

# 2022 Annual Energy Efficiency Report NW Natural - Washington

---

**ENERGY TRUST OF OREGON**

**JUNE 15, 2023**

## TABLE OF CONTENTS

I.	Introduction, background, oversight and goals	3
II.	Annual report highlights	4
III.	Annual results	8
	APPENDIX 1: Energy efficiency measure counts and savings	10
	APPENDIX 2: Customer satisfaction	12
	Washington Market Transformation 2022 Program Results	13
	Gas Measure Analysis 2022 Regional Engagement	16
	Washington Low Income Energy Efficiency Program 2022 Program Results	17
	Washington Pilot & Trials 2022 Results	19

## **I. Introduction, background, oversight, and goals**

### **A. Introduction**

This annual report covers all of NW Natural's energy efficiency activities in Washington for 2022. The completion of the program year marks the 13<sup>th</sup> year that Energy Trust of Oregon has provided services and incentives to residential and commercial customers of NW Natural in Washington. This report addresses progress toward annual and biennial 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 implementing NW Natural's demand-side management programs in Southwest Washington on October 1, 2009. The first year was viewed as a pilot. In 2011, the WUTC approved NW Natural's use of Energy Trust as implementer of Commercial and Residential conservation programs for NW Natural in Washington. With the passage of HB1257, reporting has shifted to biennial planning. This annual report marks the progress made within the first year of the 2022-2023 Biennial Energy Efficiency Plan.

### **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, Energy Project, Association of Western Energy Consumers and the Northwest Energy Coalition.

### **D. Goals**

In 2021, NW Natural, in accordance with HB1257, conducted a Conservation Potential Assessment with a third-party to establish conservation goals for the 2022-2023 biennium. NW Natural in collaboration with the EEAG, established performance metrics for 2022. This report presents Energy Trust's performance against those goals, and progress made toward the biennial plan. The total savings goal for the incentive program was 318,722 therms. This goal is comprised of 133,073 therms for residential and 185,649 therms for commercial.

## E. Portfolio Summary

<b>Program Track</b>	<b>2022 Savings Goal (therms)</b>	<b>2022 Actuals (therms)</b>	<b>Percentage of Goal Achieved</b>
Commercial Incentive Program	185,649	244,841	132%
Residential Incentive Program	133,073	150,873	113%
Low-Income Weatherization	5,425	2,581	48%
NEEA Market Transformation	TBD	32,175	N/A
RTF Regional Collaboration	N/A	N/A	N/A
Pilot & Trial Programs	N/A	N/A	N/A
Evaluation	N/A	N/A	N/A
<b>Savings Total</b>	<b>324,147</b>	<b>430,470</b>	<b>133%</b>
<b>Biennial Goal (therms)</b>	<b>620,915</b>	<b>Percentage to Biennial Goal</b>	<b>69%</b>

## II. Energy Trust Annual report highlights

### A. General

- In 2022, Energy Trust achieved 118% of the annual portfolio goal.
- Gas efficiency projects installed in 2022 by NW Natural's Washington customers saved 395,714 annual therms of natural gas— 244,841 therms in the commercial sector and 150,873 in the residential sector.

### B. Commercial sector highlights

- **The commercial sector achieved 132% of its annual goal.**
- The top performing measures were refrigeration case doors, custom building controls, custom chillers, boilers, fryers, and custom operations and maintenance.
  - Refrigeration case doors from 10 projects at grocery stores in Vancouver recognized 89,857 therms, while a large project at the Vancouver Innovation Center that saved 46,685 therms rolled over from 2021, contributing to the program surpassing savings goals.
- The program offered bonus incentives for boilers and recognized 12 boiler projects, including seven in educational facilities. Boiler participation doubled compared with 2021.
- In-person outreach picked up to near pre-pandemic levels. Events included the Association of Professional Energy Managers forums, the Asian American Hotel Owner Association conference and HVAC contractor meetings.
- Equipment cost increases, equipment delays and contractor availability pushed several projects into 2023. Additionally, several customers delayed projects slated for 2022 due to staffing challenges.

