

2017 Annual Report

NW Natural Washington

INCENTIVE PROGRAM & NEEA MARKET TRANSFORMATION

ENERGY TRUST OF OREGON
APRIL 25, 2018

I. Introduction, background, oversight and goals

A. Introduction

This annual report covers 2017, the eighth full year that Energy Trust of Oregon provided services and incentives to residential and commercial customers of NW Natural in Washington. It addresses progress toward annual goals, information on expenditures, gas savings, projects completed, incentives paid during the year and highlights of program activity.

B. Background

At the request of NW Natural and following approval granted by the Washington Utilities and Transportation Commission (WUTC), Energy Trust began administering NW Natural's demand-side management programs in Southwest Washington on October 1, 2009. The first year was viewed as a pilot. Satisfied with results from the pilot year, in 2011 the WUTC approved Energy Trust's continued administration of conservation programs for NW Natural in Washington.

C. Oversight

The Energy Efficiency Advisory Group (EEAG) was created, at the direction of the WUTC, to provide advice and oversight for NW Natural and Energy Trust energy-efficiency offerings in Washington. The advisory group is comprised of representatives from NW Natural, Energy Trust, WUTC, Washington Public Counsel, Northwest Industrial Gas Users and the Northwest Energy Coalition.

D. Goals

NW Natural, in collaboration with the EEAG, established performance metrics for 2017. This report presents Energy Trust's performance against those goals. The total savings goal for the portfolio was 282,539 therms. This is comprised of 68,253 therms for Existing Homes, 57,761 therms for New Homes and Products, and 156,525 therms for Commercial.

II. Annual report highlights

A. General

- **In 2017, Energy Trust saved a total of 391,606 therms and achieved 139 percent of the annual portfolio goal.**
- **Gas efficiency measures installed in 2017** by NW Natural's Washington customers saved 391,606 total annual therms of natural gas—including 154,866 annual therms in the commercial sector, 123,724 annual therms in Existing Homes and 113,017 annual therms in New Homes and Products programs.
- **In total, savings achieved in 2017 were 18 percent higher than 2016 savings, due to a strong residential new construction market.** A strong local economy was likely a contributing factor in many homeowners' decisions to make home energy upgrades in 2017, including efficient gas furnace installations and window replacements.

B. Commercial sector highlights

- **The commercial sector achieved 99 percent of the annual goal.**
- **Approximately 70 percent of commercial savings were from boiler projects.** Savings from boilers increased 400 percent from 2016.
- **The standard track performed at 180 percent over goal,** due in large part to the high savings from boiler projects and consistent savings from foodservice equipment. The custom track only achieved 27 percent of goal, primarily due to the delay of eight schools projects from 2017 to 2018 that are expected to bring in 34,871 therms to the program.
- **The schools sector emerged as a significant source of savings in 2017.** The program expects savings from schools to remain significant in 2018 and beyond due to passage of bond measures funding construction of new school facilities.
- **The commercial program increased outreach and promotion of new commercial construction offerings to trade allies, architects and key customers.** The increased outreach resulted in achieving 95,624 therm savings, making up almost 62 percent of the commercial savings goal.

C. Residential sector highlights

- **The residential sector saved nearly double the annual goal of 126,014 therms.**

Existing Homes

- **Existing Homes saved 123,724 annual therms** in 2017, primarily through furnaces (33 percent of total Existing Homes savings), fireplaces with electronic ignition (21 percent), Energy Saver Kits (15 percent) and Nest Seasonal Savings (12 percent).
- **HVAC contributed 77 percent of Existing Homes savings in 2017.**
- **Furnace savings increased by 34 percent** compared to 2016 results, while fireplaces continued to decrease in volume as savings dropped by 27 percent compared to 2016.
- **On-bill repayment financing was used for 28 projects** in 2017, a 36 percent increase compared to 2016. Resulting in savings of 2,204 therms, all 28 projects were gas furnace upgrades. Energy Trust paid \$5,450 in incentives and customers took out \$225,517 in loans.

Financing with on-bill repayment reduces the upfront cost as a barrier to installing energy-efficient upgrades.

