



Exhibit i

2016-2025 Ten-year Conservation Potential
and
2016-2017 Two-year Electric Target

Contents

CUMULATIVE TEN-YEAR CONSERVATION POTENTIAL	3
Statutory and Regulatory Requirements	3
Identifying All Conservation Opportunities That Are Cost-Effective, Reliable, and Feasible	4
Consistency with Council Methodology	4
Total Ten-year Conservation Potential	6
Figure 3: PSE Cumulative Ten-Year Conservation Potential (2012-2021)	6
BIENNIAL CONSERVATION TARGET	7
Statutory and Regulatory Requirements	7
Determination of Pro Rata Share of the Ten-Year Conservation Potential	7
Biennial Conservation Target	9

Figures

Figure 1: PSE Conservation Potential Consistency with Council Methodology	5
Figure 2: PSE Cumulative Ten-Year Conservation Potential (2016-2025)	6
Figure 4: 2016 – 2017 Biennial Conservation Target	9

Cumulative Ten-Year Conservation Potential

Statutory and Regulatory Requirements

RCW 19.285.040 requires that, beginning in 2010 and every two years thereafter, utilities must project their “cumulative ten-year conservation potential”, including all electric savings that are “cost-effective, reliable and feasible”. WAC 480-109-100 (2) says that this projection must be derived from the utility’s most recent IRP and must consider all available conservation resources that are cost-effective, reliable, and feasible. Further, when developing this projection, utilities must use methodologies consistent with those used in the Northwest Conservation and Electric Power Plan.

As defined by WAC 480-109-060 (6), “conservation” means “any reduction in electric power consumption” due to increased efficiency of:

- Energy Use, where PSE includes energy efficient building systems, high efficiency electric end use equipment, conversion of electric end uses to high-efficiency natural gas equipment, and high efficiency cogeneration systems to meet on-site customer load;
- Distribution, where PSE includes line phase balancing and conservation voltage reduction;
- Production, where PSE includes energy efficiency improvements at PSE electric production facilities.

The remainder of this section describes determination of the conservation potential and consistency of the company’s methodology with that of the Northwest Power and Conservation Council (hereafter referred to as the “Council”).

Identifying All Conservation Opportunities That Are Cost-Effective, Reliable, and Feasible

The ten-year cumulative conservation potential consists of the optimized level of energy use and distribution system conservation potential selected by PSE's resource portfolio model for the 2015 Integrated Resource Plan (IRP). It includes ramping the timing for achieving this potential so that all the economic achievable retrofit potential in existing buildings would be achieved in 10 years, not the full 20-year planning horizon of the IRP. The methodology and results of the conservation potential assessment were reviewed with stakeholders over the course of eight meetings in 2014-2015 with PSE's IRP Advisory Group and two meetings in 2015 with PSE's Conservation Resource Advisory Group.

In addition, PSE separately estimated the potential for electric energy savings from improvements to the efficiency of PSE's power generation facilities in Washington State. However, no cost-effective opportunities for conservation from energy production facilities were identified. The methodology for deriving these potentials is explained more fully below.

The combined total of 2015 IRP potential plus production facility efficiency represents the total amount of conservation that is technically available, cost-effective, and achievable in the long run, based on the best information and analysis available. This includes all potential savings from any combination of utility programs, new codes and standards, and market transformation.

Consistency with Council Methodology

The methodology used to determine these potentials was consistent that that used by the Northwest Power and Conservation Council (the "Council") to develop the 6th Northwest Power Plan. The conservation potential was built with a bottom-up approach, using individual energy-efficient technologies applied to appropriate end uses and building types to determine technical, economic, achievable potential.

Both PSE and the Council use similar Total Resource Cost (TRC) approaches to their economic analyses. In the spring of 2011, a sub-group of the Washington State Conservation Work Group was convened to examine the methodologies of all the state's electric investor-owned utilities relative to the Council methodology. That sub-group concluded that all the utilities, including PSE, were generally consistent with the Council methodology. PSE continues to use the same methodology that was reviewed at that time.

A few minor differences in methodology were identified, but none of these had significant impacts on the results. One minor difference in the economic analysis is that PSE analyzed bundles of measures with similar costs while the Council analyzes individual measures, but this does not appear to cause significant differences in results.

Another minor difference is that PSE expresses its benefits and costs in nominal terms (includes inflation) while the Council uses real terms (excludes inflation), which does not cause any difference in relative cost-effectiveness since benefits and costs are treated equally.

Finally, PSE uses its own after-tax cost of capital as the discount rate for present value calculations, while the Council uses a regional discount rate that combines utilities, customers, and BPA. Again, the absolute difference in discount rates is small and does not materially affect results.

