

2018 Annual Report NW Natural Washington

ENERGY TRUST OF OREGON
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I. Introduction, background, oversight and goals

A. Introduction

This annual report covers 2018, the ninth 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 2018. This report presents Energy Trust's performance against those goals. The total savings goal for the portfolio was 359,880 therms. This is comprised of 199,880 therms for Residential and 160,000 therms for Commercial.

II. Annual report highlights

A. General

- **In 2018, Energy Trust saved 372,005 therms and achieved 103 percent of the annual portfolio goal.**
- **Gas efficiency measures installed in 2018** by NW Natural's Washington customers saved 372,005 annual therms of natural gas—including 161,632 annual therms in the Commercial sector and 210,373 in the residential sector.
- **A strong local economy has continued to benefit both Residential and Commercial programmatic activity driving** many new construction and retrofit projects. New schools contributed heavily to the Commercial track. The New Homes construction market is still strong but slowed slightly and is showing leveling of project volumes which resulted in total savings achieved in 2018 5 percent lower than 2017 savings.

B. Commercial sector highlights

- **The commercial sector achieved 101 percent of the annual commercial goal.**
- **The standard track comprised 67 percent of the total goal (42 percent Existing Buildings, 25 percent New Buildings)** due in large part to the high savings from boiler projects and consistent savings from foodservice equipment. The custom track achieved the remaining 33 percent of the total commercial goal.
- **Standard track accomplished 99 percent of the budgeted standard track goal** and the custom track accomplished 106 percent of the budgeted custom track goal.
- **Savings from commercial new building construction was driven by boilers, water heaters, foodservice equipment and radiant heaters.**
- **The program brought in 17 schools projects** that were supported by bonds comprising of 110,599 therms saved, three of which were new school projects and 14 were existing retrofit.
- **In 2018, four commercial multifamily projects were completed** and received incentives for water heaters, pool heaters and boilers as a result of new outreach efforts. Sites included a new 200-unit multifamily complex and three existing affordable housing locations.
- **The commercial program visited over 100 restaurants in fast-growing regions of Clark County** to encourage participation, resulting in 13 percent of the program's savings from foodservice equipment.

C. Residential sector highlights

- **The residential sector achieved 105 percent of the annual residential goal.**
- **Energy Trust launched new measures for Southwest Washington multifamily customers,** including smart thermostats, gas furnaces, gas fireplaces and tankless water heaters.
- **Approximately 35 percent of residential savings in 2018 were from EPS™ New Construction homes,** with home retrofit measures contributing an additional 50 percent of savings. Energy-efficient equipment midstream incentives paid to distributors and retailers made up an additional 14 percent of residential savings, with residential multifamily projects making up the remaining 1 percent.

Home Retrofit

- **In 2018, gas furnace savings accounted for 33 percent of the total home retrofit savings.**
- **The residential program recognized 30 percent more smart thermostats in 2018 compared to 2017**, as a result of strategic marketing efforts, instant coupons and cross-promotion with Clark Public Utility District.
- **The residential program developed and launched an instant coupon** that allows customers to receive smart thermostat incentives online or at the register in select retail stores. In Q4, Energy Trust worked with NW Natural to launch an email campaign to NW Natural Washington customers promoting the instant coupon and black Friday deals. Over 100 smart thermostat coupons were redeemed from this campaign.
- **Thermostat offerings accounted for 23 percent of the total residential savings and 47% of Home Retrofit savings.**
- **Savings from showerheads declined nearly 50 percent when compared to 2017**, due to a reduction in the number of participating retailers selling eligible showerheads.
- **2018 was the first year offering measures and incentives for residential multifamily customers.** Market adoption was slower than anticipated as customers and contractors became familiar with program offerings. Multifamily projects included the following measures: gas furnaces, gas hearth, smart thermostats, gas tankless water heater and windows.

EPS New Construction

- **In 2018, over 700 homes participated in EPS New Construction**, achieving 119 percent of the EPS New Construction annual savings goal.
- **EPS homes saved more energy on average in 2018 than in 2017.** This was a result of more EPS homes than expected built to 20 percent better than code (pathway 2), which require more efficiency and yield more savings than homes built 10 percent better than code (pathway 1).
- **More than 3,700 EPS and ENERGY STAR® homes have been recognized since 2010.**
- Approximately 45 percent of new homes built in the NW Natural Washington territory participated in the EPS offering.

Trade Ally Network Highlights

- **By year-end, 267 trade allies served Washington, up from 236 in 2017**, for a net difference of 31. This includes 88 trade allies based in Washington.

D. Program evaluations

- **In 2018, Energy Trust completed an Existing Buildings Impact Evaluation 2015-2016**, which is available at https://www.energytrust.org/wp-content/uploads/2018/07/Existing_Buildings_Impact_Evaluation_2015-2016.pdf.
 - Energy Trust will apply the findings from this impact evaluation to some commercial measures in 2019 to ensure reported savings are in alignment with actual savings.
- In 2019, Energy Trust anticipates completing an Existing Buildings Process Evaluation and a Residential Process Evaluation, both of which will include Washington. Links to evaluation reports will be provided in quarterly reporting once available.

