2015 Annual Report to the Oregon Public Utility Commission & Energy Trust Board of Directors

ENERGY TRUST OF OREGON
APRIL 15, 2016

UPDATED OCTOBER 24, 2016

TABLE OF CONTENTS

FROM THE EXECUTIVE DIRECTOR		3
I	2015 RESULTS AT A GLANCE	4
II	EXECUTIVE SUMMARY OF ACTIVITY	6
III	PROGRAM AND OPERATIONS ACTIVITY AND DETAIL	10
IV	2015 PROGRESS TO OPUC PERFORMANCE MEASURES	23
V	REVENUE AND EXPENDITURE TABLES	26
VI	SAVINGS AND GENERATION TABLES	28
APPENDIX 1:	2015 CUSTOMER SATISFACTION RESULTS	33
APPENDIX 2:	RENEWABLE RESOURCE DEVELOPMENT TARGETS	34
APPENDIX 3:	2015 GROSS SAVINGS	40
APPENDIX 4:	NW NATURAL INDUSTRIAL DEMAND-SIDE MANAGEMENT ACTIVITIES	41
APPENDIX 5:	BACKGROUND, MISSION AND GOALS	42
APPENDIX 6:	PROGRAM DESCRIPTIONS	44
APPENDIX 7:	2015 ENERGY TRUST BOARD OF DIRECTORS; BOARD DEVELOPMENT GUIDELINES; 2015 ADVISORY COUNCIL MEMBERS AND MEETINGS	46
APPENDIX 8:	ENERGY TRUST 2015 ANNUAL REPORT ON ACTIVITIES FOR NW NATURAL IN WASHINGTON	52
APPENDIX 9:	QUARTER FOUR RESULTS TABLES	62
APPENDIX 10:	2015 ELECTRIC EFFICIENCY RESULTS FOR SB 1149 AND SB 838 FUNDS	71
Energy Trust 2015 audited financial statement		Attachment

FROM THE EXECUTIVE DIRECTOR

I am pleased to submit this report highlighting a sampling of Energy Trust of Oregon's strong 2015 accomplishments and corresponding benefits to utility customers. All organizational goals were exceeded while maintaining very low costs and high customer satisfaction ratings, making 2015 our highest year for gas savings, one of our top years for electric savings and our highest year for new solar installations.

In 2015, the popularity and market acceptance of LEDs mushroomed, from 1.3 million lights representing 10 percent of Energy Trust's electric savings in 2014 to nearly 3 million lights representing 20 percent in 2015. Across technologies, Energy Trust kept pace with rapid market adoption, providing incentives and up-to-date information to help customers choose the best upgrades for their needs—from broad energy-saving technologies like LEDs to custom solutions for specific applications, like our largest-ever natural gas project that helped a manufacturer meet its air pollution requirements while minimizing energy use.

Changing demographics and a strong economy brought more diverse people and businesses to Oregon last year. As construction boomed for new single-family homes and multifamily housing, data centers, retail businesses, distribution centers and restaurants, we engaged developers and builders to add more efficiency features. Our support for single-family construction resulted in greater than one-third of all homes built in Oregon integrating energy-efficiency features above the current building code.

Farmers, ranchers, nurseries and irrigators all gained a powerful combination of energy and water savings. Building on outreach efforts, 12 irrigation districts from Klamath Valley to Central Oregon signed up to explore opportunities to save energy and water, generate hydropower and boost investment in rural communities. On top of that, 350 farmers purchased efficient equipment to save energy and water, making them more resilient to future droughts.

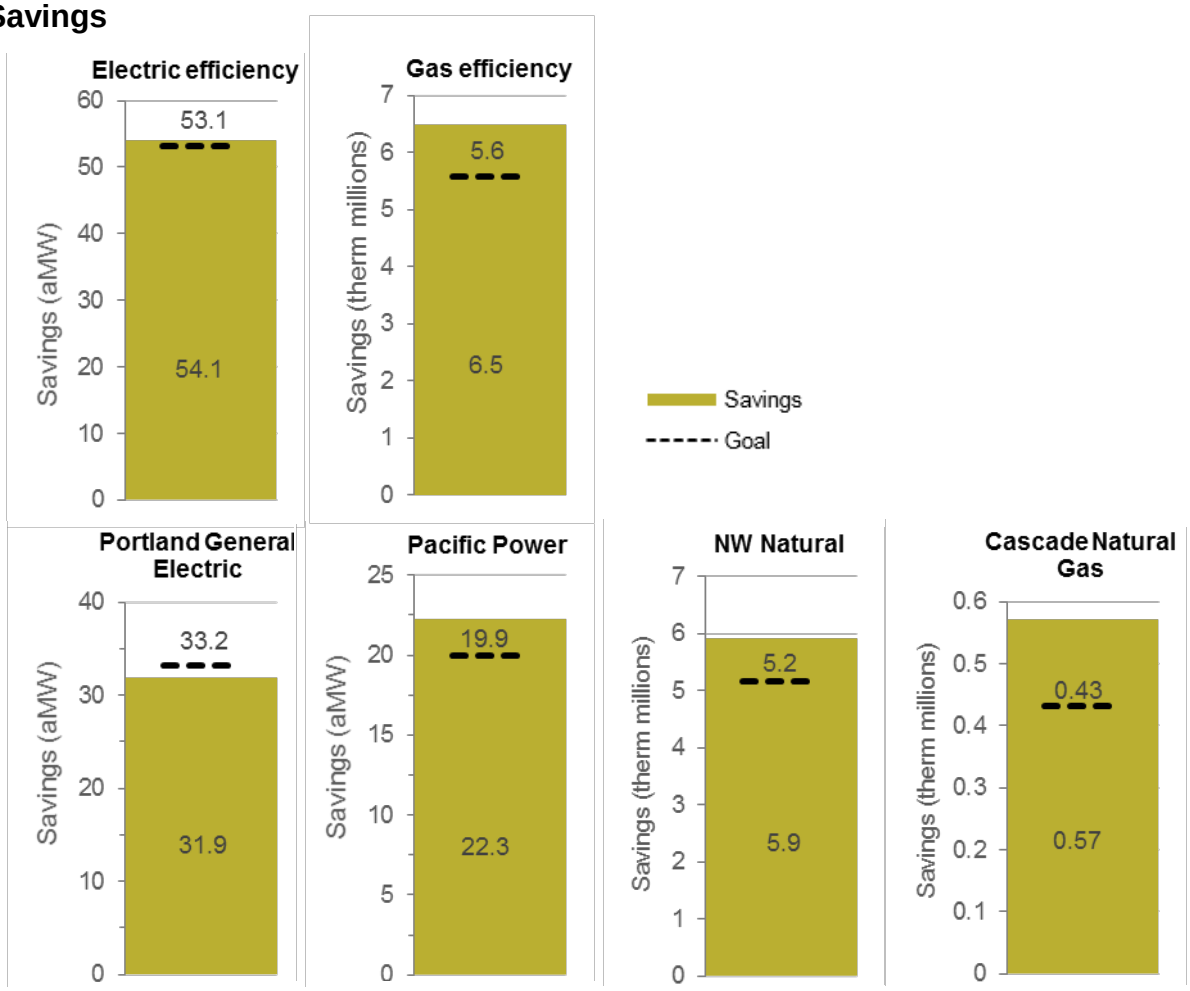
As I prepare to retire after nearly 15 years leading Energy Trust, I am proud to see us performing at our strongest so far. From 2002 to 2015, we delivered 548 aMW and 45.3 million annual therms, and invested $1.3 billion dollars that will save utility customers $5.6 billion on utility bills over time. Our investments delivered clean power and provided a reliable energy resource at a far lower cost than what utilities would have paid for other energy sources.

In years ahead, I expect Energy Trust to do what we've always done best—deliver the cleanest, lowest-cost energy we can buy for 1.5 million Oregonians. Whatever challenges and opportunities come our way, I am confident we will continue to provide lasting, tangible benefits to those we serve. I want to acknowledge all who contributed to this legacy: Oregon Public Utility Commission, Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas, Northwest Energy Efficiency Alliance, Oregon Department of Energy and our 2,400 contractors and allied professionals throughout the state. I thank you for the opportunity to work together over these years and know you will achieve continued success!

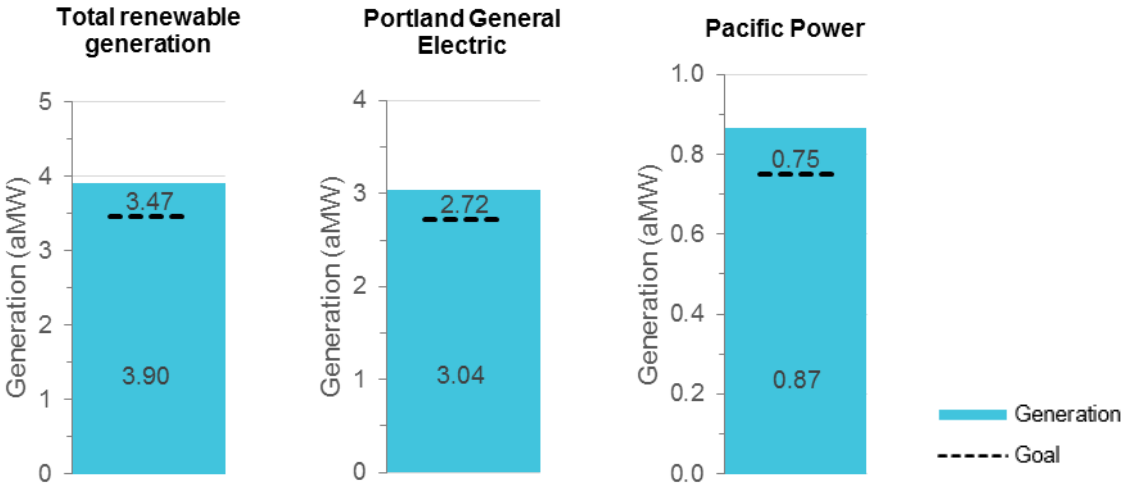
Margie Harris
Executive Director

I 2015 RESULTS AT A GLANCE[1]