- **Existing Homes recognized 40 percent more smart thermostats** in 2017 compared to 2016. Smart thermostats were bolstered by increased customer awareness, simple online incentive applications and cross promotion with Clark Public Utilities.
- **Existing Homes shifted gas tank water heater incentives to a midstream approach.** Midstream incentives are provided to distributors and retailers to encourage stocking of energy-efficient equipment and reduce costs for customers.
- **The program introduced a new customer-facing tankless water heater incentive.**
- **Existing Homes launched measure-specific strategies to improve the overall incentive-to-delivery ratio and to lower the cost of gas savings.** Less expensive acquisition strategies succeeded in supporting the cost-effectiveness of the Washington portfolio. Strategies included promotion of several highly cost-effective savings strategies, including launching a marketing campaign promoting Energy Saver Kit, working with Nest Labs to launch Nest Seasonal Savings customer engagement, and claiming a full-year of gas fireplace electronic ignition sales data and savings.

New Homes and Products

- **More than 3,000 EPS and ENERGY STAR® homes have been recognized** through New Homes since program inception in 2010.
- **Despite a new residential energy code baseline, the New Homes Program exceeded savings** and participation expectations with nearly 200 more homes recognized in 2017 than originally forecasted. The total market share of energy-efficient homes is 55 percent.
- **New Homes and Products spent 76 percent more on incentives than budgeted** primarily due to the strong housing market and faster than expected adoption of EPS during a new code cycle year. The forecast and budget for 2018 reflects this higher level of adoption.
- **The New Homes program had one new verifier join the program** in 2017, bringing the total number of verifiers to five.
- **New Homes started working with four new EPS home builders** in Washington, bringing the total number of builders to 16. Five EPS verifiers also serve Washington.
- **Nearly 5,000 high-efficiency showerheads contributed 36 percent of New Homes and Products savings**, up from 8 percent of savings from showerheads in 2016. Strong savings can be attributed in part to Simple Steps, Smart Savings™ promotions that increased sales at participating retailers.

Trade Ally Network Highlights

- **By year-end, 236 trade allies served Washington, up from 207 in 2016**, for a net difference of 29. This includes 83 trade allies based in Washington.
- **Energy Trust enrolled 36 new trade allies serving Washington in 2017.**

Program evaluations

- No Washington focused evaluations were performed or completed in 2017.
- Energy Trust anticipates spending NW Natural Washington evaluation funds in 2018 as part of an Existing Buildings Process Evaluation that will include Washington.
- A Residential Process Evaluation, which will also include Washington, is planned for 2019.

Washington Utilities and Transportation Commission performance metrics

The table below compares quarterly results to 2017 goals, as established in NW Natural's Energy Efficiency Plan for Washington (filed December 2017).

2017 results compared to goals

Metrics	Goal	2017 YTD	Q1 results	Q2 results	Q3 results	Q4 results
Therms Saved	282,539	391,606	74,794	82,776	69,878	164,157
Total Program Costs	\$1,975,211	\$2,152,973	\$442,268	\$416,377	\$557,266	\$737,063
Average Levelized Cost Per Measure	Less than \$0.65	\$0.41	\$0.40	\$0.41	\$0.56	\$0.34
Utility Costs at Portfolio Level	Greater than 1.0	1.69	Reported annually	Reported annually	Reported annually	Reported annually

- This table does not include savings goal or budget associated with NW Natural's Washington Low-Income Energy Efficiency (WA-LIEE) program delivery.
- Northwest Energy Efficiency Alliance (NEEA) gas market transformation activities are not included in this table.

2016 results compared to goals for reference

Metrics	Goal	2016 Actuals	Q1 results	Q2 results	Q3 results	Q4 results
Therms Saved	223,706 - 263,184	330,866	24,195	48,227	73,153	185,291
Total Program Costs	\$1,441,218 - \$1,695,551	\$1,818,821	\$261,402	\$331,106	\$466,681	\$759,633
Average Levelized Cost Per Measure	Less than \$0.65	\$0.41	\$0.81	\$0.54	\$0.44	\$0.31
Utility Costs at Portfolio Level	Greater than 1.0	1.53	Reported annually	Reported annually	Reported annually	Reported annually

2017 Utility Cost and Total Resource Cost benefit cost ratios by program

Program	Utility Cost Test benefit/cost ratio	Total Resource Cost Test benefit/cost ratio
Commercial	1.90	2.50
Existing Homes	1.81	1.35
New Homes and Products	1.38	0.77
Total NW Natural Washington portfolio	1.69	1.25

- Does not include NEEA or WA-LIEE expenses.