Figure 1 identifies the key elements of PSE’s methodology, consistent with the methodology outline of published on the [Council's website](#), except for minor differences noted above. Complete descriptions of PSE’s technical and achievable potential are in [Appendix J](#) of the 2015 IRP. The derivation of the economic potential is presented in [Chapter 6](#) and [Appendix J](#) of the 2015 IRP under chapter titled “General Approach and Methodology.”

Figure 1: PSE Conservation Potential Consistency with Council Methodology

Technical Potential	Economic Potential	Achievable Potential
<ul style="list-style-type: none"> • Wide array of technologies, applied to all customer sectors • “Applicable” units, as determined by <ul style="list-style-type: none"> ○ Building characteristics ○ Fuel & equipment saturations ○ Equipment life/turnover ○ New & existing units ○ Measure interactions & substitutions • Calibrated to customer & load forecasts for PSE service area 	<ul style="list-style-type: none"> • Economic screen uses TRC approach • Based on forecast of wholesale market prices • Energy and capacity savings shaped for time and seasonal differences • Use range of scenarios to account for uncertainty and risk • Use full incremental measure costs, plus applicable O&M and program admin. Costs • Benefits include energy, capacity, T&D losses and deferral • Non-energy benefits, 10% Power Act credit & environmental externalities included 	<ul style="list-style-type: none"> • Annual acquisition levels based on IRP portfolio modeling where conservation competes against all other resources • Discretionary & lost opportunity potentials identified • Use ramp rates that accelerate discretionary retrofit measures, with 85% maximum market penetration • Potentials are revised based on new information and market experience gained since previous IRP

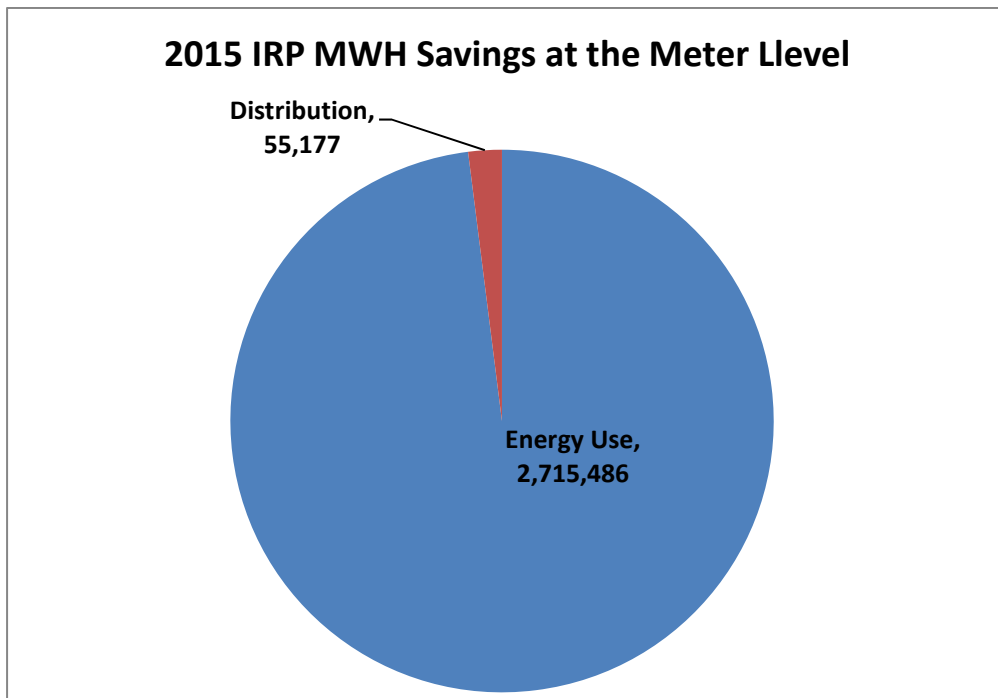
Efficiency improvements at electric production facilities were projected, but not included in the IRP resource portfolio analysis because these savings are relatively small (3.1 aMW) and not cost-effective. This assessment included all hydro and thermal plants operated by PSE in the state of Washington.

Total Ten-year Conservation Potential

Based on the analysis described previously, PSE’s total cumulative ten-year conservation potential is 2,770,663 MWh (316.3 aMW) at the meter, which excludes line loss savings from the customer meter back to the power generator and intra-year ramping of annual savings (these were included in the IRP portfolio analysis).

Figure 2 shows how the cumulative ten-year potential breaks out by type of conservation resource. As can be seen, the vast majority (98 percent) of the ten-year potential comes from Energy Use Conservation. Energy Use Conservation consists of improved building shell efficiency, high-efficiency electric end use equipment and controls, electric-to-gas customer fuel conversion, and small scale distributed generation.