Savings

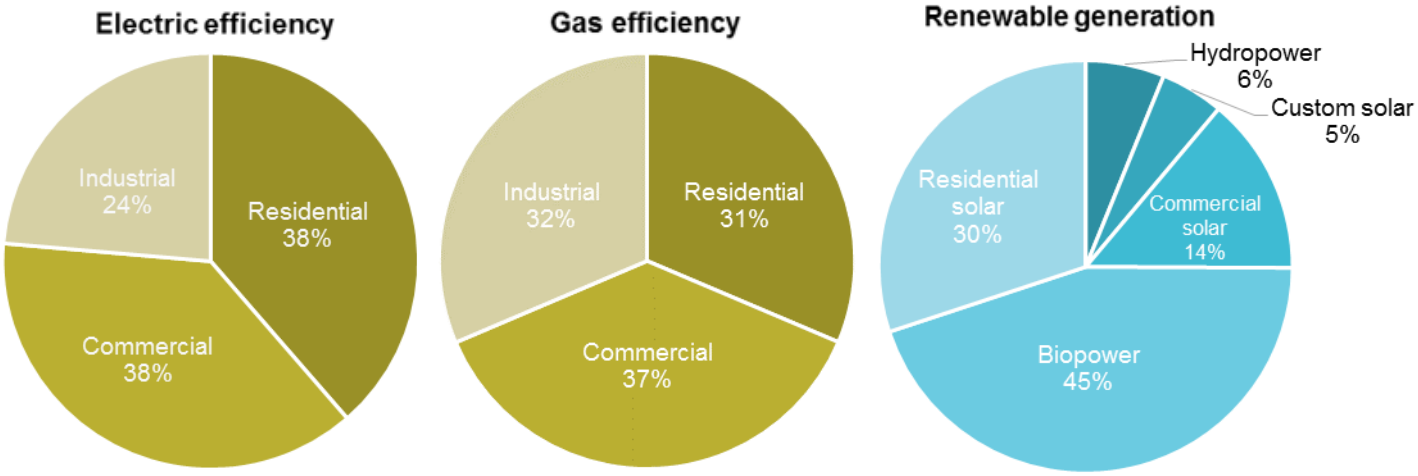


Generation

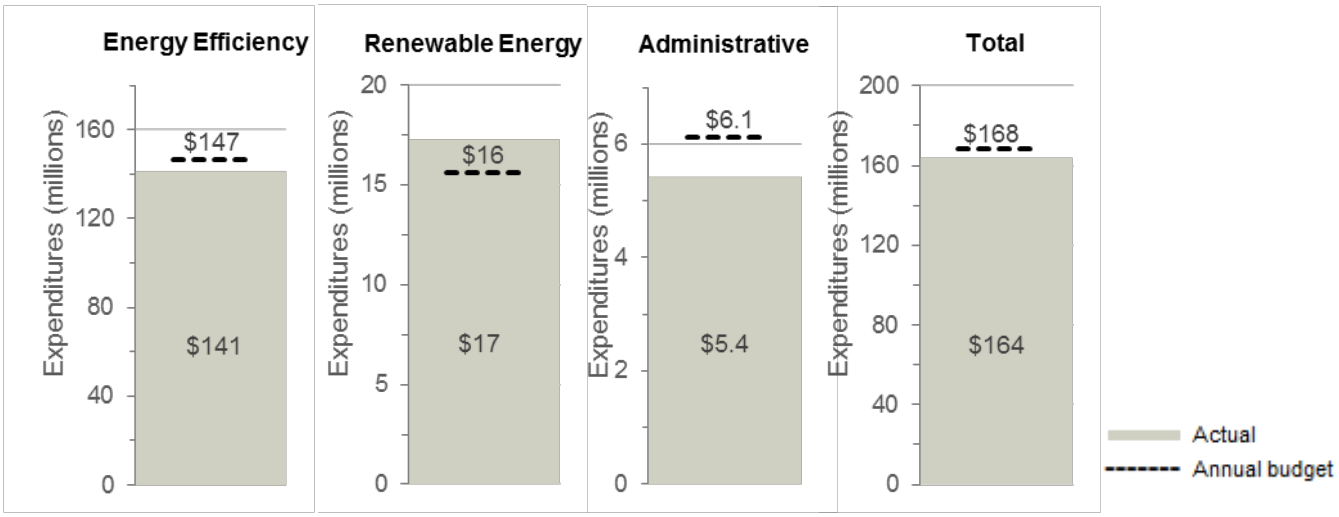


[1] This document reports net savings, which are adjusted gross savings based on results of current and past evaluations. Progress toward gross annual goals are in Appendix 3.

Percent of 2015 savings and generation by sector



Expenditures



Energy Trust sites served by region in 2015[2]

	Commercial	Industrial	Residential	Renewables	Total
Central Oregon	395	80	4,158	119	4,752
Eastern Oregon	100	46	898	37	1,081
North Coast	121	13	1,319	3	1,456
Portland Metro & Hood River	3,685	445	43,318	1,164	48,612
Southern Oregon	491	164	10,469	181	11,305
Willamette Valley	1,198	302	14,131	346	15,977
Total	**5,990**	**1,050**	**74,293**	**1,850**	**83,183**

[2] Total sites served may include sites that participated in more than one sector.

II EXECUTIVE SUMMARY OF ACTIVITY

A. Annual results[3,4]

- **Energy Trust exceeded annual electric efficiency, gas efficiency and renewable generation goals, while sustaining low costs**.
  - Electric efficiency improvements completed during 2015 saved 54.1 average megawatts of electricity, about 2 percent more than the 2015 goal of 53.1 aMW, at a levelized cost[5] of 2.6 cents per kilowatt hour.
  - Gas efficiency improvements completed during 2015 will save 6.5 million annual therms of natural gas[6], about 16 percent more than the 2015 goal of 5.6 million annual therms, at a levelized cost of 26.6 cents per therm.
  - Renewable energy systems installed during 2015 will generate 3.9 aMW of electricity, 13 percent more than the 2015 goal of 3.47 aMW.
  - Costs to save and generate energy were among our lowest ever, with electric levelized costs equal to last year and gas levelized costs more than 6 cents lower. Administrative and staffing costs were well below OPUC performance thresholds, supported by ongoing operations and systems improvements.
  - Savings and generation achieved in 2015 represent nearly 280,000 tons of carbon dioxide kept out of the atmosphere, the equivalent of removing about 49,000 cars from Oregon roads for one year.
- **Energy Trust exceeded goals and Integrated Resource Plan targets in three of four utility territories**.
  - Strong savings across all utility territories were led by New Buildings, New Homes and Existing Homes programs. Energy Trust's diverse portfolio of programs and savings strategies is a strength that helps the organization adjust to variable market conditions and make progress to overall goals.
  - In Portland General Electric territory, Energy Trust achieved 96 percent of goal and 94 percent of IRP target. Savings were primarily impacted by several large industrial projects delayed to 2016, fewer large Existing Buildings projects occurring in the Portland Metro area and fewer savings than expected from industrial and commercial Strategic Energy Management engagements.
- **Energy Trust met every OPUC performance measure**, including:
  - Maintained low administrative and program support costs at 5.5 percent of revenue, well below the OPUC performance measure of 8 percent.
  - Kept staffing costs at 6.8 percent, well below the 7.75 percent, three-year rolling average threshold.
  - Received consistently high customer satisfaction ratings of 95 percent overall and 98 percent for interaction with program representatives.

[3] This document reports net savings, which are adjusted gross savings based on results of current and past evaluations.
[4] This report includes the best available energy savings and generation data as of the date of submission. Energy savings reported here for periods prior to January 1, 2015, may be different than previously reported as a result of applying updated evaluation factors to Energy Trust savings and generation in Oregon through the annual true up process. The full True Up 2014 Report is available online at www.energytrust.org/reports.
[5] Levelized cost is Energy Trust's total cost to save or generate each unit of energy over the life of the measure (which ranges from two to 20 years or more).
[6] Gas savings do not include NW Natural results in Washington. These results are reported in Appendix 8.

B. Market and program trends

- **Energy Trust incentives and expertise supported rapid market adoption of LEDs**, helping residential, commercial and industrial customers select and install nearly 3 million LEDs in 2015—60 percent of all 5 million lights supported by Energy Trust. Market acceptance of LEDs grew as performance improved, costs declined and more products became available. Energy Trust created new online tools and retailer relationships to guide shoppers to the best bulbs for their needs. LEDs were installed in 26,000 multifamily apartment units and were distributed to residents in both Energy Saver and LivingWise kits. New LED applications helped businesses and cities save money while maintaining well-lit, safe parking lots, streets and outdoor spaces.
- **Energy Trust engaged designers and builders in a rapidly growing new construction market** to maximize energy savings, growing the number of efficient properties built and increasing the average efficiency of each property by adding more and deeper efficiency features. With more than 2,500 new homes rated with EPS™, an energy performance score, market penetration reached 36 percent. New Buildings enrolled a record 600 projects in 2015, especially multifamily buildings, data centers, retail stores, restaurants and warehouses.
- **Small businesses represented an increasing portion of Energy Trust's energy savings,** with sustained strong enrollment in the New Buildings market solutions offerings tailored to buildings less than 70,000 square feet. Participation grew in commercial and industrial Strategic Energy Management, and 600 small businesses participated in a targeted energy-efficient lighting installation offering.
- **Outreach strategies engaged more first-time participants**. Doubling 2014 participation, 7,600 residents learned about customized opportunities for energy savings through online Home Energy Reviews. Free LEDs and showerheads were distributed in remote communities through relationships with 18 new food banks and nine new water bureaus. Multifamily building tenants benefited from immediate energy and bill savings through LEDs, showerheads, faucet aerators and advanced power strips installed in apartments, campus living facilities and assisted living facilities, including in nearly 5,000 apartment units at affordable housing properties. In addition, new gas furnace incentives were launched for multifamily properties and single-family rentals.
- **Energy Trust tapped into public interest in water savings, rural economic development and other benefits** to help customers fund energy efficiency and renewable energy projects. In 2015, 350 farms and 30 nurseries saved energy and water by upgrading to more efficient irrigation equipment. In addition, 12 irrigation districts signed up for irrigation system assessments identifying opportunities to save energy and water while producing clean hydropower. Production Efficiency helped an industrial customer install a large regenerative thermal oxidizer that meets requirements for air pollution reduction while minimizing energy use.
- **Energy Trust adapted offerings and outreach strategies to keep pace with changing technology**, adding new incentives for smart thermostats and advanced power strips that automatically turn off devices when not in use. Outreach strategies evolved further to serve more customers online, including a new promotion enabling customers to purchase showerheads online and a new online solar bid request form that connects customers with solar trade allies. With 40 percent of Energy Trust's web traffic from mobile devices like phones and tablets—up from 18 percent in 2014—Energy Trust developed mobile-optimized websites and newsletters, and began work to transition to a fully mobile-responsive website in 2016.
- **Residential and commercial solar markets thrived in 2015**, spurred by decreasing equipment costs and Energy Trust advertising, incentives and support to help trade allies reduce the non-

equipment “soft” costs of installations. Though the federal Investment Tax Credit was extended at the end of the year, the anticipation of an expiration date drove project completions. Energy Trust paid incentives for seven custom solar projects and a record 1,800 solar installations in 2015, a 40 percent increase compared to 2014.

- **Energy Trust’s investment in Northwest Energy Efficiency Alliance contributed 14 percent of all electric savings in 2015**, primarily from support for a battery charger standard expected to significantly reduce the energy use from charging battery-powered devices such as cell phones, tablets and laptop computers.

C. Notable achievements

- **In the first year of the 2015-2019 Strategic Plan, Energy Trust made strong progress** toward five-year goals, achieving 23 percent of the electric goal, 27 percent of the gas goal and 39 percent of the renewable goal.
- **Energy Trust was recognized with three awards**, including as one of the best Oregon nonprofits to work for by Oregon Business magazine. Energy Trust also won the Interstate Renewable Energy Council 3*i*Award for innovation, ingenuity and inspiration for the Solar program’s soft cost reduction initiative and the Apogee Award from Oregon Solar Energy Industries Association for integrating Energy Trust’s online solar incentive application with the Oregon Department of Energy’s Residential Energy Tax Credit application.
- **Energy Trust made progress on metrics development for three core administrative processes**, as recommended in the 2014 Management Review. Initial metrics are nearly complete for tracking projects in IT systems, internal procurement and payment process, and customer services by phone. Several other improvement projects are also underway and are expected to deliver measurable efficiencies in 2016.
- **To better engage an increasingly diverse population of customers, contractors and employees**, Energy Trust launched an initiative to develop a culturally attentive organization with diverse employees and contractors who contribute a range of perspectives, experiences, skills and ideas. A primary objective of the diversity initiative is to expand customer participation in Energy Trust programs, a key strategy in the 2015-2019 Strategic Plan.
- **Energy Trust kicked off a project to assess and improve processes for updating annual measure changes** effective each year on January 1. In 2016, staff identified opportunities for improvement to workflows and schedules to be addressed.
- **Energy Trust was granted exceptions from the OPUC** under UM 551 criteria to continue to offer incentives for residential gas water heaters through 2016, and for ductless heat pumps and clothes washers on an ongoing basis.