### C. Residential sector highlights

- **The residential sector achieved 113% of its annual goal.**
- The top performing measures were gas furnaces, smart thermostats, EPS™ New Construction and windows.
- Smart thermostats and thermostat optimization made up 43% of home retrofit savings in 2022, up from 30% in 2021, and contributed a larger portion of all Residential savings in 2022 than in previous years. This increase was driven by the launch of new online marketplace that makes it easier for customers to buy discounted smart thermostats, leading customers to buy nearly twice as many smart thermostats as purchased through the old platform in 2021.
- Contractor capacity was a challenge throughout the year as many started 2022 with a full schedule of projects and labor shortages that made it difficult to hire and retain staff to keep up with demand. Additionally, equipment shortages related to supply chain disruptions challenged contractors and customers.
- Fewer rental property owners took advantage of a \$1,000 gas furnace bonus for single-family rentals. This is despite the offer running for all of 2022 and being advertised at the same rate and through the same channels.
- Savings from EPS New Construction decreased due to Washington's new residential energy code, from 31% of all residential saving in 2021 to 14% in 2022. Savings are expected to continue to decrease in 2023 and 2024, when the offering will end.

### D. Trade Ally Network highlights

- **By the end of 2022, 390 trade allies served Washington**, up from 370 in 2021. This includes 176 trade allies based in Washington.

## E. Program evaluations

- **In quarter one**, Energy Trust finalized the Analysis of Energy Trust Residential Insulation Impacts 2013-2018. The report can be found online at <https://www.energytrust.org/wp-content/uploads/2022/03/Summary-Memo-of-Recurve-Insulation-Impacts-Final.pdf>
- **In quarter two**, Energy Trust finalized the 2021 Fast Feedback Annual Report. The report can be found online at <https://www.energytrust.org/wp-content/uploads/2022/04/Energy-Trust-2021-Fast-Feedback-End-of-Year-Report-FINAL.pdf>
- **In quarter three**, Energy Trust finalized the Process Evaluation of the Residential Program. The report can be found online at [https://www.energytrust.org/wp-content/uploads/2022/08/Residential-Process-Evaluation-Final\\_wSR.pdf](https://www.energytrust.org/wp-content/uploads/2022/08/Residential-Process-Evaluation-Final_wSR.pdf)
- **In quarter four**, Energy Trust finalized the 2020 Existing Buildings Impact Evaluation. The report can be found online at [https://www.energytrust.org/wp-content/uploads/2023/01/EB2020Impact\\_Final\\_wSR.pdf](https://www.energytrust.org/wp-content/uploads/2023/01/EB2020Impact_Final_wSR.pdf)

## F. Washington Utilities and Transportation Commission performance metrics

The tables below compare quarterly results to 2022 goals, as established in NW Natural's Energy Efficiency Plan for Washington.

### 2022 Results compared to goals

Metric	Goal	Annual	Q1 results	Q2 results	Q3 results	Q4 results
Therms Saved	318,722	395,714	37,505	39,986	77,433	240,789
Total Program Expenditures	\$ 2,979,668	\$ 3,315,452	\$ 551,364	\$ 608,195	\$ 893,594	\$ 1,262,298
Average Levelized Cost Per Therm	Less than \$0.65	\$ 0.64	\$ 0.83	\$ 1.04	\$ 0.88	\$ 0.43
Utility Cost at Portfolio Level	Greater than 1.00	\$ 2.31	Reported annually	Reported annually	Reported annually	Reported annually

### 2021 Results compared to goals (for reference)

Metric	Goal	2021 Total Amount	Q1 results	Q2 results	Q3 results	Q4 results
Therms Saved	386,680	345,322	52,172	122,960	62,964	107,227
Total Program Expenditures	\$3,322,803	\$3,069,312	\$682,019	\$941,612	\$606,543	\$839,138
Average Levelized Cost Per Therm	Less than \$0.65	\$0.63	\$0.86	\$0.61	\$0.65	\$0.53
Energy Trust Programs Utility Cost	Greater than 1.00	2.84	Reported annually	Reported annually	Reported annually	Reported annually

