



Quarterly Performance Report » Q4 2016

A Note from the Executive Director

2016 was a productive year for the alliance, which culminated in a busy fourth quarter. Highlights from the year include the addition of three new programs to NEEA's portfolio, the development of a regional strategic plan for the consumer products market and the launch of two regional stock assessments for commercial and residential buildings. In addition, the alliance tested and investigated over a dozen emerging technology opportunities, ranging from Ultra High Definition TVs to connected thermostats. Many of these products show great promise for the years ahead.

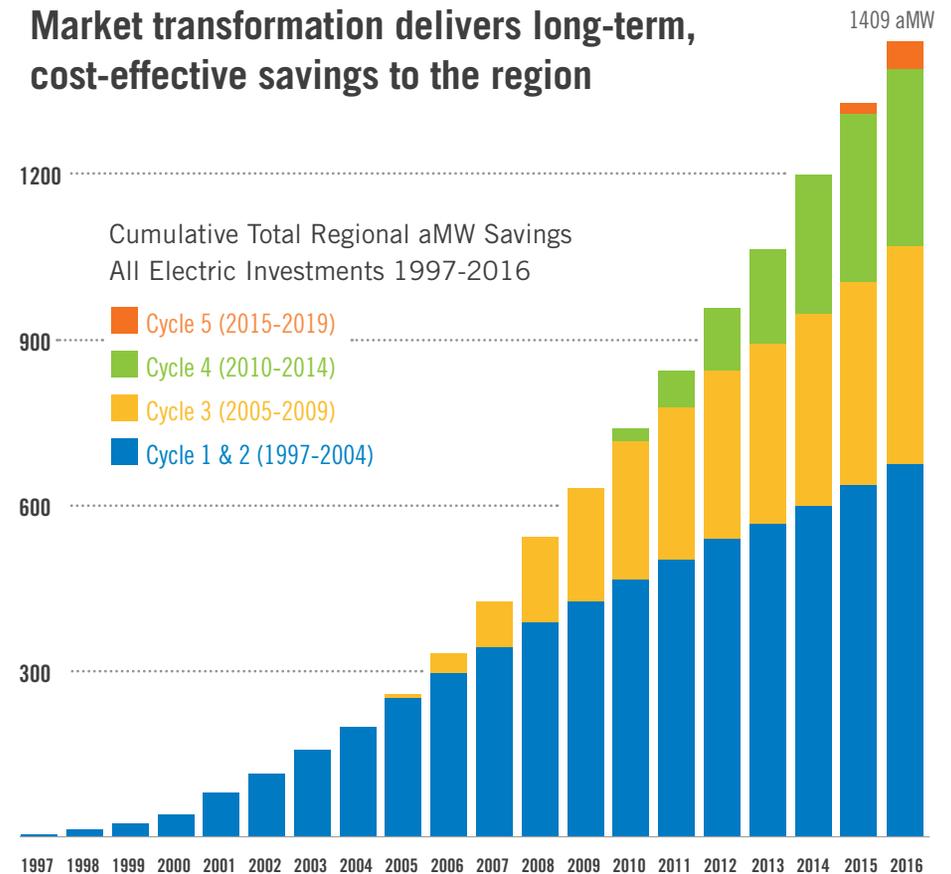
Fourth quarter saw a lot of important activity at the Regional Technical Forum, the result of much staff effort throughout the year (see pg. 4), and considerable market momentum for both reduced wattage lamps and ductless heat pumps.

In this quarter, the alliance:

- Saw market share for reduced watt lamps jump significantly with several of the largest participating distributors
- Documented a 14% increase in regional ductless heat pump sales over 2015 and a 12% increase in incented sales
- Leveraged over \$1.1 million (YTD) from market partners

Susan E. Stratton
Executive Director

Market transformation delivers long-term, cost-effective savings to the region





Electric Quarterly Performance Scorecard

			Target	Forecast/ Actual	Status Q3/ Q4
STRATEGIC GOALS <i>(Updated quarterly)</i>	Goal 1: Fill the Energy Efficiency Pipeline	Scanning portfolio health (aMW)	1400	1380	
		Pipeline health (aMW)	1000	1000	
		Program advancement (aMW)	175	210	
	Goal 2: Create Market Conditions for Efficiency	Program milestones on-track	90%	86%	

			Target	Forecast/ Actual	Status Q3/Q4
CO-CREATED ENERGY SAVINGS (aMW) <i>(Updated in Q1 and Q3)</i>	Current Business Plan Investments (2015-19)	1-yr Forecast (2016)	7.5	6.1 (pg. 3)	
		5-yr Forecast (2015-2019)	75	55-60	
		10-yr Forecast (2015-2024)	180	150-170	
	All Investments (1997-today)	1-yr Forecast (2016)	36	32	
		5-yr Forecast (2015-2019)	150	150-180	
		● = Within 20% of target ● = Within 1% of target or better ● = More than 20% below target			