D. Revenue and expenditure results

- **Overall revenue totaled $144.4 million for 2015,** approximately on target with what was budgeted. As planned, 2015 revenue was nearly $18 million less than in 2014.
- **2015 expenditures totaled $164 million**, of which $95.2 million or 58 percent was for incentives, compared to $84.6 million and 55 percent respectively in 2014. Increased incentive spending is attributed to economic growth spurring more projects, mid-year performance milestones for Program Management Contractors and warm weather that allowed for an earlier start to the construction season.

- **As intended, Energy Trust reduced utility-specific program reserves by $19 million** from $87 million in 2014 to $68 million in 2015. In agreement with the OPUC and utilities, Energy Trust drew down program reserves for the second of three years to meet expenses in excess of revenue receipts.
- **2015 electric efficiency expenditures** were 4 percent below budget.
- **2015 gas efficiency expenditures** were 4 percent below budget.
- **2015 renewable energy expenditures** were 10 percent over budget, driven by strong demand for commercial and residential solar installations.

E. Progress to 2015-2019 Strategic Plan goals

- **Energy Trust saved 23 percent of the Strategic Plan electric goal of 240 aMW** through 2015.
- **Energy Trust saved 27 percent of the Strategic Plan gas goal of 24 million annual therms** through 2015.
- **Energy Trust generated 39 percent of the Strategic Plan renewable generation goal of 10 aMW** through 2015.

F. Cumulative and total annual results

- **Total annual savings of 548 aMW** have been realized since electric efficiency programs began in 2002, equivalent to powering approximately 424,000 Oregon homes. This total includes 22 aMW of savings from self-direct customers.
- **Total annual savings of 45.3 million annual therms** have been realized since gas efficiency programs began in 2003, equivalent to providing gas heat to approximately 89,000 Oregon homes.
- **Total annual renewable energy generation of 119 aMW** has been installed since 2002, equivalent to powering approximately 92,000 Oregon homes.
- **Through 2014, the net economic benefits of Energy Trust 2002-2014 expenditures**, energy savings and renewable energy generation added $3.9 billion to the local economy, including $1.2 billion in wages, $223 million in small business income and employment equivalent to 3,200 full-time jobs lasting a decade. With the inclusion of 2015 results, these benefits are expected to increase.[7]
- **Through 2015, air quality improvements stemming from Energy Trust investments have kept more than 17.4 million tons of carbon dioxide out of the atmosphere**, the equivalent of removing more than 3 million cars from Oregon roads for one year.
- **Since 2003, Energy Trust has invested more than $7.9 million in energy-efficiency projects at more than 900 public K-12 Oregon schools**, and provided more than $3 million in funding for solar electric and wind energy systems at 36 public schools.

[7] The net economic benefit of Energy Trust expenditures, savings and generation is calculated from an independent analysis by Pinnacle Economics completed in 2014. These benefits will likely increase as a result of the completion of a third-party 2015 economic impacts study expected in spring 2016.

III PROGRAM AND OPERATIONS ACTIVITY AND DETAIL[8]

A. Commercial sector highlights

- **The commercial sector exceeded goals in Pacific Power and Cascade Natural Gas territories and fell short of goals in PGE and NW Natural territories.**
- **Savings were impacted by reduced demand for Existing Buildings** custom, prescriptive and commercial SEM projects in PGE and NW Natural territories, and some large custom projects shifting completion from 2015 to 2016. The reduction is due to fewer large project opportunities in the Portland Metro area and low incentive levels that proved insufficient to influence dual-fuel custom projects when compared to low retail gas costs.
- **To address market barriers at mid-year, Existing Buildings introduced new and increased incentives** for select gas and dual-fuel measures. While these incentive increases had a limited impact in 2015, they contributed to a strong pipeline of projects expected to complete in 2016. In addition, staff updated 2016 goals to reflect smaller customers.
- **The first comprehensive business advertising campaign**, called My Business, launched to encourage all sizes and types of existing commercial and industrial businesses to invest in energy efficiency. With 25,000 campaign website visitors in 2015, the campaign emphasized opportunities for lighting upgrades and directed viewers to contact Energy Trust trade allies.
- **Staff developed resources to help customers meet the City of Portland's Energy Performance Reporting Policy** requirements, in collaboration with the city, utilities and NEEA. Resources include support for the city's help desk, a series of ENERGY STAR® Portfolio Manager® trainings and a bonus incentive for Energy Trust retrocommissioning customers that invest in ENERGY STAR Portfolio Manager assistance through trade allies. Retrocommissioning helps Existing Buildings owners improve the efficiency of existing equipment.
- **Staff continued to support Multnomah County's September launch of a Commercial Property Assessed Clean Energy** program in collaboration with the county and the Portland Development Commission. The two-year pilot will provide 100 percent of funding to commercial property owners who complete comprehensive energy-efficiency and renewable energy projects, with long-term loans repaid through energy savings or electricity production.
- **The sector completed 135 major renovation projects**, including 17 identified as deep retrofits that completed upgrades to at least two major systems or qualified for the "Best" category in the New Buildings market solutions offering.
- **In its first annual review period, energy savings exceeded expectations for the first office building to install energy upgrades through a three-year Pay for Performance pilot**. The pilot will determine if paying incentives for capital, operations and maintenance improvements over a multiyear period will help customers overcome market barriers and achieve additional energy savings through comprehensive projects. Energy Trust planned to launch Pay for Performance on a limited basis in 2016 for three to five customers.
- **Savings from Energy Trust investment in NEEA activities comprised approximately 5 percent** of the sector's results in both PGE and Pacific Power territories. 2015 savings were driven from Building Operator Certifications, building code improvements and retrocommissioning.

[8] Tables summarizing 2015 activity by sector have been omitted due to reduced reporting resources resulting from recent staffing transitions. Tables will be added in 2016 when resources are expected to become available again.

Existing Buildings

- **Lighting contributed more than one-half of Existing Buildings electric savings** in 2015, with an additional 20 percent of savings from custom projects. Prescriptive, SEM and small commercial projects also provided electric savings.
- **Custom and commercial SEM each provided roughly one-third of gas savings**, with another quarter from prescriptive projects and a small amount from projects at schools.
- **In 2015, Existing Buildings completed more, smaller electric projects** than in 2014, because many large projects have already completed, especially in the Portland Metro area.
- **LEDs comprised roughly 80 percent of the program's lighting savings, up from less than 65 percent in 2014.** A variety of LED applications helped customers save money while maintaining well-lit, safe conditions, including exterior lighting and city streetlights.
- **Discounted LEDs were purchased and installed by 440 commercial customers**. Through this buy-down initiative targeted to small commercial customers, incentives are paid directly to distributors rather than trade allies, and LEDs are installed by customers.
- **Existing Buildings installed energy-efficient lighting at 600 small businesses**. This targeted offering provided up to 80 percent of lighting installation costs, zero-interest financing and a 5 percent discount for customers who paid upfront. Coordinated outreach with PGE and Pacific Power resulted in strong customer interest in participating in 2016.
- **Customers saved more than expected through the Performance+ offering**, a comprehensive approach to identifying and installing lighting and lighting controls in a customer's building or floor.
- **In collaboration with PGE, the program provided approximately 1,700 advanced power strips** to help commercial customers save energy by turning off computers, monitors, printers and task lights when not in use.
- **In 2015, Existing Buildings grew SEM customer participation** from 34 to 53 customers by expanding enrollment to small and medium-sized businesses. Three cohorts launched, including the first in Southern Oregon and two in Portland. To streamline delivery, implementation shifted to a Program Delivery Contractor model and new standardized curriculum was adopted.
- **Existing Buildings reached out to nine small, rural school and educational service districts** to help them identify energy-saving upgrades and learn about available state and Energy Trust incentives, including in Umatilla, Jefferson, Wasco, Yamhill, Malheur, Morrow and Multnomah counties.
- **Expanded outreach in Southern, Central and Eastern Oregon** supported strong participation and savings in Pacific Power and Cascade Natural Gas territories.

Existing Multifamily

- **Energy Trust provided energy-efficient products to 26,000 dwelling units** at apartments, campus living facilities and assisted living facilities, including nearly 5,000 affordable housing apartment units. Products included LEDs, showerheads, faucet aerators and advanced power strips.
- **The program provided more than $500,000, its largest ever incentive check, to a nonprofit** organization completing expansive upgrades to four affordable housing properties.
- **In 2015, installation of LEDs, showerheads and faucet aerators and distribution of advanced power strips contributed a majority** of Existing Multifamily electric and gas savings. Common-area lighting and prescriptive tracks also provided electric savings, and custom and prescriptive projects offered the remaining gas savings. Following a plan to diversify the

program's savings sources, installation of energy-saving products provided a smaller proportion of savings in 2015 than in 2014.

- **Installing LEDs instead of compact fluorescent light bulbs in dwelling units resulted in more savings per bulb**, more bulbs installed per unit and increased customer satisfaction.
- **Outreach representatives began providing advanced power strips** to multifamily tenants following the results of a pilot showing the effort to be cost effective. The advanced power strips save energy by turning off auxiliary devices, such as a DVD player when a television is not in use.
- **The program began offering incentives for gas fireplaces in multifamily properties** and increased incentives for select gas upgrades, including gas furnaces and recirculation pumps.
- **More than 500 of the 1,600 properties served in 2015 were outside the Portland Metro area**. Customer participation remained challenging in Cascade Natural Gas territory due to many large property owners having already participated and difficulty reaching small property owners who live offsite. A new development representative for Eastern, Central and Southern Oregon fostered local relationships and developed project leads that are expected to result in prescriptive savings in 2016.
- **The MPower Oregon pilot concluded in 2015 after helping residents of 37 affordable housing developments** benefit from energy-efficiency upgrades and resulting energy and cost savings. MPower provided loans and enhanced project coordination to help customers access Energy Trust incentives, resulting in nearly 3.5 million kWh and 3,600 annual therms saved since 2014. Leveraging Energy Trust incentives, MPower Oregon will continue as an organization in 2016.
- **A convective heating pilot identified energy-saving potential of efficient wall-mounted heating units**. In 2016, Energy Trust will provide incentives directly to distributors, which will be passed on to customers as an automatic reduction on their invoice.
- **After a competitive rebid of the Existing Multifamily program management contract in Q2**, the board approved Energy Trust's recommendation to select the incumbent PMC, Lockheed Martin, to continue to deliver the program from 2016 through 2018, with two potential one-year extensions.

New Buildings

- **To accelerate market adoption of high-performance building design and construction**, New Buildings provides expertise and cash incentives for custom projects, prescriptive system-based projects and packaged market solutions. In 2015, large custom projects comprised the majority of electric savings and prescriptive projects represented the majority of gas savings.
- **New Buildings enrolled a record 600 projects in 2015, 6 percent more than in 2014.** Nearly one-half of these projects were outside the Portland Metro area, and an increasing portion were small projects in buildings less than 50,000 square feet.
- **Including 50 projects completed in 2015, New Buildings helped 115 small customers save energy since late 2012 through its market solutions** offering. Tailored incentive packages help businesses make quick decisions and achieve deeper energy savings when constructing small restaurant, grocery, multifamily, office, school or retail buildings less than 70,000 square feet. On average, participants installed four to six upgrades per building, saving more energy than expected by adding more efficiency measures to projects.