**2022 Utility Cost Test and Total Resource Cost Test benefit/cost ratios by program**

<b>Program</b>	<b>Utility Cost Test Benefit/Cost Ratio</b>	<b>Total Resource Cost Test Benefit/Cost Ratio</b>
Commercial Programs	3.35	2.00
Residential Programs	3.02	2.23
<b>Total NW Natural Washington Energy Trust Programs*</b>	3.17	2.09
NW Natural Low Income Program (only)	1.96	1.83
<i>Total NW Natural Washington Programs</i>	3.15	2.09
<i>Total Washington Portfolio**</i>	3.58	2.34

**2021 Utility Cost Test and Total Resource Cost Test benefit/cost ratios by program (for reference)**

<b>Program</b>	<b>Utility Cost Test Benefit/Cost Ratio</b>	<b>Total Resource Cost Test Benefit/Cost Ratio</b>
Commercial Programs	2.96	2.71
Residential Programs	2.78	1.59
<b>Total NW Natural Washington Energy Trust Programs*</b>	2.84	1.85
<b>NW Natural Low Income Program (only)</b>	1.88	1.72
<b>Total NW Natural Washington Programs</b>	2.82	1.85
<b>Total Washington Portfolio**</b>	2.88	1.90

\* Does not include NEEA or WALIEE expenses.

\*\* Includes costs associated with NEEA's gas market transformation efforts. NEEA results reflect one-year savings and costs only.

### III. Annual results

#### A. Activity highlights—sites served

	Q1	Q2	Q3	Q4	Total
<b>Commercial</b>					
Food Service	7	9	4	-	20
HVAC	1	2	4	14	21
Operations & Maintenance	-	4	-	7	11
Process cooling	-	-	-	1	1
Process heating	-	-	-	1	1
Refrigeration	-	-	-	10	10
Study	2	-	3	1	6
Water Heating	-	2	2	4	8
Weatherization	-	-	-	-	-

	Q1	Q2	Q3	Q4	Total
<b>Residential</b>					
EPS new construction	131	65	81	46	323
HVAC	130	147	154	202	633
HVAC Controls	10	67	161	871	1,109
Water Heating	4	4	4	4	16
Weatherization	55	68	50	104	277

#### B. Revenue

Source	Annual actual revenue	Annual budgeted revenue
NW Natural \$	3,150,874 \$	3,150,874

#### C. Expenditures

		Annual actual expenditures	Annual budgeted expenditures	Budget variance
<b>Commercial</b>	Commercial	\$ 1,438,468	\$ 1,316,716	\$ 121,752
	Commercial administration	\$ 92,068	\$ 73,274	\$ 18,794
	<b>Commercial Total</b>	<b>\$ 1,530,537</b>	<b>\$ 1,389,990</b>	<b>\$ 140,546</b>
<b>Residential</b>	Residential	\$ 1,677,556	\$ 1,505,877	\$ 171,678
	Residential administration	\$ 107,371	\$ 83,801	\$ 23,570
	<b>Residential Total</b>	<b>\$ 1,784,927</b>	<b>\$ 1,589,678</b>	<b>\$ 195,249</b>
<b>Total expenditures</b>		<b>\$ 3,315,463</b>	<b>\$ 2,979,668</b>	<b>\$ 335,795</b>



### D. Incentives paid

	Annual actual incentives	Annual actual expenditures	Percent incentives/ expenditures
Commercial	\$ 888,718	\$ 1,530,537	58%
Residential	\$ 1,068,221	\$ 1,784,927	60%
<b>Total Incentives</b>	<b>\$ 1,956,939</b>	<b>\$ 3,315,463</b>	<b>59%</b>

- Incentives paid account for approximately 69% of annual program expenses when total program expenses are adjusted down by 15% to account for costs that a utility-delivered program would recover through rates.