			Budget	Forecast	Actual ⁱ	Status
COST-EFFECTIVENESS FINANCE AND OPERATIONS <i>(Updated quarterly)</i>	Cost-Effectiveness	Levelized Total Resource Cost ⁱⁱ (\$/kWh)	\$0.035	\$0.028	N/A	
	Finance	Current Quarter Expenses (\$M)	\$9.1	\$9.8	\$8.9	
		Full Year Expenses (\$M)	\$35.2	\$35.0	\$34.1	
		Business Admin Expenses (%)	<13%	10.0	10.1%	
	Staffing	Employee Retention (%)	>90%	N/A	84%	
Finance: ● = Within 5% of target; ● = 5-10% above or below target; ● = More than 10% above or below target Employee Retention: ● = At target or better; ● = Within 10% of target; ● = More than 10% below target						

Need to Know

- **Program milestones on-track:** This metric dropped from 92% to 86% in Q4, primarily due to lagging progress in the Next Step Home and Reduced Wattage Lamp Replacement programs (see pg. 3 for details).
- **Co-Created Energy Savings:** Shortfalls in both near- and long-term aMW savings are primarily due to challenges in the heat pump water heater and reduced wattage lamp replacement markets. Mitigation strategies are underway.
- **Current Quarter Expenses:** Q4 investments were below forecast primarily due to slower than expected market progress and lower consulting, conference and administrative fees.
- **Employee Retention:** While still below target, this metric saw positive momentum in Q4. Action plan is in place.

Definitions:

Scanning portfolio health - 20-year aMW potential of opportunities NEEA is investigating.

Pipeline health - 20-year aMW potential of opportunities for which NEEA is developing programs.

Program advancement - 20-year aMW potential of opportunities expected to move from program development into the market during this business cycle (2015-2019).

Co-Created Energy Savings - Energy savings that the region and local programs achieve by working together.

Business Administration Expenses - % of total budget dedicated to business administration, including executive office, overhead, shared expenses, etc. Does not include program administration expenses.

ⁱ Excludes Special Funds and Natural Gas Funds

ⁱⁱ Current investments (2015-2019)



Co-Created Savings

Program	2016 aMW forecast	% of total 2016 aMW forecast	Program milestones on track (Q3/Q4)	1-yr aMW forecast* status (Q1/Q3)	5-yr aMW forecast* status (Q1/Q3)
Ductless Heat Pumps	2.8	46%			
Heat Pump Water Heaters	0.7	11%			
Reduced Wattage Lamp Replacement	0.6	10%			
Standards not associated with programs	0.6	10%			
Codes not associated with programs	0.3	5%			
Efficient Homes (retired in 2016**)	0.3	5%	N/A		
Building Operator Certification	0.2	3%			
Certified Refrigeration Energy Specialist	0.2	3%			
Super-Efficient Dryers	0.2	3%			
Retail Product Portfolio	0.1	2%			
Next Step Homes	0.1	2%			
Luminaire Level Lighting Controls	0.0	0%		N/A	
Manufactured Homes	N/A	N/A		N/A	N/A
Commercial Code Enhancement	N/A	N/A		N/A	N/A
Commercial Window Attachments	N/A	N/A		N/A	N/A
Top-Tier Trade Ally Advanced Training	N/A	N/A		N/A	N/A
Commercial Real Estate	N/A	N/A		N/A	N/A
Industrial Technical Training	N/A	N/A		N/A	N/A
Strategic Energy Management	N/A	N/A		N/A	N/A
TOTAL	6.1	100%			

= More than 20% below target = Within 20% of target = Within 1% of target or better

*NEEA updates its savings forecast in Q1 and Q3

** Accounting for Efficient Homes program savings allocated to NEEA's previous business cycle after the target was set

Need to Know

Ductless Heat Pumps - Expecting to meet 5-year savings targets despite short-term market challenges.

Heat Pump Water Heaters - Lower than expected sales of large-tank (>55 gallon) HPWHs offsetting savings from sales of the smaller tanks. With Bradford White purchase of GE GeoSpring line, manufacturers representing 96% of the market have highly efficient (tier 2/3) models available to consumers.

Reduced Wattage Lamp Replacement – Despite Q4 market gains, which are expected to continue into 2017, annual market progress was slower than expected. In addition, region was unable to achieve alignment on a regionally coordinated midstream approach.

Next Step Homes – Delays in getting Regional Technical Forum approval for the New Homes protocol, which occurred in December 2016, hampered NEEA's ability to work with funders to get standard modeling programs in place.