- **Market sectors that most contributed electric savings included data centers, distribution centers and retail businesses, with multifamily buildings** and restaurants providing strong gas savings.
- **Multifamily construction continued to grow statewide, including large high-rise buildings** in the Portland Metro area, with enrollments of new multifamily projects up compared to 2014 and even more projects expected in 2016.
- **Distribution center construction more than doubled compared to 2014** as developers built on the limited supply of property and buildings zoned for warehouse and distribution centers.
- **Growth in Central Oregon construction is expected to continue**, driven by a strong local economy and diverse new businesses moving to Bend.
- **New Buildings continued to drive change in the market through training and education** for customers and trade allies. For example, 400 participants attended one of six Building Energy Simulation Forums on modeling building energy systems, including remote attendees who participated through live webinars.
- **To promote awareness about energy-efficient design in the commercial real estate industry, the program launched awards** as a part of the Daily Journal of Commerce's Top Projects awards for High Performance New Construction and High Performance Renovation.
- **With completion of the first Path to Net Zero project in 2015**, Energy Trust now has more than 30 participants helping Oregon lead the nation in net-zero construction. Path to Net Zero offers early design assistance, technical support and cash incentives for projects that set targets to exceed code by 40 percent.
- **31 projects completed a solar-ready assessment** following the program's solar-ready outreach efforts and incentives were paid on four solar-ready construction projects. In coordination with the Solar program, New Buildings offers technical and financial support to architects, engineers and builders who incorporate solar into new commercial building designs. Building solar ready enables less costly future solar installations.

B. Industry and agriculture sector highlights

- **The industry and agriculture sector far exceeded goals in gas territories**, achieved goal in Pacific Power territory and fell short of goal in PGE territory.
- **Electric savings were impacted by completion of several large custom projects shifting to 2016** and less savings achieved through industrial SEM, especially in PGE territory.
- **Savings from NEEA activities comprised approximately 2 percent** of the sector's results in PGE and Pacific Power territories. Though NEEA is winding down industrial sector market transformation efforts, prior work on motor rewinds—an economical and efficient approach to extending the life of a motor—and standards for efficient electric motors delivered limited savings in 2015.

Production Efficiency

- **Custom projects provided one-half of electric savings**, followed by streamlined projects at roughly 38 percent and industrial SEM at roughly 12 percent. While custom and industrial SEM projects delivered fewer savings than expected, streamlined track projects achieved savings on par with expectations and comprised a larger portion of the program's savings than in 2014.
- **A large custom regenerative thermal oxidizer project contributed nearly 64 percent of gas savings**, adding to savings from other custom projects. Streamlined track projects also

contributed gas savings, driven by greenhouse, prescriptive pipe insulation and radiant heating projects.

- **Energy Trust's largest ever gas efficiency project, the regenerative thermal oxidizer** helps the industrial customer meet requirements for air pollution reduction without greatly increasing energy use. The project exemplifies an emerging opportunity for customers to integrate energy efficiency into their environmental remediation efforts.
- **Production Efficiency helped 350 farmers and 30 nurseries save energy and water** by upgrading to energy-efficient irrigation equipment, including 70 customers in Southern Oregon and more than 70 in Central and Eastern Oregon.
- **Energy Trust increased outreach to farmers in the Klamath Basin** and presented offerings to 210 Klamath Basin irrigators at an outreach event in coordination with Pacific Power, signaling interest in the intersection of energy and water savings and resulting in many project leads.
- **As more small companies participated in the industrial SEM offering**, participants yielded fewer savings per project. In addition, a few very large SEM participants got off to a slow start and saved less than anticipated in 2015. Gas savings from SEM engagements, while not anticipated to be large, were below expectations.
- **Representing a greater portion of savings than in 2014, streamlined track projects** delivered electric savings through lighting, irrigation upgrades, small compressed air equipment, refrigeration controls and fast-acting doors. Greenhouse measures contributed roughly half of streamlined track gas savings, driven largely by a condensing unit heater prescriptive measure developed in 2015 and also by increased incentives for thermal curtains and controllers. Streamlined projects are trade ally-delivered projects at small and large industrial sites.
- **Up from roughly 300 projects in 2014, the program completed nearly 500 lighting projects** in 2015, including lighting controls. While the number of projects increased by close to 70 percent, the average project size decreased as Energy Trust engaged more small companies. Roughly 70 percent of lighting projects featured LEDs compared to 56 percent in 2014.
- **Following Oregon's legalization of marijuana for recreational use**, Energy Trust prepared to help emerging energy-intensive production facilities save energy by coordinating with stakeholders and other organizations, developing a fact sheet on available Production Efficiency program offers for legal businesses, and responding to early interest from potential participants and media.
- **Production Efficiency piloted a new outreach approach** with informal lighting trade ally training events in Astoria, Coos Bay, Roseburg, Klamath Falls, Hood River and Pendleton. The pool of lighting trade allies reached 227, a 12 percent increase from 2014.

C. Residential sector highlights

- **The residential sector exceeded goals for all utilities in 2015**, driven primarily by retail LED sales and a strong residential new construction market.
- **The sector launched the My Home residential advertising campaign** promoting a variety of offerings for Existing Homes, New Homes and Products customers. The campaign featured a television commercial and a campaign website visited 7,300 times in 2015.
- **Since Energy Trust launched an incentive for smart thermostats in November** following pilot results, 500 customers installed Nest thermostats in homes heated by gas and electricity, far exceeding expectations. Smart thermostats deliver a range of benefits, from energy savings to reducing energy use during peak hours.

- **The residential sector collaborated with the Portland Trail Blazers** to promote online Home Energy Reviews at events around the state to drive rural participation.
- **Staff helped customers with homes primarily heated with oil, propane, butane or wood** learn about no-cost ways to save energy through a letter promoting Energy Saver Kits sent to participants of the Oregon Department of Energy's State Home Oil Weatherization program. Because of their heat source, these PGE and Pacific Power customers are not eligible for Energy Trust's weatherization incentives.
- **In 2015, 1,800 real estate allies attended 74 trainings** around the state. These brokers, appraisers, lenders and inspectors help customers find and purchase energy-efficient newly built or existing homes.
- **Existing Homes and New Homes programs coordinated cross-program outreach efforts,** leveraging existing resources to increase customer, stakeholder and trade ally engagement and participation in areas with historically low participation.
- **Savings from NEEA activities comprised approximately 29 and 30 percent** of the sector's savings in PGE and Pacific Power territories, respectively. Savings were driven by new standards for battery chargers, ductless heat pumps and clothes dryers, as well as from residential building code improvements, energy-efficient televisions and lighting.

Existing Homes

- **LEDs, showerheads and faucet aerators delivered through kits provided about 67 percent of electric and 55 percent of gas savings**. Providing savings for many new Energy Trust customers especially in rural regions, these energy-saving products were delivered by customer request through Energy Saver Kits and provided to sixth-grade students for installation at home through Energy Trust's LivingWise Kits and school curriculum. For the first time in 2015, LEDs replaced compact fluorescent light bulbs in all kits.
- **Heat pumps, ductless heat pumps, heat pump water heaters and smart thermostats** drove additional electric savings.
- **Gas fireplaces, gas furnaces in rental homes and smart thermostats** provided additional gas savings.
- **More than twice the number in 2014, 7,600 participants completed online Home Energy Reviews** to learn about customized opportunities for energy savings. Participation was bolstered by the My Home advertising campaign and outreach coordination with the Portland Trail Blazers.
- **Energy Trust helped roughly 120 renters through a new gas furnace incentive** for single-family rentals launched in Q1.
- **To help residents of manufactured homes save energy and reduce utility bills**, Existing Homes introduced a ductless heat pump promotion with select trade allies and launched a pilot to evaluate installation of heat pumps in manufactured homes with electric forced air furnaces.
- **Demand for weatherization upgrades remained low**, attributed to modified requirements to meet cost-effectiveness thresholds. Energy Trust supported 1,000 deep retrofit projects in 2015, including Home Performance with ENERGY STAR and Enhabit (formerly Clean Energy Works) projects.
- **Following increases to Savings Within Reach income requirements in Q3**, 10 percent more moderate-income customers installed energy-efficiency upgrades with enhanced incentives, bringing the annual total to nearly 360.

- **Since launch in 2014, 100 moderate-income Savings Within Reach participants financed** energy-saving home upgrades through loans paid back on their monthly utility bills. Financing with on-bill repayment reduces upfront costs as a barrier to installing energy-efficient upgrades.
- **Existing Homes launched a new financing and on-bill loan repayment option** for PGE customers installing heat pumps, in collaboration with PGE and Craft3.
- **Completed in 2015, a pilot determined that air sealing is still not cost-effective** when combined with installation of ceiling insulation. As a result, air sealing was discontinued as an offering for residential customers.
- **Existing Homes engaged with upstream market actors to understand the market and encourage sales of more efficient products**, including gas fireplace retailers and heat pump and water heater distributors.
- **The program collaborated with Bend and Corvallis environmental centers** to support their participation in the Georgetown University Energy Prize, which challenges select jurisdictions in the U.S. to reduce energy consumption over a two-year period. Energy Trust helped both communities promote energy-saving products through Energy Saver Kits.
- **Staff spent less time processing applications after adopting a new software tool** that updates project data in Energy Trust's systems in bulk.

New Homes

- **New EPS homes accounted for 97 percent of the program's electric savings**, with a small remainder of savings from individual equipment installations. Builders can receive cash incentives for new homes constructed to EPS requirements, indicating low energy consumption, utility costs and carbon footprint.
- **Market transformation contributed nearly 60 percent of gas savings**, with the balance from EPS homes. Market transformation reflects the program's influence on 2008 and 2011 updates to Oregon's residential energy code, guiding builders who do not work directly with Energy Trust to incorporate energy-efficient building techniques for the benefit of customers.
- **EPS homes reached 36 percent market penetration, with 2,500 home ratings** completed in 2015, by engaging with a thriving construction market. The number of EPS homes increased by 15 percent compared to 2014.
- **EPS influenced builders to construct homes with greater levels of efficiency** than compared to 2014. In 2015, the average EPS home was 22 percent above code, compared to 20 percent above code in 2014. To achieve a higher level of efficiency, builders installed more ductwork inside the thermal envelope and installed more efficient mini-split heat pumps.
- **Surpassing goals for solar-ready new home construction**, Energy Trust supported construction of 80 solar-ready EPS homes. In addition, solar systems were installed on 91 EPS homes.
- **The Columbia Basin Student Homebuilder Program completed and sold its first student-built EPS home** in Hermiston. Energy Trust supported onsite training for 14 Hermiston High School students on EPS, building science fundamentals, thermodynamics, insulation, air sealing and duct sealing. Proceeds from the home's sale will be used to fund the next student-built home.
- **Energy Trust engaged 13 new builders and trade allies** through collaboration with the Portland and Oregon home builders associations.
- **To comply with the state's January 1, 2016, implementation of rules in response to HB 2801,** Energy Trust worked with the Oregon Department of Energy and the Construction

Contractors Board to enroll Energy Trust verifiers as Home Energy Assessors qualified to deliver EPS for homes. Trade ally verifiers provide technical guidance and inspection to builders, ensuring that homes rated with EPS save energy through energy-efficient windows, HVAC, appliances and weatherization.