### E. Savings

	Annual savings therms	Annual goal therms	Percent achieved	Levelized cost/therm	
Commercial	Existing Buildings - custom	82,872	124,155	67%	
	Existing Buildings - standard	137,241	29,722	462%	
	New Buildings - custom	-	-	N/A	
	New Buildings - standard	4,257	12,177	35%	
	Strategic Energy Management	20,471	19,595	104%	
<b>Commercial total</b>	<b>244,841</b>	<b>185,649</b>	<b>132%</b>	<b>\$ 0.53</b>	
Residential	Home retrofit	120,718	103,486	117%	
	Midstream and retail	7,299	12,525	58%	
	Small multifamily	1,237	3,113	40%	
	EPS new construction	21,619	13,949	155%	
<b>Residential total</b>	<b>150,873</b>	<b>133,073</b>	<b>113%</b>	<b>\$ 0.78</b>	
<b>Total</b>	<b>395,714</b>	<b>318,722</b>	<b>118%</b>	<b>\$ 0.64</b>	

## Appendix 1: Energy efficiency measure counts and savings

Table 1: Residential sector measures<sup>3</sup>

Category	Measure	Measures installed	Total therms saved
EPS new construction		323	21,619
	<b>EPS new construction total</b>	<b>323</b>	<b>21,619</b>
HVAC	Furnace	593	54,443
	Gas fireplace	1,030	9,543
	<b>HVAC total</b>	<b>1,623</b>	<b>63,986</b>
HVAC controls	Thermostat	1,107	43,948
	Thermostat Optimization	7	8,103
	<b>HVAC controls total</b>	<b>1,114</b>	<b>52,051</b>
Water heating	Tank water heater	-	-
	Tankless water heater	16	986
	<b>Other total</b>	<b>16</b>	<b>986</b>
Weatherization	Ceiling insulation	20	1,572
	Floor Insulation	12	481
	Wall insulation	2	25
	Windows	387	8,930
	<b>Weatherization total</b>	<b>421</b>	<b>11,007</b>
<b>Grand total</b>		<b>3,498</b>	<b>150,873</b>

<sup>3</sup> Totals may not match Table E due to rounding.

**Table 2: Commercial sector measures<sup>4,5</sup>**

Category	Measure	Measures installed	Total therms saved
Foodservice	Fryer	30	11,639
	Oven	8	1,060
<b>Foodservice total</b>		<b>38</b>	<b>12,698</b>
HVAC	Boiler	17	26,969
	Building controls	4	48,271
	Demand Control Ventilation	3	1,468
	Gas furnace	9	620
	Radiant heating	2	684
<b>HVAC total</b>		<b>35</b>	<b>78,011</b>
Operations & maintenance	Building Operator Certification	4	6,681
	Custom Operations & Maintenance	7	20,471
<b>Operations &amp; maintenance total</b>		<b>11</b>	<b>27,152</b>
Process cooling	Custom chiller	1	29,677
<b>Process cooling total</b>		<b>1</b>	<b>29,677</b>
Process heating	Custom heat recovery	1	4,924
<b>Process heating total</b>		<b>1</b>	<b>4,924</b>
Refrigeration	Refrigeration	10	89,856
<b>Refrigeration total</b>		<b>10</b>	<b>89,856</b>
Study	Study	6	-
<b>Study total</b>		<b>6</b>	<b>-</b>
Water heating	Aerator	-	-
	Tank water heater	6	1,589
	Tankless water heater	8	933
<b>Water heating total</b>		<b>14</b>	<b>2,522</b>
Weatherization	Ceiling insulation	-	-
	Wall insulation	-	-
<b>Weatherization total</b>		<b>-</b>	<b>-</b>
<b>Grand Total</b>		<b>116</b>	<b>244,841</b>

<sup>4</sup> Totals may not match Table E due to rounding.

<sup>5</sup> Since a single fryer may have multiple vats, the fryer figure is the number of vats installed.