GOAL 1 » Fill the Energy Efficiency Pipeline



Testing and vetting new opportunities for industrial customers per 2015-2019 Business Plan - Investigated two compressed air devices for use in industrial applications: an air saver unit for air nozzles (tested in partnership with BPA); and, a smart pneumatic valve for more effective air use and fault detection. Both technologies show promising results. Verifying technology performance is the first step toward eventual addition into funder program offerings.



Simplifying emerging technologies for funder programs:

Provided data, testimony and research to achieve Regional Technical Forum (RTF) approval in fourth quarter for:

- A new homes standard protocol, a critical step in moving the region toward performance-based residential new construction programs. The protocol gives builders flexibility in how they achieve energy savings and makes it easier for utilities to measure and verify these savings.
- A UES (unit energy savings) measure for clear water pump systems. With the UES in place, funders can more easily add this emerging technology to their suite of program offerings. NEEA staff is continuing to participate actively with ACEEE and industry market actors to expand this approach to compressors and fans.

GOAL 2 » Create Market Conditions



Shifting the lamp maintenance market toward low-watt lamps: Documented a significant increase in market share of low-watt lamps among electrical distributors participating in the Reduced Wattage Lamp Replacement program. This increase is primarily driven by special pricing agreements with manufacturers and preferential stocking of low-watt lamps, which the program influenced. Positive trend is expected to continue into 2017.



Readying the market for lighting controls:

Influenced the Regional Technical Forum to add luminaire-level lighting controls (LLLC) to its non-residential lighting calculator protocol making it easier for utilities to establish energy savings. Based on this, NEEA and utilities are collaborating to establish pilots and to incorporate LLLCs into existing utility programs.



Accelerating market adoption of heat pump water heaters

– Achieved Q4 sales of more than 1,700 highly-efficient (Tier 2/3) heat pump water heaters by securing manufacturer markdowns and delivering other market support. Almost 7,000 units were sold in the Northwest in 2016, exceeding the region’s goal for the year in spite of GE’s exit from the market.



Regional Value Delivery



Conducting market Research -

Conducted qualitative consumer market research to identify the most compelling value proposition for heat pump dryers. Results, which were shared with the Residential Advisory Committee and the Dryer Workgroup in January, will inform regional promotion efforts and local program activities.



Convening market actors -

Held real estate lunch & learn session (in Missoula, MT) to explore opportunities to increase the market value of energy efficiency in residential new construction. Those in attendance, including sales agents, brokers, appraisers, lenders, home inspectors, and home energy experts from local utilities and co-ops, clarified the barriers to energy-efficient homes and prioritized activities, trainings and resources to overcome those barriers.



Facilitating Regional Strategic Market Planning –

Worked with the Consumer Products Steering Committee to identify three products that will be prioritized in the regional strategic market plan currently in implementation: heat pump water heaters (HPWHs), smart thermostats and lighting. Regional efforts will focus first on HPWHs.

Codes and Standards



Influencing code change in Idaho and Montana -

Submitted final comments for the 2018 International Energy Conservation Code, which is the basis for the code in ID and MT. On behalf of the alliance, NEEA submitted 13 proposals, five of which were approved, including luminaire-level lighting controls and assurance that documentation and training are provided for all newly installed HVAC systems.



Improving code implementation across the region -

Implemented the on-site phase of a quality assurance pilot in Idaho. NEEA is working with select builders and jurisdictions to pilot what will become a regional quality assurance program, which will inform code implementation strategies such as education, training and technical assistance.



Need to Know

Higher incentives (large-tank Heat Pump Water Heaters, Retail Product Portfolio) and increased market support (Reduced Wattage Lamp Replacement), were managed through budget reductions in other areas.

Variances to Annual Budget:

- \$808K - HPWH manufacturer incentives
- \$248K - Retail Product Portfolio retailer incentives
- \$222K - Reduced Wattage Lamp Replacement market support
- (\$725K) - Super Efficient Dryer manufacturer incentives
- (\$663K) - Consulting, professional development and depreciation
- (\$342K) - Next Step Home program delays

YTD Electric Expenses = \$34.1 Million

Annual Budget vs. Forecast and YTD Actual

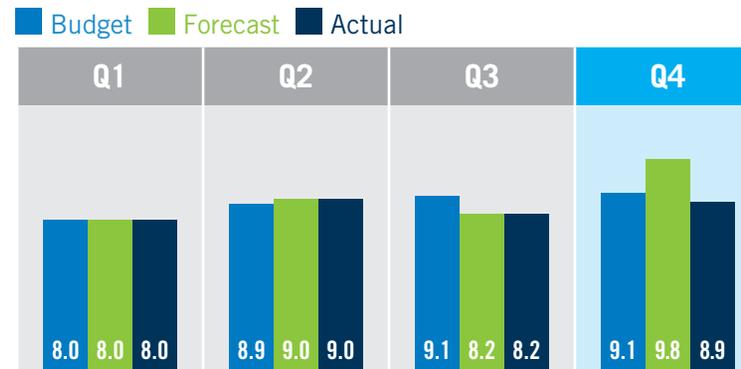
2016 electric investment was 96.8% of the approved budget and 97.4% of the Q4 forecast.