Products

- **Retail lighting purchases contributed more than 80 percent of electric savings**, primarily from LEDs but also from CFLs, and followed by retail showerheads, refrigerator and freezer recycling, and additional products given away through food banks, water bureaus and at community events. Purchases of ENERGY STAR appliances contributed a small portion of electric savings, as did construction of new manufactured homes.
- **Efficient showerheads comprised nearly all gas savings**, primarily through retail purchases and also distributed with faucet aerators through food banks, water bureaus and at community events. Appliance purchases contributed the small remainder of gas savings.
- **Through instant incentives, Energy Trust helped consumers select quality LEDs** during a year of rapid market change. Market acceptance of LEDs increased in 2015 as performance improved, costs declined and more products became available. As non-ENERGY STAR qualifying LEDs were introduced into the market, the program planned 2016 strategies to educate customers about the benefits of ENERGY STAR bulbs compared to these lower-cost and lower-quality bulbs.
- **In 2015, the program expanded retail lighting incentives outside the Portland Metro area** to five new retailers and 30 new stores in rural towns such as Canyonville and Cave Junction in Southern Oregon and Gearhart in the North Coast. Showerhead incentives were also expanded to five new retailers.
- **A new promotion allowed customers to buy efficient showerheads online**. The promotion was targeted to prior Energy Trust participants in rural locations.
- **The program developed relationships with 18 new food banks and nine new water bureaus** to distribute free LEDs and showerheads from Prineville in Eastern Oregon to Madras in Central Oregon.
- **Participation in refrigerator and freezer recycling continued to** decline, and Energy Trust was notified that a decline in the cost of metal made refrigerator and freezer recycling more expensive. In 2016, the recycling offer will be evaluated for cost-effectiveness.

D. Renewable energy sector highlights

- **The renewable energy sector exceeded generation goals**, driven by strong demand for standard solar installations and completion of all four planned Other Renewables projects.
- **The sector supported a diverse range of Solar and Other Renewables projects** in all parts of Oregon with varying sizes and owner types, ranging from small residential solar installations to a hydropower project completed by an irrigation district.

Solar

- **Residential and commercial solar markets thrived in 2015**, spurred by decreasing equipment costs; Energy Trust advertising, incentives and support for trade allies; and the anticipated expiration of the federal Investment Tax Credit at the end of 2016, which was unexpectedly extended in Q4.

- **The program paid incentives on 1,800 solar installations in 2015, a 40 percent increase** compared to 2014. To adjust to market changes and support more solar installations when customer interest is high, Energy Trust will continue to manage periodic incentive reductions.
- **In 2015, the program installed seven custom solar projects**, including the City of Beaverton's 421-kW net-metered installation at Sexton Mountain and six systems totaling 1.2 MW in capacity on Portland Public School buildings developed and owned by PGE.
- **A 2.9-MW solar project in Klamath Falls was selected** through a competitive request for custom solar projects in Pacific Power territory, with expected completion in late 2016 or 2017. A second proposal for a large net-metered project is still under consideration for possible funding.
- **Customer-owned systems comprised 55 percent of residential solar, up from 40 percent** in 2014. This follows a 2014 incentive change to better reflect above-market costs for customer-owned systems compared to third-party-owned residential solar systems.
- **Energy Trust published results of a survey benchmarking non-equipment soft costs** of installing solar systems in Oregon. The results provide a baseline for comparing costs with future surveys. In addition, staff published research on the residential solar market, determining resources and tools to help customers decide whether to install, buy or lease a solar system, and barriers that may prevent customers from installing solar.
- **Exceeding expectations, 1,200 home and business owners requested trade ally bids** through Energy Trust's new online tool that helps customers easily connect with trade allies while reducing program marketing costs. Participating trade allies each received an average of 60 customer leads.
- **Energy Trust provided funding to the Oregon Clean Power Cooperative**, which will provide financial, legal and technical support to enable more Oregonians to invest in local community renewable energy projects. The first round of projects includes six government and nonprofit organizations installing systems from 15 to 45 kW.
- **Energy Trust won the Apogee Award from Oregon Solar Energy Industries Association** for integrating Energy Trust's online solar incentive application with the Oregon Department of Energy's Residential Energy Tax Credit application. Homeowners and contractors can now apply for Energy Trust incentives and state tax credits with a single, online application, eliminating an estimated two hours of administrative work per project for contractors.
- **Staff also received the Interstate Renewable Energy Council 3*i*Award** for innovation, ingenuity and inspiration for the Solar program's soft cost reduction initiative, a multiyear plan to help make solar energy more affordable for customers and reduce costs for Oregon solar businesses.
- **Construction began on a large solar project** that staff expected to complete ahead of schedule and shift from 2016 into 2015. It is now expected to complete on schedule in 2016. To cover the project's first incentive payment, staff will use funds that were held in 2015 reserves for the project.

Other Renewables

- **All four planned Other Renewables projects reached commercial operation** in 2015. These projects reflect a trend toward small, municipally owned projects under 2 MW in nameplate capacity.
    - **A 0.25-aMW biogas project at the City of Gresham Wastewater Treatment Plant** that helped the plant become the first in the Pacific Northwest to achieve net-zero energy use.

    - **A 1.41-aMW biogas project at Clean Water Services Durham** Wastewater Treatment Plant in Tigard.
    - **A 0.22-aMW hydropower project at Farmers Irrigation District in Hood River**.
    - **A 0.02-aMW hydropower project at the City of Astoria Bear Creek Reservoir** that will generate enough energy to offset the energy use of the city's drinking water treatment plant.
- **Staff reviewed incentive applications for two wind, one biomass, one hydropower and one geothermal project** resulting from two competitive application processes. No incentives were committed in 2015 because the projects were either not ready to move forward or did not have above-market costs.
- **The program committed $60,000 to install a second 0.01-aMW hydropower project at a Wallowa County ranch**. Completion is expected in fall 2016 and the project is estimated to generate approximately 80,000 kWh per year to offset energy use from an auto repair business operated by the ranch.
- **The program committed a record $2 million in project development assistance incentives to 29 projects**, doubling the number of supported projects compared to 2014 and developing a strong pipeline of future installations. The increase is a result of strong targeting and outreach efforts directed at potential biogas and hydropower projects, which feature additional non-energy benefits that can improve financial viability.
- **In 2015, 12 irrigation districts signed up for irrigation system assessments** through Energy Trust's irrigation modernization initiative with Farmers Conservation Alliance, well exceeding the goal of four assessments. The two-year collaborative irrigation modernization strategy leverages the wide range of benefits irrigation modernization projects can provide, including energy generation, energy savings, drought resilience and rural economic, environmental and agricultural benefits.
- **Staff conducted a workshop for 10 breweries and distillers interested in cooperative anaerobic digestion of fermentation waste**, which could generate biopower while reducing costs and avoiding discharge of brewery waste into sewer systems. Energy Trust also completed a feasibility study of waste available from several Oregon breweries.
- **Staff offered a biogas cogeneration workshop for cities, developers and consultants** at Gresham's Wastewater Treatment Plant, in collaboration with Oregon Association of Clean Water Agencies, Oregon Department of Energy, Bonneville Environmental Foundation and the City of Gresham. With 36 participants in attendance, including eight municipalities and six commercial developers, the event featured lessons learned from prior projects and potential opportunities and constraints for small water resource recovery facilities.
- **A brief extension of Investment Tax Credits for non-solar projects is expected to drive demand** in 2016 and 2017 by encouraging some in-process projects to speed up development.

E. Highlights of internal operations

Communications

- **Received 864,173 website visits in 2015, a 4 percent decrease** compared to the 904,733 visits in 2014. The decrease reflects fewer promotions driving customers to order Energy Saver Kits online. Traffic increased for most other web content, with significant web traffic increases from residents of Corvallis, Boardman, Pendleton, Klamath Falls and Lincoln City.

- **Distributed 24 press releases in 2015**, featuring Energy Trust offers, bonus incentives, program promotions, completed energy-efficiency and renewable energy projects around the state, new board members, results and customer benefits.
- **Garnered 475 news stories about Energy Trust programs, services and customer benefits in print and broadcast** with a media value of $232,000—what it would have cost to purchase the equivalent advertising space and air time—as a result of media outreach and responses to reporter inquiries.
- **Supported My Business, the organization's first comprehensive business advertising campaign**, through development of advertising materials, a campaign website and resources for trade ally participation.
- **Of all website visits, more than 40 percent were from phones and tablets, up from 18 percent in 2014.** To better serve this increasing portion of web visitors, Energy Trust completed a usability study and developed a roadmap to redesign the website, www.energytrust.org, in 2016. The updated website will simplify the customer experience and be optimized for display across all desktop and mobile devices, like phones and tablets.
- **Created and promoted two new web tools to support targeted residential marketing** and customer education, including a My Home campaign website that gives customers simple, actionable recommendations to save energy at home and an interactive tool to help customers select energy-efficient bulbs for different rooms and situations.
- **The first Employee Sustainability and Engagement Report was developed**, summarizing employee efforts to minimize Energy Trust's own energy and water use and to set a baseline to measure future internal sustainability achievements.

Customer service

- **Received 24,257 calls to the main hotline in 2015, 9 percent fewer** than the 26,607 calls received in 2014. Call volumes have decreased since 2009 as Energy Trust has expanded web-based customer services, responded to customer inquiries by email and added online forms.
- **Received and responded to 1,752 inquiries via info@energytrust.org, on par with** the 1,747 emails received in 2014.
- **Received and addressed 18 complaints**, compared to 24 received in 2014.
- **Enhanced resources to manage and resolve complaints with new templates** that reduce staff time needed to respond to customers.

Trade, program and lending allies

- **Added 201 new allies to the network**, including 171 trade allies, 14 design allies and 16 real estate allies.
- **Met with 165 trade allies at forums in Bend, Klamath Falls, Medford, Pendleton** and Portland, and launched a new event format with more emphasis on small group discussions and opportunities for remote webinar participation. Developed based on trade ally input, the twice yearly forums replaced the former quarterly roundtables and enabled staff to shift resources to other trade ally engagement and complaint resolution strategies.
- **Provided $420,000 in business development fund reimbursement** to support trade ally co-branded marketing and advertising.
- **Transitioned to a new third-party provider to track trade ally insurance status** on a quarterly basis, reducing staff time needed for this task.

- **Worked with U.S. Department of Agriculture Rural Utilities Services**, community development and financial institution lenders to explore Energy Trust's potential to leverage federal energy efficiency programs to serve electric customers in rural Oregon.