## Appendix 2: Customer satisfaction

Energy Trust conducted short web and phone surveys of NW Natural customers in Washington who participated in Energy Trust programs in 2022 to determine their satisfaction with Energy Trust. Results from 181 residential customers and 17 commercial customers indicate a generally high level of customer satisfaction. Most residential customers in Washington were satisfied with their overall program experience, but a small proportion were neutral or dissatisfied with regard to the turnaround time to receive their incentive and the incentive application form. These numbers are consistent with previous program years.

**Table 1: NW Natural Washington residential customer satisfaction 2022**

Residential (n=181)	Dissatisfied	Neutral	Satisfied
Overall experience	3%	4%	93%
Incentive application form	2%	7%	91%
Turnaround time to receive incentive	12%	4%	84%

Most commercial customers in Washington were satisfied with their overall program experience, incentive amount, ease of applying for the incentive, interaction with program representatives, performance of their project or system and turnaround time to receive the incentive.

**Table 2: NW Natural Washington commercial customer satisfaction 2022**

Commercial (n=17)	Dissatisfied	Neutral	Satisfied
Overall experience	0%	6%	94%
Incentive amount	0%	6%	94%
Ease of applying for incentive	0%	0%	100%
Interaction with program representative	0%	0%	100%
Performance of project or system	0%	6%	94%
Turnaround time to receive incentive	0%	0%	100%

## Washington Market Transformation 2022 Program Results

In 2022 NW Natural participated in the Northwest Energy Efficiency Alliance’s (NEEA) Gas Collaborative to support regional Market Transformation. NEEA is in its fourth year of reporting natural gas savings, and annual savings will continue to increase over time as programs in the portfolio advance into full-scale market development. Funding is on a regional basis and invoiced based on actuals spent for work on the 5-year plan. There were no activities specific to NW Natural in 2022, all reported savings based on funder share attributed to building codes and state standards. A summary of the NEEA funder memo can be found on the following pages.

**Table 1: 2022 Market Transformation Expenditures**

Market Transformation		Budget	Actual
NEEA	Total	\$ 88,148	\$88,148

**Table 2: 2022 Market Transformation Savings Summary**

Market Transformation	Reported Therm Savings
Building Codes	31,465
Standards	710
Programs	TBD
<b>Total Savings</b>	<b>32,175</b>

## 2022 Savings Estimate Summary

NEEA estimates NW Natural’s 2022 annual natural gas energy savings associated with its initiatives is 32,175 Annual Therms<sup>6</sup> (Table 2). These savings are above the NEEA baseline<sup>7</sup> and exclude an estimate of savings that NW Natural and local utilities claim through locally run programs. NEEA allocates energy savings based on funder share for voluntary programs and an estimate of service area shares for codes and state standards.

**Table 3: 2022 Annual Report Net Market Effects Savings Estimates (Annual Therms)**

Program	Gas Program Measures (Net Market Effects)
Residential Codes (2018 WSEC)	29,605
Commercial Codes (WSEC-C)	1,860
Standards (Commercial Packaged Boilers & Cooking Equipment)	710
Efficient Rooftop Units	TBD
<b>Total Savings</b>	<b>32,175</b>

Net Market Effects = Total Regional Savings - Local Program Savings - Baseline Savings

## Building Codes

### Commercial Codes:

The 2022 savings come from work on the 2018 Washington State Energy Code, which went into effect in February 2021. The share of new construction floor area permitted under the code begins to ramp up from the code effective date. The savings analysis uses energy use intensity (EUI) values resulting from whole-building energy simulations conducted by NORESKO<sup>8</sup>.

### Residential New Construction Codes:

WSEC 2018 code went into effect in February 2021 and saves on average 16% more energy than WSEC 2015. NEEA started counting savings in August 2021 to allow time to build under the new code. NEEA completed a post code adoption market research report in May 2022 to assess the early effects of the credits on building practices. The assessment showed a major shift in fuel selection for primary heat where natural gas had previously been the common selection. NEEA has since conducted a follow-up study to allow more time for builders to adjust to the new code; the new study estimates that 18% of new homes are using gas as the primary source for space heating. NEEA is using these results for 2022 savings estimates.