E. Washington Utilities and Transportation Commission performance metrics

The table below compares quarterly results to 2018 goals, as established in NW Natural's Energy Efficiency Plan for Washington (filed December 2017).

2018 Results compared to goals

Metrics	Goal	2018 YTD	Q1 results	Q2 results	Q3 results	Q4 results
Therms Saved	359,880	372,005	44,057	81,330	54,009	192,609
Total Program Costs	\$2,254,265	\$2,110,012	\$363,417	\$525,787	\$451,237	\$769,571
Average Levelized Cost Per Measure	Less than \$0.65	\$0.43	\$0.59	\$0.48	\$0.61	\$0.31
Utility Cost at Portfolio Level	Greater than 1.0	2.46	Reported annually	Reported annually	Reported annually	Reported annually

- Levelized cost is reported per quarter for the projects realized in that quarter.
- 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.

2017 Results compared to goals (for reference)

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

- NEEA gas market transformation activities are not included in this table.

2018 Utility Cost Test and Total Resource Cost Test benefit/cost ratios by program

Program	Utility Cost Test benefit/cost ratio	Total Resource Cost Test benefit/cost ratio
Commercial programs	2.65	1.98
Residential programs	2.32	1.12
Total NW Natural Washington portfolio	2.46	1.39

- Table uses 2018 Avoided Cost (UCT and TRC would be 1.55 and 0.96 utilizing 2016 Avoided Costs)
- Table does not include NEEA or WA-LIEE expenses

2018 Total Utility Cost Test and Total Resource Cost Test benefit/cost ratios

Program	Utility Cost Test benefit/cost ratio	Total Resource Cost Test benefit/cost ratio
NW Natural Washington Portfolio	2.46	1.39
NW Natural Washington Low Income	1.46	1.24
Total NW Natural Washington	2.40	1.39
Total Washington Portfolio*	2.24	1.34

*Includes costs associated with NEEA's gas market transformation efforts.

III Annual Results

A. Activity highlights—Projects Completed

Sites may be represented multiple times if multiple measures were installed.

	Q1	Q2	Q3	Q4	Total
Commercial					
Boiler	2	-	2	10	14
Commercial laundry washer	-	-	-	-	-
Commercial tankless water heater	-	-	-	1	1
Condensing tank water heater	2	4	4	3	13
Custom	-	5	-	5	10
Custom building controls	-	4	-	2	6
Dishwasher	-	-	-	1	1
Gas convection oven	-	-	1	1	2
Gas combination oven	-	-	-	-	-
Gas fryer	7	5	10	7	29
Gas griddle	-	-	-	-	-
High-efficiency condensing furnace	-	-	-	-	-
High-efficiency condensing unit heater	-	-	-	-	-
Infrared radiant heater	8	-	-	-	8
Pipe insulation	-	-	-	-	-
Roof insulation	-	-	1	-	1
Studies	-	-	2	1	3
Wall insulation	-	-	1	-	1

	Q1	Q2	Q3	Q4	Total
Residential					
Weatherization (insulation, air and duct sealing and windows)	48	53	75	96	272
Gas hearths	14	20	10	18	62
Energy Saver Kits	20	21	11	47	99
Smart thermostats	79	79	69	207	434
Gas boilers	-	-	-	1	1
Gas furnaces	88	98	103	144	433
Water heaters	5	6	7	16	34
Online Home Energy Reviews	41	29	9	41	120
EPS new construction	131	148	120	310	709

B. Revenue

Source	Actual revenue	Budgeted revenue
NW Natural \$	2,428,812 \$	2,466,148

C. Expenditures

			Actual expenditures YTD	Budgeted expenditures YTD	Variance
Commercial program	Commercial	\$	814,938	\$ 868,656	\$ 53,718
	Commercial administration	\$	37,488	\$ 40,956	\$ 3,468
Commercial total		\$	852,426	\$ 909,612	\$ 57,186
Residential program	Residential	\$	1,202,280	\$ 1,258,127	\$ 55,847
	Residential administration	\$	55,306	\$ 59,319	\$ 4,013
Residential total		\$	1,257,586	\$ 1,317,445	\$ 59,859
NEEA	NEEA Commercial	\$	-	\$ 36,359	\$ 36,359
	NEEA Residential	\$	-	\$ 98,303	\$ 98,303
	NEEA administration	\$	-	\$ 6,349	\$ 6,349
NEEA total		\$	-	\$ 141,011	\$ 141,011
Total expenditures		\$	2,110,012	\$ 2,368,069	\$ 258,057

- The budgeted expenditures in Energy Trust's system differs from the budgeted expenditures filed in NW Natural's 2018 Energy Efficiency Plan by roughly \$27,000 due to changes made to internal costs that resulted after the efficiency plan was filed. The actual expenditures year-to-date are \$144,253 less than the filed 2018 budget of \$2,254,265.
- Effective Q1 2018, NW Natural decided to fund NEEA gas market transformation efforts directly rather than through Energy Trust. This decision was made after completion of Energy Trust's 2018 budget, which included NEEA expenditures. Going forward, Energy Trust will make no further payments to NEEA; however, NEEA funding remains in Energy Trust's budget through the end of 2018.