General outreach

- **Developed stakeholder relationships and connections to potential customers through attendance at roughly 290 events and meetings**, including Coastal Caucus, Westside Economic Alliance, Oregon Wave Energy Trust, Solar Now, Drive Oregon's EV Roadmap, League of Oregon Cities, Pendleton Progress Board, Snake River Valley Economic Development Alliance, Rogue Valley Earth Day, Regards to Rural, Oregon Association of Minority Entrepreneurs, Native American Youth and Family Center, Meyer Memorial Trust focus group for environmental and energy nonprofits in Eastern Oregon, and South Coast Development Council's targeted outreach to the City of Coquille.
- **Increased awareness about Energy Trust programs and services through approximately 80 presentations**, including for Affiliated Tribes of Northwest Indians, Hood River legislators forum, Blue Mountain Community College, Enterprise City Council, Association of Oregon Counties, Community Renewable Energy Association, Douglas County Green and Solar Tour and Rogue Valley Council of Governments.
- **Established and maintained relationships with public sector groups**, such as the Governor's Regional Solutions office, Oregon Department of Environmental Quality, U.S. Environmental Protection Agency, Business Oregon, League of Oregon Cities, Portland Development Commission and Oregon Rural Development Council's executive committee. These agencies and organizations help Energy Trust connect with potential customers through community and regional initiatives.
- **Engaged with and educated Oregon's business community about Energy Trust programs, services and customer benefits** through Greater Portland Inc., Portland Business Association, Oregon Business Association, Westside Economic Alliance, Tech Oregon and Pacific Northwest Economic Region.
- **Presented on rural energy-efficiency and renewable energy opportunities to AmeriCorps Resource Assistance to Rural Environments volunteers** working in 22 rural Oregon communities, including Brookings, Klamath Falls, Roseburg, La Grande and Tillamook.
- **Collaborated with Sustainable Northwest to offer community workshops in Talent and Hood River**, activating local community efforts such as a Solarize initiative in Hood River.

IT

- **Processed a record 108,653 customer projects** in Energy Trust systems, including 75,942 submitted through web applications.
- **Continued investments in foundational IT system improvements** to help anticipate program needs and reduce future costs, including:
    - **Completed transition to Project Tracking**, Energy Trust's new measure and project tracking system, and retired the former FastTrack system. Project Tracking allows Energy Trust and PMC users to easily access more information, facilitates incentive processing and offers greater flexibility to meet changing business needs.
    - **Migrated customer site data from Energy Trust's measure and project tracking system** to the Customer Relationship Management system to support program management efficiency and enhance customer service.

    - **Designed and built new web server infrastructure** to improve security, increase reliability and reduce ongoing maintenance costs.
- **Developed metrics for tracking projects in IT systems**, as recommended in the 2014 Management Review. Beginning with the Existing Multifamily program, metrics were identified and baselines set for the average staff time spent processing an application and the average total time for application processing, including staff processing time and significant wait time. In 2016, process improvements will be determined for the Existing Multifamily program, and metrics and process improvements will be explored for other programs.
- **Automated software updates for all Energy Trust employee computers**, increasing security and functionality through more frequent IT updates while reducing IT staff workload.
- **Released new remote connectivity functionality to support staff working remotely**, including support for multiple monitors, touch screens and Apple devices.

Planning and evaluation

- **Created 688 new energy-efficiency measures and revised 908 measures**.
- **Completed and posted 22 evaluations and market studies** on the Energy Trust website.
- **Updated avoided cost tools using new data from utilities and new hourly load shape data** from the Northwest Power and Conservation Council, resulting in higher avoided costs during winter and summer periods of peak power use and lower avoided costs for non-peak power times.
- **Began providing an annual report to the OPUC describing pilots and initiatives**.
- **Completed a briefing paper detailing Energy Trust's carbon avoidance methodology**.
- **Worked with the OPUC to review portions of the Environmental Protection Agency's Clean Power Plan** and provide comments on areas of the plan open for public comment. Participated in stakeholder meetings convened by the state, providing expertise on delivering and evaluating energy-efficiency programs.
- **Updated the forecasting tool to more accurately reflect Energy Trust's evolving mix of offerings**, resulting in an additional 29 aMW of achievable energy savings potential in the latest 20-year projection.
- **Supported PGE and Cascade Natural Gas with development of Integrated Resource Plans**.
- **Improved processes for developing new energy-efficiency measures**, including enhanced collaboration with PMCs.
- **Developed performance metrics on emerging technology and customer participation** for the Energy Trust board of directors.
- **Reviewed and provided comments on the Northwest Power and Conservation Council's** draft 7th Power Plan.

IV 2015 PROGRESS TO OPUC PERFORMANCE MEASURES

Each year, the OPUC establishes minimum performance measures for Energy Trust. Minimum savings and generation figures for energy-efficiency programs and renewable energy programs are set at an aggregated level rather than at an individual program or sector level. This allows Energy Trust to pursue different program strategies in the commercial, industrial, residential and renewable energy sectors as market forces and technologies change. Electric and gas efficiency performance targets are set at 85 percent of Energy Trust goals as defined in annual budgets.

Electric efficiency performance targets in Portland General Electric territory

- Electricity savings of at least 28.2 aMW
  Result: In compliance, with 31.9 aMW saved
- Levelized life-cycle cost should not exceed 3.6 cents per kWh
  Result: In compliance, average levelized life-cycle cost at 2.7 cents per kWh

Electric efficiency performance targets in Pacific Power territory

- Electricity savings of at least 16.9 aMW
  Result: In compliance, with 22.3 aMW saved
- Levelized life-cycle cost should not exceed 3.6 cents per kWh
  Result: In compliance, average levelized life-cycle cost at 2.6 cents per kWh

Natural gas efficiency performance targets in NW Natural territory

- Natural gas efficiency savings of at least 4.4 million annual therms
  Result: In compliance, with 5.9 million annual therms saved
- Average levelized life-cycle cost should not exceed 37 cents per therm
  Result: In compliance, average levelized life-cycle cost at 26 cents per therm

Natural gas efficiency performance targets in Cascade Natural Gas territory

- Natural gas efficiency savings of at least 0.41 million annual therms
  Result: In compliance, with 0.57 million annual therms saved
- Average levelized life-cycle cost should not exceed 41 cents per therm
  Result: In compliance, average levelized life-cycle cost at 32.4 cents per therm

Renewable resource development targets

- For project and market development assistance, report annual results, including number of projects supported, milestones met and documentation of results from market and technology perspective
  Result: In compliance, paid and committed $2,052,543 in project development assistance to 35 projects. Details on the results of the 2015 project development assistance are in Appendix 2.
- Obtain at least 1.1 aMW in installed generation of standard, net-metered projects, including solar and small wind
  Result: In compliance, with 1.7 aMW of installed generation from standard solar projects.
- For non-solar custom projects, the three-year rolling average incentive is not to exceed $25 per allocated MWh
  Result: In compliance, with a three-year rolling average incentive of $15.82 per allocated MWh. Additional details are in Appendix 2.
- For innovative and custom solar projects, report sources of funding for projects and selection criteria

Result: In compliance, dedicated funding to one solar project in Pacific Power territory. Funding came from a request for proposals for non-solar projects that had unallocated funds. The project was selected based on the quality of its business plan, incentive amount requested, the project having above-market costs and ability to complete the project by the deadline specified.

Financial integrity

- Receive an unmodified financial opinion from an independent auditor on annual financial statements
  Result: In compliance, with an unmodified financial audit opinion for 2015

Administrative and program support costs

- Keep administrative and program support costs[9] below 8 percent of annual revenues
  Result: In compliance, with 2015 costs at 5.5 percent of annual revenues

Staffing

- Total staffing expenditures not to exceed 7.75 percent of total organization expenditures calculated on a three-year rolling average for public purpose funded activities in Oregon
  Result: In compliance, with a three-year rolling average staffing cost of 6.8 percent of total organization expenditures.

Customer satisfaction

- Demonstrate greater than 85 percent satisfaction rates for:
  1. Interaction with program representatives
  2. Overall satisfaction

  Result: In compliance, with a 98 percent satisfaction rate for interaction with program representatives and a 95 percent overall satisfaction rate. Customer satisfaction rates were calculated from telephone surveys of participants soon after project completion. Results for major programs are averaged to determine satisfaction rates. See Appendix 1.

Benefit/cost ratios

- Report benefit/cost ratios for larger conservation acquisition programs for both utility system and total resource perspective

2015 Utility Cost and Total Resource Cost by program

Program	Combined Utility Cost Test benefit/cost ratio	Combined Total Resource Cost Test benefit/cost ratio
New Homes and Products	2.2	1.8
Existing Homes	2.1	2.5
Existing Buildings, including Multifamily	2.0	1.4
New Buildings	3.2	2.0
Production Efficiency	2.7	2.1

[9] Program delivery efficiency is defined as all program costs except the following direct program costs: program management, program delivery, program incentives, program payroll and related expenses, outsourced services, planning and evaluation services, customer service management and Trade Ally Network management.

Updated on June 13, 2016, to correct the New Homes and Products Combined Total Resource Cost Test benefit/cost ratio from 2.2 to 1.8, following additional verification and analysis.

Northwest Energy Efficiency Alliance and market transformation

- *Full compliance. See Energy Trust's separate 2015 Annual Report on Northwest Energy Efficiency Alliance Results for Energy Trust of Oregon, submitted on April 15, 2016.*
- New opportunities that have surfaced in last 12 months and what was the response
- Ideas rejected by NEEA's Regional Portfolio Advisory Committee in the last 12 months
- Results of the take-stock analysis of the budget and opt-in programs
- Mid-course corrections that occur in programs

V REVENUE AND EXPENDITURE TABLES[10],[11]

A. Revenues

Source	Annual actual revenues	Annual budgeted revenues
Portland General Electric	$ 37,035,349	$ 36,652,744
PGE Incremental	$ 42,053,468	$ 42,000,000
Pacific Power	$ 27,089,268	$ 28,291,796
Pacific Power Incremental	$ 21,003,782	$ 20,850,000
Cascade Natural Gas	$ 1,294,913	$ 1,913,709
NW Natural	$ 12,853,131	$ 13,805,611
NW Natural Industrial DSM	$ 3,078,432	$ 2,997,419
Total	**$ 144,408,343**	**$ 146,511,279**

Incremental revenues are those authorized under SB 838 to support capturing additional cost-effective electric efficiency savings above the amount supported by funding through SB 1149.

B. Expenditures

Type	Annual actual expenditures	Annual budgeted expenditures
Energy efficiency Programs	$ 141,312,783	$ 146,600,323
Renewable energy Programs	$ 17,266,025	$ 15,580,663
Administration	$ 5,416,466	$ 6,111,239
Total	**$ 163,995,274**	**$ 168,292,225**

Source	Annual actual expenditures	Annual budgeted expenditures
Portland General Electric	$ 87,490,968	$ 92,716,363
Pacific Power	$ 55,729,412	$ 53,833,709
Cascade Natural Gas	$ 2,221,876	$ 1,966,047
NW Natural	$ 15,926,420	$ 16,116,755
NW Natural Industrial DSM	$ 2,626,598	$ 3,659,350
Total	**$ 163,995,274**	**$ 168,292,225**

[10] Columns may total due to rounding.
[11] The gas expenditures do not include NW Natural in Washington. These results are reported in Appendix 8.

