management sector.
CRAG	Conservation Resource Advisory Group
DSMc	Demand Side Management central. A comprehensive project management system, developed and maintained by Nexant.
EES	Energy Efficiency Services; a PSE legacy acronym that is still associated with some tracking and reporting systems and databases, referencing Energy Efficiency's former name. (Eliminating this reference would cause severe disruption of queries and reports in some systems and filing structures.)
EE	Energy Efficiency
EME	Energy Management Engineer
EM&V	Evaluation, Measurement and Verification
HVAC	Heating, Ventilation and Air Conditioning
IRP	Integrated Resource Plan
IRPAG	Integrated Resource Planning Advisory Group
kWh	Kilowatt Hour. 1,000 watt-hours = 1 kWh, which is equivalent to 10 100-watt incandescent lamps being turned on for one hour.
LED	Light Emitting Diode (typically, a lamp type)
MWh	Megawatt-hour. 1,000 kWh = 1 MWh

Acronyms, Continued

NEIs	Non-Energy Impact, Quantifiable. Formerly known as Non-Energy Benefit, or NEB. Attributes having a direct cost-effectiveness correlation applicable to the Total Resource Cost test. It is important to note that any reference to NEIs in any PSE document refers to those that are quantifiable. Any non-quantifiable benefits will be specifically noted.
NEEA	Northwest Energy Efficiency Alliance
RCW	Revised Code of Washington.
REM	Residential Energy Management
RTF	Regional Technical Forum, an advisory committee and a part of the Northwest Power and Conservation Council. The RTF develops standardized protocols for verifying and evaluating conservation.
SBDI	Small Business Direct Install (program within the BEM Sector, Commercial Rebates).
TRC	Total Resource Cost. The cost to the customer and/or other party costs to install or have installed approved Measures plus Utility Costs and minus Quantifiable Benefits (or Costs).[115]
UC	Utility Cost: The Company's costs of administering programs included, but not limited to, costs associated with incentives, audits, analysis, technical review and funding specific to the Measure or program and evaluation.[116]
UES	Unit Energy Savings. Formerly "Deemed", the RTF updated the term in 2011.
WAC	Washington Administrative Code
WUTC, or UTC	Washington Utilities and Transportation Commission

[115] Schedule 83, section 4, Definitions, #z. Schedule 183, section 4, #x.

[116] Schedule 83, section 4, Definitions, #bb. Schedule 183, section 4, #z.

Conclusion

This concludes Energy Efficiency's Overview of its 2020-2021 Biennial Conservation Plan. The following Exhibits i through 11 provide an extensive amount of detailed information about how PSE will execute the concepts and initiatives described herein.

Consistent with WAC 480-109-120(1)(b)(i), PSE requests that the Commission approve its ten-year conservation potential and biennial conservation target. PSE acknowledges, and is very appreciative of the partnership with the CRAG and the collaboration that was cultivated with CRAG members throughout 2017. PSE looks forward to further success in 2020-2021.

PSE additionally appreciates the input and cooperation of its regional partners, other PSE divisions, and its constituents. As it progresses through the upcoming biennium, PSE will continue to keep its Stakeholders apprised of progress, program refinements, measure updates, and other adjustments as PSE utilizes its business management acumen to anticipate and stay ahead of regional conditions in moving towards achievement of its 2020-2021 biennial savings targets.

Most importantly, PSE extends its thanks to its customers. PSE sincerely appreciates their acknowledgement of its efforts and trust that they put in the dedicated men and women of Energy Efficiency. It is a steward of their efficiency efforts and funding. PSE takes its obligation to prudently use the funds that they provide and improve the environment for them and their children with the utmost respect and sincerity. PSE consistently strives to provide the highest level of customer service in the Northwest.

The Energy Efficiency Staff look forward to a productive and constructive 2020-2021!

Respectfully submitted,

PSE PUGET SOUND ENERGY

Puget Sound Energy
Energy Efficiency

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