BUDGET	\$35.2
FORECAST	\$35.0
ACTUAL	\$34.1

\$Millions

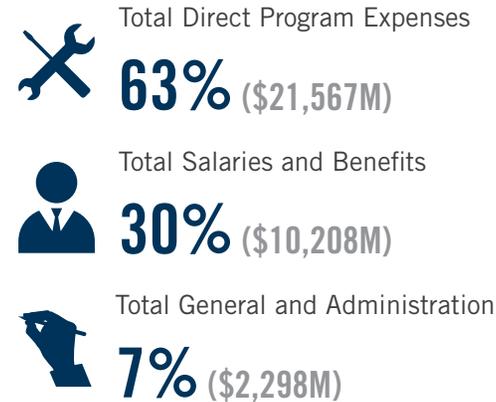
Quarterly Budget vs. Forecast vs. Actual

Q4 2016 electric investment was 98% of the approved quarterly budget and 91% of the Q4 forecast.

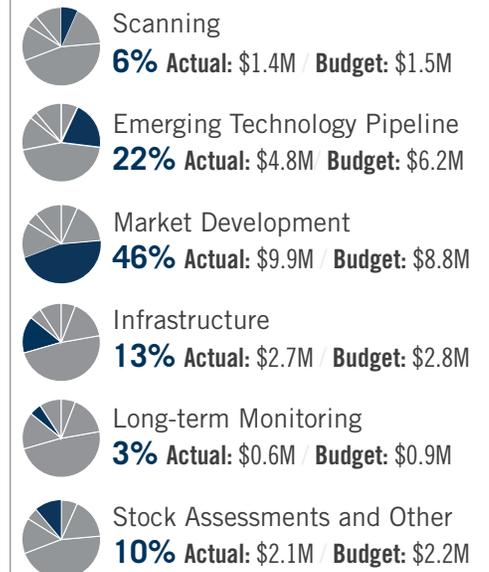


\$Millions

YTD Electric Expense Detail



YTD Direct Program Expenses by Pipeline Phase





Natural Gas Expenses and Quarterly Highlights

Need to Know

Natural Gas portfolio was managed to original budget in 2016.

Variances to Annual Budget:

- \$183K - Stock assessments and studies
- \$110K - Combo space and water heating
- \$57 - Administrative
- **(\$154K)** - Compensation and benefits
- **(\$137K)** - Hearth Products
- **(\$61K)** - Gas-fired heat pump water heaters

YTD Natural Gas Investment = \$ 2.9 Million

2016 natural gas investment was 100% of the approved budget and forecast.

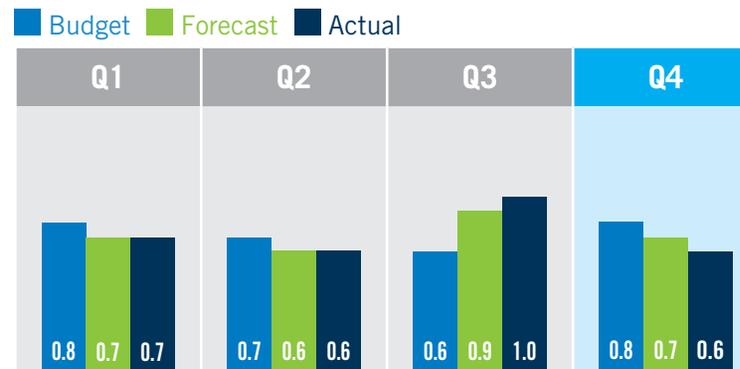
Annual Budget vs. Forecast and YTD Actual

BUDGET	\$2.9
FORECAST	\$2.9
ACTUAL	\$2.9

\$Millions

Quarterly Budget vs. Forecast vs. Actual

Q4 2016 natural gas investment was 75% of the approved quarterly budget and 86% of the Q3 forecast.



\$Millions

YTD Natural Gas Expense Detail

 Total Direct Program Expenses
59% (\$1.7M)

 Total Salaries and Benefits
21% (\$0.6M)

 Total General and Administration
20% (\$0.6M)

Quarterly Highlights



Gas-fired Heat Pump Water Heaters - Launched field study of Internal Combustion Engine (ICE) heat pump technology to understand the energy savings opportunity for commercial buildings.



Gas Rooftop HVAC - Completed market research to better understand the market opportunities, barriers and potential of Condensing Rooftop HVAC equipment.

TOGETHER *We Are Transforming the Northwest*



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All NEEA quarterly performance reports are available on neea.org.