C. Incentives paid

	Energy efficiency				Renewable energy		Total
Quarter	PGE	Pacific Power	NW Natural	Cascade Natural Gas	PGE	Pacific Power	
Q1	$ 3,622,453	$ 2,051,460	$ 991,270	$ 97,245	$ 1,596,961	$ 649,081	$ 9,008,469
Q2	$ 10,041,800	$ 7,269,604	$ 2,257,203	$ 188,473	$ 2,477,706	$ 911,363	$ 23,146,150
Q3	$ 8,592,019	$ 4,291,955	$ 2,042,556	$ 223,411	$ 1,966,264	$ 1,022,738	$ 18,138,944
Q4	$ 19,733,505	$ 13,534,450	$ 5,103,640	$ 710,782	$ 3,916,646	$ 1,863,273	$ 44,862,295
Total	**$ 41,989,777**	**$ 27,147,470**	**$ 10,394,669**	**$ 1,219,911**	**$ 9,957,576**	**$ 4,446,456**	**$ 95,155,858**

VI SAVINGS AND GENERATION TABLES[12, 13, 14, 15]

A. Progress toward annual efficiency and generation goals

	Expenditures	Savings/ generation	Levelized cost	Energy Trust annual goal	
				Goal	% Achieved
Electric savings	$125,362,913	54.1 aMW	2.6 ¢	53.1 aMW	102%
Natural gas savings	$20,774,895	6.5 million therms	26.6 ¢	5.6 million therms	116%
Electric generation	$17,857,466	3.90 aMW	3.8 ¢	3.47 aMW	113%

B. Progress toward annual efficiency goals by utility

	Annual expenditures	Annual savings	Levelized cost	Energy Trust 2015 annual goal		Annual IRP target	
				Goal	% Achieved	Target	% Achieved
Portland General Electric	$75,586,384	31.9 aMW	2.7 ¢ Per kWh	33.2 aMW	96%	33.8 aMW	94%
Pacific Power	$49,776,529	22.3 aMW	2.6 ¢ Per kWh	19.9 aMW	112%	19.1 * aMW	117%
NW Natural	$18,553,019	5.9 million therms	26.0 ¢ Per therm	5.2 million therms	115%	4.6 million therms	128%
Cascade Natural Gas	$2,221,876	572,526 therms	32.4 ¢ Per therm	433,020 therms	132%	433,020 ** therms	132%

*Pacific Power IRP target is pending acknowledgement from OPUC and was revised in April 2015. Energy Trust noted the forthcoming change in the 2015 Annual Budget adopted in December 2014, where the Integrated Resource Plan target was indicated as 14.62 aMW.

**Cascade Natural Gas IRP target is pending acknowledgement from OPUC.

C. Electric efficiency savings and expenditures

2015 electric efficiency savings	PGE aMW	Pacific Power aMW	Total savings aMW	Expenses	Levelized cost/kWh
Commercial	11.8	8.6	20.4	$ 56,735,340	3.0 ¢
Industrial	7.6	5.2	12.8	$ 27,554,273	2.6 ¢
Residential	12.4	8.5	20.9	$ 41,073,300	2.3 ¢
Total electric efficiency programs	**31.9**	**22.3**	**54.1**	**$ 125,362,913**	**2.6 ¢**

[12] Columns may not total due to rounding.
[13] Electric savings also include transmission and distribution savings.
[14] The gas savings do not include results for NW Natural in Washington. These results are reported in Appendix 8.
[15] Energy Trust reports 100 percent of generation and capacity for renewable energy installations supported by Energy Trust's cash incentives. While some of these projects have additional sources of funding, Energy Trust enabled project completion.

D. Gas efficiency savings and expenditures

2015 gas efficiency savings	NW Natural therms	Cascade Natural Gas therms	Total savings therms	Expenses	Levelized cost/therm
Commercial	2,055,299	360,955	2,416,255	$ 7,111,170	29.4 ¢
Industrial	1,992,610	47,606	2,040,217	$ 2,150,472	10.0 ¢
Residential	1,874,486	163,965	2,038,451	$ 11,513,253	37.4 ¢
Total gas efficiency programs	**5,922,396**	**572,526**	**6,494,922**	**$ 20,774,895**	**26.6 ¢**

E. Renewable energy generation and expenditures

2015 renewable energy generation	PGE aMW	Pacific Power aMW	Total generation aMW	Expenses	Levelized cost/kWh
Other Renewables program	1.75	0.24	1.99	$ 4,171,866	1.7 ¢
Solar Electric program	1.29	0.62	1.91	$ 13,685,600	6.3 ¢
Total renewable programs	**3.04**	**0.87**	**3.90**	**$ 17,857,466**	**3.8 ¢**

F. Energy efficiency savings and expenditures by program[16]

1. Total energy efficiency savings and expenditures

	Annual savings	Energy Trust annual goal	Percent achieved	Levelized cost
Electric	54.1 aMW	53.1 aMW	102%	2.6¢ per kWh
Gas	6.5 million therms	5.6 million therms	116%	26.6¢ per therm

	Annual expenditures	Variance from annual budget	
Electric	$ 125,362,913	$ 4,996,279	3.8%
Gas	$ 20,774,895	$ 967,257	4.4%
Total	**$ 146,137,808**	**$ 5,963,536**	**3.9%**

2. Existing Buildings savings and expenditures

	Annual savings	Energy Trust annual goal	Percent achieved	Levelized cost
Electric	13.8 aMW	15.2 aMW	90%	3.3 ¢ per kWh
Gas	1.9 million therms	2.2 million therms	85%	33 ¢ per therm

	Annual expenditures	Variance from annual budget	
Electric	$ 42,329,566	$ 741,331	1.7%
Gas	$ 5,621,746	$ 1,788,745	24.1%
Total	**$ 47,951,312**	**$ 2,530,076**	**5.0%**

[16] Variance is expressed in total dollars *below* budget or (total dollars) *above* budget.

3. New Buildings savings and expenditures

	Annual savings	Energy Trust annual goal	Percent achieved	Levelized cost
Electric	5.7 aMW	4.1 aMW	138%	2.1 ¢ per kWh
Gas	552,377 therms	396,086 therms	139%	20 ¢ per therm

	Annual expenditures	Variance from annual budget	
Electric	$ 12,153,824	$ (879,536)	-7.8%
Gas	$ 1,405,444	$ (158,095)	-12.7%
Total	**$ 13,559,268**	**$ (1,037,630)**	**-8.3%**

4. Production Efficiency savings and expenditures

	Annual savings	Energy Trust annual goal	Percent achieved	Levelized cost
Electric	12.6 aMW	15.3 aMW	82%	2.6 ¢ per kWh
Gas	2 million therms	1.1 million therms	191%	10 ¢ per therm

	Annual expenditures	Variance from annual budget	
Electric	$ 27,207,980	$ 2,055,668	7.0%
Gas	$ 2,150,472	$ 857,462	28.5%
Total	**$ 29,358,451**	**$ 2,913,130**	**9.0%**

5. Existing Homes savings and expenditures

	Annual savings	Energy Trust annual goal	Percent achieved	Levelized cost
Electric	5.1 aMW	4.7 aMW	110%	3.3 ¢ per kWh
Gas	940,865 therms	878,334 therms	107%	44 ¢ per therm

	Annual expenditures	Variance from annual budget	
Electric	$ 15,831,595	$ 1,898,449	10.7%
Gas	$ 5,668,527	$ (740,078)	-15.0%
Total	**$ 21,500,122**	**$ 1,158,371**	**5.1%**

6. New Homes and Products savings and expenditures

	Annual savings	Energy Trust annual goal	Percent achieved	Levelized cost
Electric	9.6 aMW	8.9 aMW	108%	2.9 ¢ per kWh
Gas	1.1 million therms	1.1 million therms	104%	32 ¢ per therm

Includes gas market transformation savings associated with the 2008 and 2011 residential code changes.

	Annual expenditures	Variance from annual budget	
Electric	$ 21,248,436	$ 652,234	3.0%
Gas	$ 5,675,165	$ (1,100,206)	-24.0%
Total	**$ 26,923,602**	**$ (447,972)**	**-1.7%**

7. Northwest Energy Efficiency Alliance savings and expenditures[17]

	Annual savings	Annual energy target	Percent achieved	Levelized cost
Commercial	1.0 aMW	1.0 aMW	100%	4.5 ¢ per kWh
Industrial	0.2 aMW	0.17* aMW	123%	2.9 ¢ per kWh
Residential	6.2 aMW	3.7 aMW	167%	0.8 ¢ per kWh
Total	**7.4 aMW**	**4.8 aMW**	**152%**	**1.1 ¢ per kWh**

	Annual expenditures	Variance from annual budget	
Commercial	$ 2,335,930	$ 557,518	19.3%
Industrial	$ 346,294	$ (178,709)	-106.6%
Residential	$ 4,162,829	$ 468,753	10.1%
Total	**$ 6,845,052**	**$ 847,562**	**11.0%**

* In 2015 quarterly reports, the industrial annual energy target for NEEA was incorrectly reported as 1.0 aMW.

G. Renewable energy generation and expenditures by program[18]

1. Total renewable energy generation and expenditures

	Annual generation	Energy Trust annual goal	Percent achieved	Levelized cost
Electric	3.9 aMW	3.5 aMW	113%	3.8 ¢ per kWh

	Annual expenditures	Variance from annual budget	
Electric	$ 17,857,466	$ (1,666,585)	-10.3%

2. Solar generation and expenditures

	Annual generation	Energy Trust annual goal	Percent achieved	Levelized cost
Electric	1.9 aMW	1.5 aMW	130%	6.3 ¢ per kWh

	Annual expenditures	Variance from annual budget	
Electric	$ 13,685,600	$ (2,194,872)	-19.1%

3. Other Renewables generation and expenditures

	Annual generation	Energy Trust annual goal	Percent achieved	Levelized cost
Electric	2.0 aMW	2.0 aMW	100%	1.7 ¢ per kWh

[17] Energy Trust allocated budget to NEEA for gas market transformation activities. While there were no associated savings in 2015, savings are expected in subsequent years.
[18] Variance is expressed in total dollars *below* budget or (total dollars) *above* budget.

	Annual expenditures	Variance from annual budget	
Electric	$ 4,171,866	$ 528,287	11.2%

H. 2015 electric efficiency results for SB 1149 and SB 838 funds

Energy Trust will complete an analysis of the allocation of 2015 savings and related costs to SB 1149 versus SB 838 funding sources, along with the summary of SB 838 expenditures by utility, in fall 2016. An addendum will be issued to the 2015 Annual Report with three SB 1149 and SB 838 tables:

1. 2015 SB 1149 savings and costs (total and by sector)
2. 2015 SB 838 savings and costs (total and by sector)
3. 2015 SB 838 utility expenditures (total and by utility)

As in past years, Energy Trust has engaged a third party to review energy consumption data provided by utilities and determine whether a project should be funded by SB 1149 (all sites using electricity from PGE or Pacific Power are eligible) or SB 838 (limited to sites using less than one aMW annually).

See Appendix 10 for the 2015 electric efficiency results for SB 1149 and SB 838 funds. Information was appended to the report on October 24, 2016.

APPENDIX 1: 2015 CUSTOMER SATISFACTION RESULTS

Energy Trust calculated customer satisfaction from short telephone surveys conducted with randomly selected participants soon after they completed projects. The survey asked participants about overall satisfaction with Energy Trust. Participants in the Existing Buildings, Production Efficiency and commercial Solar programs were also asked about satisfaction with program representatives.

In 2015, the average rate of overall satisfaction with Energy Trust was 95 percent, and the rate of satisfaction with Energy Trust program representatives was 98 percent.

New Buildings projects often involve numerous market actors (architects, engineers, developers and owners) at different project stages, so it is difficult to reach a project representative who is able to respond to questions about satisfaction. Satisfaction with the New Buildings program is obtained from annual interviews with program participants. In early 2016, 36 New Buildings project owners or representatives were surveyed about their overall program satisfaction and satisfaction with communications with program representatives. Of participants surveyed, 100 percent were satisfied with their overall program experience. Satisfaction with program representatives was 97 percent.

