

# Memorandum



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FROM: Christina Steinhoff, Planning Analyst

CC: Stephanie Rider, Senior Manager, NEEA Planning; Susan Hermetet, Director of Planning, Evaluation and Technology

SUBJECT: 2016 Annual Report (2016-2017 Biennial Savings Update)

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Puget Sound Energy, Avista Washington, and Pacific Power Washington have developed a joint approach to calculate savings from NEEA initiatives. As part of the utilities' biennial savings updates, NEEA provides a two-year electric energy savings forecast.<sup>1</sup> The utilities subtract the savings from their conservation forecast to develop their Biennial Conservation Target.

This memo details the performance of NEEA's programs against the original forecast based on its 2016 Annual Report. Appendix A documents NEEA's methodology to calculate and track energy savings. Details about the baseline and technical assumptions by measure are included in the attached Excel spreadsheet.

NEEA would like to thank Puget Sound Energy for its partnership and continued support of the alliance. Please do not hesitate to contact Christina Steinhoff at 503.688.5427 with any questions about this report.

## 2016-2017 Biennium Savings Update

NEEA forecasts that Puget Sound Energy will receive 3.96 aMW from its programs in 2016-2017. This amount exceeds NEEA's original forecast of 2.57 aMW.

Much of the additional savings come from new programs such as Super-Efficient Dryers, Certified Refrigeration Energy Specialist and Retail Products Portfolio. These programs were in early development when NEEA created the targets in August 2015.

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<sup>1</sup> The utilities agreed that NEEA would develop a Total Regional Savings estimate using baseline and technical assumptions from the most recent Power Plan. NEEA would remove estimated savings counted by the utilities, the Bonneville Power Administration and the Energy Trust of Oregon. NEEA would allocate the remaining savings to the utilities based on their NEEA funder share percentage.

In addition, more mature programs such as Next Step Home, Heat Pump Water Heaters and Residential Lighting achieved savings above the initial forecast.

- Next Step Home: Efforts in the Next Step Home program enabled NEEA to generate and collect savings from partner programs such as Built Green and ENERGY STAR.
- Heat Pump Water Heaters: Sales of Heat Pump Water Heaters exceeded forecast by 3%.
- Residential Lighting: NEEA was able to leverage full-market data to analyze the trend of LED sales and to track and report savings from non-incandescent LED bulbs. The LED energy savings offset a decline in CFL savings. NEEA vetted the addition of LEDs to its reports with the Cost Effectiveness Advisory Committee and the Northwest Power and Conservation Council (Council). The savings are included in the Residential Lighting total.

One program that missed its 2016 target was Reduced Wattage Lamp Replacement. The program, which was in early development at the time of the target creation, missed its target because of new findings regarding size and accessibility of the distributor network and the regional growth in the LED product category. Despite missing targets, this initiative has made gains in establishing access to lighting data to help to create a platform for future lighting products for the region.

These savings are enabled by alliance investment in infrastructure (i.e. tools, training and resources), data and research that support the market's capability to deliver greater efficiency and NEEA's ability to measure and verify savings.

Table 1: Preliminary Remaining Savings Estimate<sup>2</sup>

			Biennium		
	2016 (Estimate)	2017 (Forecast)	Forecast	Target	
<b>Total</b>	<b>1.84</b>	<b>2.11</b>	<b>3.96</b>	<b>2.57</b>	
Industrial & Commercial	Building Operator Certification Expansion	0.05	0.08	0.13	0.17
	Commercial Real Estate	0.00	TBD	0.00	-
	Commissioning Buildings	0.16	0.16	0.32	0.15
	Desktop Power Supplies	0.23	0.22	0.45	-
	Existing Building Renewal	0.01	TBD	0.01	-
	Luminaire Level Lighting Controls	-	0.01	0.01	-
	Other Codes (Commercial)	-	0.03	0.03	0.03
	Reduced Wattage Lamp Replacement	0.08	0.15	0.23	0.54
	Drive Power	0.01	0.01	0.03	0.01
	Certified Refrigeration Energy Specialist (CRES)	0.01	0.03	0.04	-
Residential	Clothes Washers	0.09	0.09	0.18	-
	Ductless Heat Pumps	0.17	0.22	0.39	0.53
	Heat Pump Water Heaters	0.09	0.12	0.21	0.15
	Other Codes (Multifamily)	-	0.02	0.02	-
	Residential New Construction/Next Step Homes	0.14	0.17	0.31	0.11
	Residential Lighting	0.69	0.69	1.38	0.88
	Retail Product Portfolio	0.00	0.02	0.02	-
	Super-Efficient Dryers	0.11	0.09	0.19	-

<sup>2</sup> Estimates are based on actual sales data.



## Appendix A: Methodology to Estimate Savings

### Baseline

NEEA met with Council staff in June 2015 to align its measures with the draft 7<sup>th</sup> Power Plan. The baseline values from that meeting are what NEEA uses in this report. Aside from an update to the CFL general purpose bulb savings rate, these values are not significantly different from the final 7<sup>th</sup> Power Plan.

### Technical Assumptions

Where available, the technical assumptions come from the draft 7<sup>th</sup> Power Plan. For measures not in the Power Plan, NEEA uses either the Regional Technical Forum or other third-party research.

To compare the actual savings against the targets, NEEA freezes the technical assumptions. As a result, the savings rate only changes based on actual market data such as a change in the configuration of products sold. For 2016, NEEA did not update any of the savings rates for measures in the original forecast.

### New Savings Stream

This report includes additional measures from the original forecast. At the time, NEEA forecasted zero savings from programs with limited sales and/or per-unit savings data such as programs with site-based savings and products new to the portfolio.

The current forecast adds those savings streams using the 7<sup>th</sup> Power Plan baseline and technical assumptions unless NEEA has more up-to-date data. The new programs include:

- Existing Building Renewal
- Retail Products Portfolio
  - Room Air Conditioners
  - Freezers
- Super-Efficient Dryers
- Commercial Real Estate
- Certified Refrigeration Energy Specialist
- Clothes Washers
- Desktop Power Supplies

More detail about the savings assumptions are available upon request.

### Local Programs

To avoid double counting, the values exclude an estimate of savings the Energy Trust of Oregon, Bonneville Power Administration and local utilities claim through their programs. NEEA surveys these stakeholders every February to estimate the savings overlap. Then, NEEA subtracts these savings from the regional value to calculate Remaining Savings.

## Allocation

NEEA allocates the Remaining Savings using funder shares. The shares vary based on the funding cycle. Savings from previous investments receive the previous funder share. Savings from current investments receive the current funder share. Table 2 shows the funder shares.

Table 2: Funder Share for the Washington 2016-2017 Savings Forecast

### Funder Share

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*Puget Sound Energy*

Current	14.15%
2010-2014	13.80%
Previous (pre 2010 investments)	10.37%