2017 Total Utility Cost and Total Resource Cost benefit cost ratios

Program	Utility Cost Test Benefit Cost Ratio	Total Resource Cost Test Benefit Cost Ratio
NW Natural Washington Portfolio	1.69	1.25
NW Natural Washington Low Income	1.02	0.75
Total NW Natural Washington	1.66	1.24
Total Washington Portfolio*	1.61	1.22

- * Includes NEEA expenses

III Annual Results

A. Activity highlights—sites served

	Q1	Q2	Q3	Q4	Total
Commercial					
Boiler	3	1	6	9	19
Commercial laundry washer	-	-	-	-	-
Commercial tankless water heater	-	-	-	-	-
Condensing tank water heater	-	4	2	11	17
Custom building controls	-	1	-	-	1
Dishwasher	1	4	-	-	5
Gas convection oven	-	2	1	1	4
Gas combination oven	-	-	-	-	-
Gas fryer	-	23	7	10	40
Gas griddle	-	-	-	-	-
High-efficiency condensing furnace	-	-	-	-	-
High-efficiency condensing unit heater	-	-	-	-	-
Custom	-	1	-	2	3
Pipe insulation	-	-	-	-	-
Roof insulation	-	-	1	-	1
Studies	3	1	7	-	11
Wall insulation	-	-	-	-	-
Existing Homes					
Weatherization (insulation, air and duct sealing and windows)	26	48	71	92	237
Gas hearths	9	28	10	16	63
Energy Saver Kits	14	64	39	618	735
Smart thermostats	54	59	60	144	317
Gas Boilers	-	-	-	1	1
Gas furnaces	65	118	137	187	507
Water heaters	1	1	3	5	10
Online Home Energy Reviews	64	50	39	35	188
New Homes					
New EPS homes	88	175	155	370	788

B. Revenue

Source	Actual revenue	Budgeted revenue
NW Natural \$	2,120,834 \$	2,020,834

- Energy Trust requested that NW Natural distribute additional revenue at year-end to ensure adequate funds were available to support programs that performed above average.

C. Expenditures

		Actual	Budgeted	Variance
		expenditures	expenditures	
Commercial programs	Commercial	\$ 815,529	\$ 813,201	\$ (2,328)
	Commercial administration	\$ 33,314	\$ 34,263	\$ 949
Commercial total		\$ 848,843	\$ 847,464	\$ (1,379)
Residential programs	Existing Homes	\$ 502,567	\$ 513,276	\$ 10,710
	Existing Homes administration	\$ 20,529	\$ 21,626	\$ 1,097
	New Homes and Products	\$ 750,382	\$ 568,799	\$ (181,583)
	New Homes/products administration	\$ 30,652	\$ 23,965	\$ (6,687)
Residential total		\$ 1,304,131	\$ 1,127,667	\$ (176,464)
NEEA	NEEA Commercial	\$ 14,320	\$ 29,627	\$ 15,307
	NEEA Residential	\$ 57,281	\$ 74,531	\$ 17,250
	NEEA administration	\$ 2,925	\$ 4,389	\$ 1,464
NEEA total		74,526	108,546	34,021
Total expenditures		\$ 2,227,499	\$ 2,083,677	\$ (143,822)

- The expressed budget differs from the filed NWN 2017 Energy Efficiency Plan by roughly \$100 due to variances related to small edits, rounding differences and slight differences in expected State of Washington taxes.
- Energy Trust allocated budget to NEEA for gas market transformation activities in 2017.

D. Incentives paid¹

		Actual	Actual	Percent incentives/
		incentives	expenditures	expenditures
Commercial programs	Existing Buildings	\$ 449,814	\$ 848,843	53%
	Commercial total	\$ 449,814	\$ 848,843	53%
Residential programs	Existing Homes	\$ 254,633	\$ 523,096	49%
	New Homes and Products	\$ 478,427	\$ 781,035	61%
Residential total		\$ 733,060	\$ 1,304,131	56%
Total incentives		\$ 1,182,874	\$ 2,152,973	55%

¹ NEEA expenditures excluded per NW Natural Washington's Energy Efficiency Plan.