### Standards

NEEA is reporting Net Market Effects savings from the Washington commercial equipment appliance standard based in draft evaluation results from Michaels Energy. The company determined that NEEA and its partners had a primary role in providing regional data and generating alignment among stakeholders on the commercial kitchen equipment standards.

<sup>6</sup> The term Annual Therms refers to the fact that NEEA reports first-year savings only in order to represent a sustained reduction in load.

<sup>7</sup> NEEA estimates Baseline as the savings that would have occurred without NEEA, utility, the Bonneville Power Administration, and the Energy Trust of Oregon’s market intervention.

<sup>8</sup> NORESKO. 2022. 2018 Washington State Energy Code Energy Savings Analysis for Nonresidential Buildings.

## Efficient Rooftop Units

The Efficient Rooftop Units program advanced to Market Development<sup>9</sup> in late 2022. The program's goal is to accelerate the adoption of efficient gas rooftop units in the like-for-like replacement market while working to influence the adoption of improved test procedures and more stringent federal standards.

To measure savings, NEEA collects sales data annually from HVAC distributors and manufacturers in addition to data from the annual local utility program survey. The HVAC sales data for 2022 will not be available until summer 2023 which is why savings are still to be determined.

## Allocation Methodology

NEEA allocates code savings for gas measures using a service area approach. The approach uses EIA residential consumer sales for Residential Codes and nonresidential volume for Commercial Codes (Table 2).

For voluntary programs, NEEA allocates regional savings (Idaho, Montana, Oregon and Washington) using shares of investment by funder. These shares vary by funding cycle. Savings from previous investments receive the previous funder share. Savings from current investments receive the current funder share. Table 5 shows the funder shares.

**Table 4: State Code Savings Allocation Share**

Sector	WA	OR	ID
Residential	6.62%	0.00%	0.00%
Commercial	4.15%	0.00%	0.00%

**Table 5: NW Natural Funder Share**

Business Plan	Gas Funding Share
2019	2.73%
2020-2024	3.11%

<sup>9</sup> The purpose of this phase is to create lasting market change through direct market interventions designed to remove barriers, leverage market opportunities, and tap influencers and existing channels for diffusion. Interventions are strategic, planned and adaptively managed as market dynamics change and more information is gained. During annual planning, NEEA staff look for the most impactful market levers and activities that could bolster or accelerate the achievement of alliance MT goals.

## Gas Measure Analysis

### 2022 Regional Engagement

The Regional Technical Forum (RTF) is an advisory committee to the Northwest Power and Conservation Council that meets monthly to review analysis and make decisions on methodologies for estimating energy efficiency savings. The energy saving estimates generated are vital to creating an accurate snapshot of the region's efficiency potential. With funding and support from gas utilities, including NW Natural, the RTF began considering gas measures in 2020. 2022 marks the third year that the RTF has been adding gas measures to their portfolio. NW Natural participated by providing relevant input for the development of the RTF's gas measures. The list of active measures and analysis can be found on the RTF website:

<https://rtf.nwcouncil.org/measures/>

Regional Engagement		Budget	Actual
RTF	Total	\$ 10,600	\$10,600



## Washington Low Income Energy Efficiency Program 2022 Program Results

NW Natural partners with Clark County's Community Development Office to serve Clark County customers and Washington Gorge Action Programs (WAGAP) serving Skamania and Klickitat counties to administer its Washington Low Income Energy Efficiency (WALIEE) program. While offerings are available in Skamania and Klickitat counties, the agency that serves these counties did not provide services to any customers through WALIEE during 2022. Results below are specific to Clark County's Department of Community Services.