Figure 2: PSE Cumulative Ten-Year Conservation Potential (2016-2025)



Biennial Conservation Target

Statutory and Regulatory Requirements

RCW 19.285.040 requires that, once the ten-year conservation potential has been developed, utilities shall set a biennial electric conservation acquisition target which is no lower than the utility’s two-year pro rata share of its ten-year potential.

The WAC rule for setting the biennial target defines “pro rata” simply as “the calculation dividing the utility’s projected ten-year conservation potential into five equal proportions”(WAC 480-109-060 (19)).

Determination of Pro Rata Share of the Ten-Year Conservation Potential

The 2016 – 2017 two-year portion of the cumulative ten-year potential is 554,132 MWh (63.3 aMW) at the meter level. This represents one fifth of the ten-year potential. Figure 3 shows the derivation of the two-year pro-rata share of the ten-year conservation potential.

Figure 3: PSE Pro Rata Share of Ten-Year Conservation Potential

	10-Yr. Potential (MWh)	2-Yr. Pro Rata (MWh)
IRP RESULTS at GENERATOR:		
• Bundle D – Intra Year Ramping	2,782,232	556,446
IRP RESULTS at METER:		
• Bundle D – No Intra-Year Ramping	2,715,486	543,097
• Distribution Efficiency (DE)	55,177	11,035
Total IRP Target (Bundle D + DE)	2,770,663	554,132
		63.3 aMW

Biennial Conservation Target

The pro rata IRP conservation potential does not include any savings from behavior modification. The IRP also does not differentiate between savings that are best achieved by local utility or regional market transformation programs. Therefore, the Company has made some additional adjustments to the cumulative conservation potential.

These additional factors include, as required in WAC 480-109-120(1)(b)(v):

- Residential Individual Energy Reports: The CRAG and PSE agreed to add savings from legacy Individual Energy Reports (the original residential Home Energy Report customers) to the two-year IRP conservation potential. This increases "base" savings by 5,720 MWh from an established behavior modification program.

Northwest Energy Efficiency Alliance (NEEA): PSE and the CRAG agreed to exclude market transformation savings acquired through NEEA because these savings are outside of PSE's control and NEEA's forecasts are subject to fluctuation. This adjustment reduces target savings by 22,780 MWh. Making these adjustments, the total biennial EIA target is 537,080 MWh (61.3 aMW) to be achieved through PSE-sponsored programs, as shown in Figure 4. An additional adjustment is made to include a commitment that PSE exceed its base EIA target by 5 percent to be eligible for revenue decoupling and avoid additional financial penalty. However, this adjustment is not part of the biennial target required by WAC 480-109.

Figure 4: 2016 – 2017 Biennial Conservation Target

Puget Sound Energy 2016-2017 Electric Portfolio Savings					
	Description	MWh	aMWh	Comment	Calculation
	Colored cells correspond to indicated lines in Exhibit 1: <i>Savings and Budgets, 2-Year Portfolio View.</i>				
	Add			These are specific elements that comprise the Portfolio View of Exhibit 1.	
a	Total Biennial Potential <i>IRP Guidance</i>	554,132	63.3	Bundle D + DE from IRP	Figure 3, Exhibit i
b	Plus Legacy HER	5,722	0.7		line j of Exhibit 1 Portfolio View
c	Total Base Savings	559,854	63.9		= a + b
d	Plus Decoupling Commitment (5% add)	27,993	3.5	All prgrams contribute to the decoupling commitment.	= c * 0.05 (/base * 5%)
e	Plus Energy Reports Pilots Without Verified Savings	17,347	2.0	2016-2017 Pilots	line z of Exhibit 1 Portfolio View
f	Total 2016-2017 Portfolio Savings	605,194	69.1	This figure is what Energy Efficiency is managing to.	= c + d + e; lines bb & bf of Exhibit 1 Portfolio View
	Exclude			Remove these elements in order to calculate the EIA penalty target.	
g	NEEA Savings	-22,776	-2.6		line aa of Exhibit 1 Portfolio View
h	Energy Report Pilots	-17,347	-2.0		= e
i	Decoupling Commitment Amount	-27,993	-3.5		= d
j	Total Exclusion	-68,116	-8.0		= g + h + i
	Resultant Targets				
k	EIA Penalty Target	537,078	61.3	\$50/MWh shortfall penalty	= f + j
l	Decoupling Commitment	27,993	3.5	\$50/MWh shortfall penalty	= d

D.C. = Decoupling Commitment
 EIA = Energy Independence Act; referencing RCW 19.285, or "I-937".
 HER = Residential Home Energy Reports
 IRP = Integrated Resource Plan