E. Savings

		Therms saved YTD	Annual goal	Percent achieved YTD	Levelized cost/therm
Commercial programs	Existing Buildings	154,866	156,525	99%	\$ 0.39
	Commercial total	154,866	156,525	99%	\$ 0.39
Residential programs	Existing Homes	123,724	68,253	181%	\$ 0.36
	New Homes and Products	113,017	57,761	196%	\$ 0.49
	Residential total	236,740	126,014	188%	\$ 0.42
	Total savings	391,606	282,539	139%	\$ 0.41

- Energy Trust allocated budget to NEEA for gas market transformation activities in 2017. While there were no associated savings to date, savings are expected in subsequent years.

NW Natural Appendix 1: 2017 energy efficiency measure counts and savings

Table 1: Residential sector measures

Category	Measure	Measures installed	Total therms saved
Energy Saver Kits	Energy Saver Kits	735	18,495
	Energy Saver Kits total	735	18,495
Online Home Energy Reviews	Online Home Energy Reviews total	188	0
Weatherization	Ceiling insulation	11	780
	Duct Insulation	2	25
	Floor Insulation	1	12
	Wall insulation	3	180
	Windows	220	8,201
	Weatherization total	237	9,198
Space heating	Smart thermostats	317	10,112
	Seasonal Savings pilot	917	14,672
	Furnaces	507	40,936
	Gas Boilers	1	44
	Gas fireplaces	67	3,864
	Gas fireplace retailer & distributor SPIFs	1,243	25,482
	Space heating total	3,052	95,110
Water heating	Tank water heaters	6	176
	Tank water heater retailer & distributor SPIFs	16	448
	Tankless water heaters	4	297
	Water heating total	26	921
New homes and products	New EPS homes	788	71,867
	Water saving products	4,986	41,150
	New homes and products total	5,774	113,017
	Grand total	10,012	236,740

Table 2: Commercial sector measures

Category	Measures	Measures installed	Total therms saved
Commercial clothes washers	Clothes washer	-	-
Commercial clothes washers total		-	-
Foodservice equipment	Dishwasher	5	2,433
	Gas convection oven	4	1,510
	Gas fryer	40	22,760
	Gas griddle	-	-
	Gas combination oven	-	-
Foodservice equipment total		49	26,703
Shell insulation	Roof insulation	1	675
	Wall insulation	-	-
Shell insulation total		1	675
Space heating	Gas-fired condensing boiler	19	107,102
	High-efficiency condensing furnace	-	-
	High-efficiency condensing unit heater	-	-
	Pipe insulation	-	-
Space heating total		19	107,102
Water heating	Faucet aerators	-	-
	Commercial tankless water heater	-	-
	Condensing tank water heater	17	4,132
Water heating total		17	4,132
Custom	Custom other	3	16,254
	Study	11	-
Custom total		14	16,254
Grand Total		100	154,866

NW Natural Appendix 2: Customer satisfaction

In 2017, Energy Trust conducted short phone surveys of NW Natural customers in Washington to determine satisfaction with their participation in Energy Trust programs. Results from 176 residential customers and 10 commercial customers indicate a generally high level of customer satisfaction.

In 2017, more than 14.5 percent of residential customers submitted applications with missing information, delaying turnaround time to receive incentives. Energy Trust issued incentive checks for 99 percent of all completed applications within eight weeks, the time allowed in the service level agreement.

To improve customer satisfaction with incentive application forms and reduce turnaround time to receive incentives, Energy Trust enhanced paper and web forms to make them easier to complete. In addition, Energy Trust released a new website in 2017 featuring improvements to help Washington customers find appropriate forms faster and more easily.

To improve customer satisfaction in 2018, the program will focus on reducing incentive check wait times through a goal of cutting checks within four weeks of receiving a completed incentive application.

Table 1: NW Natural Washington residential customer satisfaction 2017

Residential (n=176)	Dissatisfied	Neutral	Satisfied
Overall satisfaction	4%	3%	93%
Incentive application form	<1%	6%	94%
Turnaround time to receive incentive	12%	16%	72%

Energy Trust surveyed 10 commercial customers in Washington in 2017. Most respondents were satisfied with their overall program experience, incentive amount, ease of applying for the incentive and interaction with program representatives.

Table 2: NW Natural Washington commercial customer satisfaction 2017

Commercial (n=10)	Dissatisfied	Neutral	Satisfied
Overall satisfaction	0	1	9
Incentive amount	0	0	10
Ease of applying for incentive	0	1	9
Interaction with program representative	0	0	9
Performance of project or system	0	1	9
Turnaround time to receive incentive	1	1	8