D. Incentives paid¹

	Actual incentives YTD	Actual expenditures YTD	Percent incentives/ expenditures
Commercial program	\$ 438,278	\$ 852,426	51%
Residential program	\$ 682,269	\$ 1,257,586	54%
Total incentives	\$ 1,120,547	\$ 2,110,012	53%

E. Savings

	Therms saved YTD	Annual goal	Percent achieved YTD	Levelized cost/therm
Commercial program	161,632	160,000	101%	\$ 0.41
Residential program	210,373	199,880	105%	\$ 0.46
Total savings	372,005	359,880	103%	\$ 0.43

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

NW Natural Appendix 1:

2018 Energy efficiency measure counts and savings

Table 1: Residential sector measures

Category	Measure	Measures installed	Total therms saved
Energy Saver Kits	Energy Saver Kits total	99	2,967
Online Home Energy Reviews	Online Home Energy Reviews total	120	0
Weatherization	Ceiling insulation	17	1,385
	Duct Insulation	1	12
	Floor Insulation	4	205
	Wall insulation	5	274
	Windows	210	10,049
	Weatherization total	237	11,924
Space heating	Smart thermostats	434	13,835
	Seasonal Savings pilot	2,230	35,680
	Furnaces	438	35,307
	Gas Boilers	2	89
	Gas fireplaces	65	3,668
	Gas fireplace retailer & distributor SPIFs	1,481	8,294
	Space heating total	4,650	96,872
Water heating	Retail showerheads	2,644	21,174
	Tank water heaters	0	0
	Tank water heater retailer & distributor SPIFs	17	437
	Tankless water heaters	33	2,449
	Water heating total	2,694	24,060
EPS New Construction	EPS New Construction	709	73,222
Other	Other	1	1,329
	Grand total	8,510	210,373

- “Other” represents savings from projects that did not complete incentive applications materials needed to pay incentives, such as by omitting information on incentive application materials (i.e. customer/contractor signature, date of installation on invoice, etc.). Energy Trust claimed savings for these projects because they were influenced by the program even though they did not receive incentives. Energy Trust follows up with participants at least three times to collect any outstanding information. There was no meaningful impact on results (TRC/UCT/Levelized cost < +/- 0.5%)

Table 2: Commercial sector measures

Category	Measures	Measures installed	Total therms saved
Commercial clothes washers	Clothes washer	-	-
Commercial clothes washers total		-	-
Foodservice equipment	Dishwasher	1	217
	Gas convection oven	2	604
	Gas fryer	29	21,053
	Gas griddle	-	-
	Gas combination oven	-	-
Foodservice equipment total		32	21,874
Shell insulation	Roof insulation	1	340
	Wall insulation	1	154
Shell insulation total		2	494
Space heating	Gas-fired condensing boiler	14	69,882
	High-efficiency condensing furnace	-	-
	High-efficiency condensing unit heater	-	-
	Infrared radiant heater	8	5,376
	Pipe insulation	-	-
Space heating total		22	75,258
Water heating	Faucet aerators	-	-
	Commercial tankless water heater	1	82
	Condensing tank water heater	13	10,928
Water heating total		14	11,010
Custom	Custom other	16	52,996
	Study	3	0
Custom total		19	52,996
Grand Total		89	161,632

NW Natural Appendix 2: Customer satisfaction

In 2018, Energy Trust conducted short phone surveys of NW Natural customers in Washington to determine satisfaction with their participation in Energy Trust programs. Results from 233 residential customers and 11 commercial customers indicate a generally high level of customer satisfaction. Most residential customers in Washington were satisfied with their overall program experience and some customers were dissatisfied with the turnaround time to receive their incentive.

Table 1: NW Natural Washington residential customer satisfaction 2018

Residential (n=233)	Dissatisfied	Neutral	Satisfied
Overall experience	1%	5%	94%
Incentive application form	2%	5%	93%
Turnaround time to receive incentive	11%	12%	77%

Energy Trust surveyed 11 commercial customers in Washington in 2018. Nearly all 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 2018

Commercial (n=11)	Dissatisfied	Neutral	Satisfied
Overall experience	0	0	11
Incentive amount	0	0	10
Ease of applying for incentive	0	1	9
Interaction with program representative	0	0	8
Performance of project or system	0	0	10
Turnaround time to receive incentive	0	1	8