Program year 2022 saw changes in personnel for both Clark County and NW Natural. The number of homes served continues to be down from pre-pandemic numbers, and The Company's goal outlined in the 2022 EE plan was not met. Increased outreach methods will take place in 2023 with bill inserts targeting customers in Clark County to increase the visibility of the program. We continue to work with Clark County to identify outreach opportunities in the community. In addition to the whole weatherization projects completed by Clark County they also provided 6 furnace tune-ups that helped clients maintain their equipment to the highest efficiency levels, these tune-ups are included in our efficiency results below.

NW Natural's low-income programs experienced a shift in program reporting as agencies move toward using the Department of Commerce's Weatherization Program Priority List. Prior to the list, agencies would use a computerized energy modeling tool to quantify savings and calculate the Savings Investment Ratio (SIR). The Deemed Measures Priority List (DMPL) includes weatherization measures that are considered cost effective and can be installed without an energy model. NW Natural's Schedule I, allows reimbursement for priority list measures and received 9 of these projects without associated savings in 2022. To address the difference in reporting, NW Natural assigned savings to the deemed measures utilizing historic program data. NW Natural is looking to conduct an impact evaluation on the program to ensure claimed savings are being realized.

The estimated cost per therm in 2022 is at a historic high due to multiple factors including the uncertainty in claimed saving and high inflation rates experienced in 2022 which drove project costs up. Furnace tune-ups were also included in cost per therm calculation which added to project costs but yielded no savings. Despite a notably higher cost per therm metric, the program saw a slight increase in its cost-effectiveness over the previous program year which shows the program is still operating effectively. NW Natural recognizes that the costs for weatherization have increased and have engaged Clark County as well as the EEAG stakeholders to increase funding to enable more weatherization projects. A \$4,000 increase, as needed, in flexible funds per project will roll out in 2023 to help address health and safety measures required for energy efficiency. NW Natural is confident that the increase in funding paired with targeted outreach efforts will lead to more homes weatherized in the Company's Washington territory.

In WAGAP's territory, staffing and limited customers have been the historical challenge for the program's gas efforts. In 2019 Community Action Council of Lewis, Mason & Thurston Counties (CACLMT) was selected to provide services in WAGAP's territory. NW Natural continued engagement with the Energy Project and CACLMT, to help address these issues and support gas customers and projects.

The agencies are allotted 25% of reimbursable job costs for administrative costs and allowed an average of \$1,000 per home for Health, Safety, and Repairs (HSR), which are not subject to cost effectiveness tests. A WALIEE job could cost the program no more than the base \$7,992 plus the Low-Income Program Adjustment of \$5,508 for a total of \$13,500. Projects in 2022 averaged \$6,642 per home.

## Measure Analysis

The figure below provides a breakdown of weatherization occurrences by measure, as well as the associated annual therm savings.

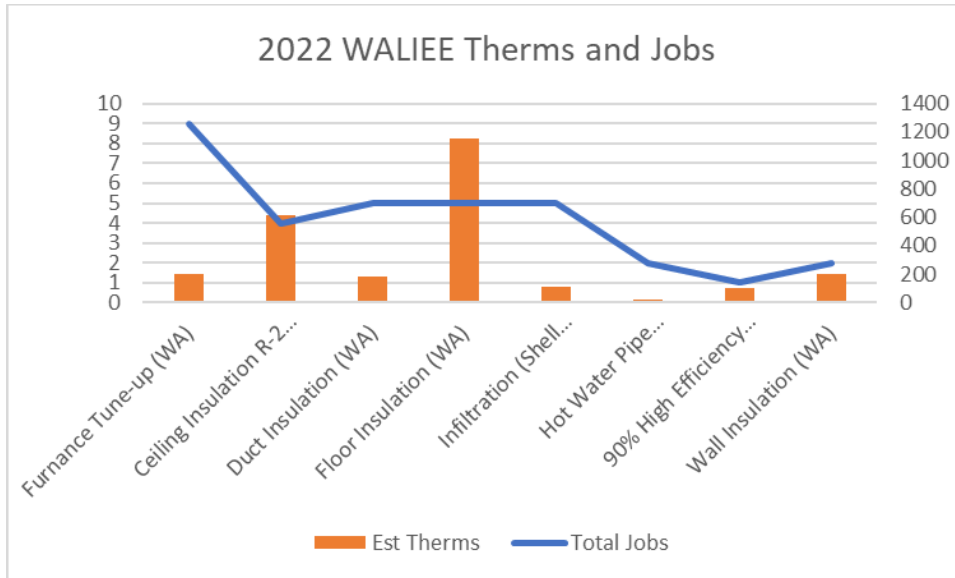


Figure 1: Measure Occurrence and Savings

Table 1: Historical Efficiency Results

Efficiency Metric	2022	2021	2020	2019	2018	2017	2016
Homes served	11	11	3	22	16	13	16
Average Reimbursement per home <sup>10</sup>	\$5,295	\$4,996	\$4,436	\$8,657	\$5,739	\$5,305	\$4,807
Total Reimbursed	\$58,251	\$54,960	\$13,308	\$190,457	\$91,828	\$68,965	\$76,918
Average estimated therms saved per home <sup>11</sup>	235	324	377	918	474	472	378
Total estimated therms saved	2,581	3,568	1,132	20,170	7,578	6,132	6,048
Estimated Cost per therm	\$22.57	\$15.40	\$11.76	\$9.44	\$12.12	\$11.25	\$12.72

<sup>10</sup> Note reimbursed costs only reflect NWN's contribution for home weatherization. HSR and Admin are excluded.

<sup>11</sup> An impact evaluation has not been conducted on these homes so the actual per therm savings has not been verified. The therm estimates are based on modeling software estimates which convert financial savings to therm savings.

Due to changes to schedule I the following measures are part of the State of Washington Department of Commerce Weatherization Program Priority List and are deemed cost-effective. The following are estimated cost savings based on previously modeled measures. NW Natural is looking to conduct an impact evaluation to have better estimates on savings.

**Table 2: Estimated Efficiency Results**

<b>Efficiency Metric</b>	<b>Priority List Projects</b>	<b>Modeled Projects</b>
Homes Served	9	2
Average Reimbursement per Home	\$4,367	\$8,933
Total Reimbursement	\$43,674	\$14,577
Average Estimated therms saved per home	210	344
Total estimated therms saved	1893	688
Estimated Cost per therm	\$23.07	\$21.19

**Table 3: Performance and Goal Metrics**

<b>2022 Performance Metric</b>	<b>Goal</b>	<b>Actual</b>
Homes Served	10	11
Max reimbursement per home (Actual figure = avg per home)	\$7,992	\$6,642
Adjustment Program Max (Actual figure =avg per home)	\$5,508	\$0
Average estimated therms saved per home <sup>12</sup>	341	235
Total estimated therms saved	6,480	2,581
Total expenditure	\$157,624	\$73,064

<sup>12</sup> See footnote 2.

## Washington Pilot & Trials 2022

### Industrial Audits

Subsequent to the conclusion of NW Natural's 2021 Conservation Potential Assessment (CPA), NW Natural began scoping a pilot for Industrial rate customers. The Industrial rate class has not historically had access to NW Natural's energy efficiency programs in Washington. To better understand the potential within this customer class NW Natural conducted an RFP in 2022 to find a vendor to deliver high-level audits to customers on industrial and transport rates in Washington.

Energy 350 was selected as the vendor for the audits which became available to customers late in Q3 of 2022. The work surrounding the pilot in 2022 focused primarily on outreach development. To keep costs low, NW Natural is leveraging internal Key Account Managers (KAMs) to recruit participants for the program. Findings from the audits will be used to inform the development of an incentive program and provide a pipeline of leads for the launch of a program.

Development of this pilot was laid out in the 2022-2023 Biennial Energy Efficiency Plan, but there are no savings associated with this pilot as it is an intelligence gathering effort. The pilot may be credited with savings earned once an incentive program is launched.

Industrial Audit Pilot	2022 Expenditure
	\$378