Table 1: 2015 overall satisfaction

	2015 overall satisfaction
Existing Buildings, including multifamily	94%
New Homes and Products[19]	94%
Existing Homes	88%
New Buildings	100%
Production Efficiency	96%
Solar	95%
Unweighted average	**95%**

Table 2: 2015 satisfaction with program representatives

	2015 satisfaction with program representatives
Existing Buildings, including multifamily	95%
New Buildings	97%
Production Efficiency	98%
Commercial Solar	100%[20]
Unweighted average	**98%**

Note: Energy Trust's customer feedback survey does not ask residential participants about satisfaction with program representatives. Residential participants interact with Energy Trust representatives to a varying degree—some call the call center and others may not interact with a program representative. In general, commercial and industrial participants have more interaction with Energy Trust representatives.

[19] Only Products customers were surveyed. Energy Trust does not track purchasers of new homes.
[20] Only commercial solar customers are surveyed about satisfaction with program representatives.

APPENDIX 2: RENEWABLE RESOURCE DEVELOPMENT TARGETS
Project development assistance activity in 2015

The primary goal of Energy Trust's project development assistance is to expand distributed renewable energy generation in Oregon by minimizing early stage development barriers. Funds for project development assistance in 2015 helped a dozen irrigation districts explore hydropower potential as they contemplate modernization upgrades. Energy Trust reduced the costs of resource characterization studies with breweries exploring anaerobic digestion of their wastewater, and enabled two dozen other projects to move through development processes through support for resource evaluations, environmental and other permitting studies, and early stage engineering and design.

By providing project development assistance, the renewable energy sector is able to help build a pipeline of projects that are moving through the steps of development and are able to apply for installation incentives, expand understanding of the market for various renewable energy technologies, and meet a need in the renewable industry for early-stage project support that will help secure longer-term financing.

A. 2015 project development assistance results

In 2015 Energy Trust supported 35 projects with project development assistance. The organization paid and committed a total of $2,052,543 for a range of development assistance to biopower, hydropower, geothermal and wind technologies (see Tables 1-7). In comparison to 2014, Energy Trust nearly doubled the number of supported projects (up from 18 in 2014) and nearly quadrupled the amount of committed funds (up from $513,853). This outcome is largely the result of highly successful outreach to irrigation districts and ditch companies through Energy Trust's new irrigation modernization initiative, coupled with an increase in the amount of project development assistance funding offered to projects. The funding increase was made to enable Energy Trust to play a larger role in the early stages of project development, with the goal of increasing the number of projects that are able to reach commercial operation.

Projects completing project development assistance activities in 2015

Of the 35 projects in progress in 2015, nine completed the development assistance activities in 2015 and received a total of $125,764. These projects included four hydropower projects, one geothermal project, two biopower projects and two wind projects. Two of the projects receiving support were in PGE service territory and seven were in Pacific Power territory.

Table 1: Results for completed development assistance for hydropower projects

Project	Development assistance	Outcome	Utility	Incentive
Municipal hydropower at water diversion	Feasibility analysis, permitting work, design/ engineering/ cost estimation, grant writing	• Early stage feasibility, design and exploration of water rights and permitting considerations show good potential for small project • Project continues to move forward with additional design and permitting work	Pacific Power	$4,980

Municipal hydropower project at existing water storage facility	Feasibility analysis	• Head loss testing and study showed positive financial feasibility at site • Municipality now exploring environmental considerations with resource agencies	PGE	$8,500
Turbine near the site of an existing project at a small ranch	Engineering and permitting	• Final design and permitting completed • Project applied and an Energy Trust installation incentive was committed • Commercial operation expected in 2016	Pacific Power	$8,417
New hydropower proposed on a natural stream	Site survey, environmental studies, permitting process management	• Completed survey and studies enabled submission of permitting documents • Developer working with resource agencies in permitting processes	Pacific Power	$40,000

Table 2: Results for completed development assistance for geothermal projects

Project	Development assistance	Outcome	Utility	Incentive
Geothermal project	Site survey and drafting required for well permitting	• Site survey and drafting to enable developer to apply for well permit • Project is unable to move forward at this time	Pacific Power	$585

Table 3: Results for completed development assistance for biopower projects

Project	Development assistance	Outcome	Utility	Incentive
Brewery waste biogas	Feasibility study	• Study evaluated five anaerobic digestion technologies and five energy use alternatives, enabling project proponent to select a vendor and explore financial implications • Project proponent considering a follow-up design study	Pacific Power	$19,950
Commercial food waste biogas	Feasibility study	• Study evaluated the feasibility of a proposed pre- and post-consumer food waste anaerobic digester • Results caused developer to shift location and seek co-development partner • Holding public hearing and undertaking interconnection assessments	PGE	$40,000

Table 4: Results for completed development assistance for wind projects

Project	Development assistance	Outcome	Utility	Incentive
10-MW community-scale wind projects (2)	Wind analysis, power purchase and interconnection assistance	• Able to secure power purchase and interconnection agreements with utility • Project financing secured • Expected to move forward without an Energy Trust incentive	Pacific Power	$1,973
			Pacific Power	$1,358

New development assistance commitments in 2015

In 2015, 26 projects began development assistance activities that will complete in 2016 or later. Technologies represented by these contracts included 22 hydropower projects, two biogas projects and two wind projects. Total funds committed to these new projects was $1,926,779.

Table 5: New development assistance commitments in 2015 for hydropower projects

Project	Development assistance	Outcome	Utility	Incentive
Irrigation district water storage facility	Feasibility analysis	• Study indicated financial feasibility for various turbine and generator configurations • Irrigation district now exploring financing, ownership scenarios	Pacific Power	$12,000
Ranch hydropower	Feasibility analysis, permitting work, design/engineering /cost estimation, grant writing	• Feasibility, design, engineering and permitting work to move project to point where owner can make financing decisions to move toward construction	Pacific Power	$20,000
Water district existing hydropower expansion	Final engineering, design and permitting	• Engineering, dam safety analysis and permitting application work completed • Permit submitted for agency review • Project applied for Energy Trust installation incentive, currently under review • Construction expected in 2017	Pacific Power	$176,860
Irrigation district drop structure	Early-stage feasibility and fatal flaw analysis, full feasibility study	• Early stage study indicated potential at project site warranting further consideration • Full feasibility study to proceed pending irrigation district review	Pacific Power	$12,300
Irrigation district water storage facility	Early-stage engineering and environmental research for permitting	• Upon completion, project owner will submit initial permitting documents to secure site control and continue moving through development processes	Pacific Power	$20,300

Ranch hydropower	Feasibility analysis, permitting work, design/engineering cost estimation, grant writing	• Feasibility, design, engineering and permitting work to support financing decisions and to move toward construction	Pacific Power	$20,000
Municipal irrigation district water storage facility	Initial project feasibility study, conceptual design, permitting analysis	• Study will enable proponents to determine viability and development steps, needs for potential project	Pacific Power	$85,705
Water district water storage facility	Feasibility analysis, permitting work, design/engineering /cost estimation, grant writing	• Feasibility, design, engineering and permitting work intended to support financing decisions and to move toward construction	Pacific Power	$21,000
Irrigation ditch company canal pressurization	Evaluation of hydroelectric and water conservation potential	• System efficiencies analysis, similar to irrigation modernization strategy, identifying water savings and hydropower potential at specific sites • Information will be used to develop project funding plan	Pacific Power	$25,200
Irrigation district canal pressurization	Evaluation of hydroelectric potential	• A system-wide hydroelectric power generation evaluation, summarizing site-specific opportunities and high-level feasibility, to enable district to make informed decisions about projects to pursue	Pacific Power	$44,197
Irrigation ditch company canal pressurization (2)	Irrigation system modernization planning, including evaluation of hydroelectric potential, water and energy conservation potential, environmental and water quality impacts and economic impacts	• Deliverables will be compiled into an irrigation modernization strategy to help the irrigation district understand the scope of opportunities available in its water system, build financial plans and move into implementation	Pacific Power	$84,562
			Pacific Power	$60,000
Irrigation district canal pressurization projects (10)	Irrigation system modernization planning, including evaluation of hydroelectric potential, water and energy conservation potential, environmental and water quality impacts and economic impacts	• Deliverables will be compiled into an irrigation modernization strategy to help the district understand the opportunities available, build financial plans and move into implementation	Pacific Power	$93,984
			Pacific Power	$200,000
			Pacific Power	$96,137
			Pacific Power	$112,995
			Pacific Power	$74,976
			Pacific Power	$176,088
			Pacific Power	$120,648

			Pacific Power	$103,440
			Pacific Power	$118,536
			Pacific Power	$121,704

Table 6: New development assistance commitments in 2015 for biopower projects

Project	Development assistance	Outcome	Utility	Incentive
Brewery waste biogas	Feasibility study	• Study indicated that anaerobic digestion treatment system is technically and financially viable • Project proponent working to establish site control, applying for additional incentives and moving into design	Pacific Power	$24,148
Municipal wastewater treatment facility	Cogeneration facility upgrade pre-design report	• Investigated cogeneration upgrade at municipal water resource recovery facility • Favorable results led to city council approval to begin system design • Application expected in 2016 for an Energy Trust installation incentive	PGE	$74,800

Table 7: New development assistance commitments in 2015 for wind projects

Project	Development assistance	Outcome	Utility	Incentive
Agricultural community-scale wind	Wind resource report, interconnection assistance	• Wind resource report showed favorable site conditions, leading to utility interconnection application • Additional interconnection assistance is ongoing • Project has applied for Energy Trust installation incentive and is under review	Pacific Power	$7,200
Local government wind project	Resource characterization and review, environmental studies, preliminary interconnection review, financial analysis	• Data collection for resource characterization is in process • Additional work ongoing	Pacific Power	$20,000

B. Barriers to project development

Energy Trust's project development assistance is designed to address the main barriers to renewable energy project development. Those barriers in 2015 remained similar to those in 2014. Helping projects overcome these barriers builds a pipeline of projects that can apply for incentives, complete construction and generate renewable energy.

- **It is difficult to find capital to support early stage work.**
  The most risky time to invest money in a renewable energy project is at the beginning. Investors are reluctant to put funds into a project with unclear potential. Without early stage funding, a project cannot advance to the point where the risk is reduced. By providing early-stage funds, Energy Trust builds a pipeline and helps move projects forward, enabling them to attract additional financing and eventually construct a project. In addition, Energy Trust's support demonstrates confidence that can help projects successfully secure other sources of funds. In some cases, projects at this early stage learn they are not feasible. Energy Trust helps project owners reach that point with limited exposure.

- **Less sophisticated developers whose primary business is not energy encounter difficulties navigating the stages of developing a project.**
  Energy Trust works with many project developers that are not professional developers. Moving through the steps of resource characterization, feasibility, permitting and interconnection can be lengthy and difficult. Project development assistance—both financial and technical—helps developers navigate these steps in less time and for less cost, and learn industry best practices and how to avoid mistakes.

- **Market conditions for distributed renewable generation in Oregon continue to be challenging.**
  At all stages of the development process, project owners face poor market fundamentals, including low avoided cost rates and diminished state and federal incentives. Project development assistance is a tool to continue to attract investment in projects in Oregon, and to maintain development capacity in the state.

C. Non-solar project cost per generation

For non-solar custom projects, the OPUC performance measure requires the three-year rolling average incentive to not exceed $25 per allocated MWh. For 2015, the rolling average non-solar project cost per generation of 2013, 2014 and 2015 was $15.82 per allocated MWh.

APPENDIX 3: 2015 GROSS SAVINGS

This appendix provides Energy Trust's 2015 energy savings in gross savings. **Gross savings** are energy savings that result from Energy Trust programs, regardless of why customers participated.

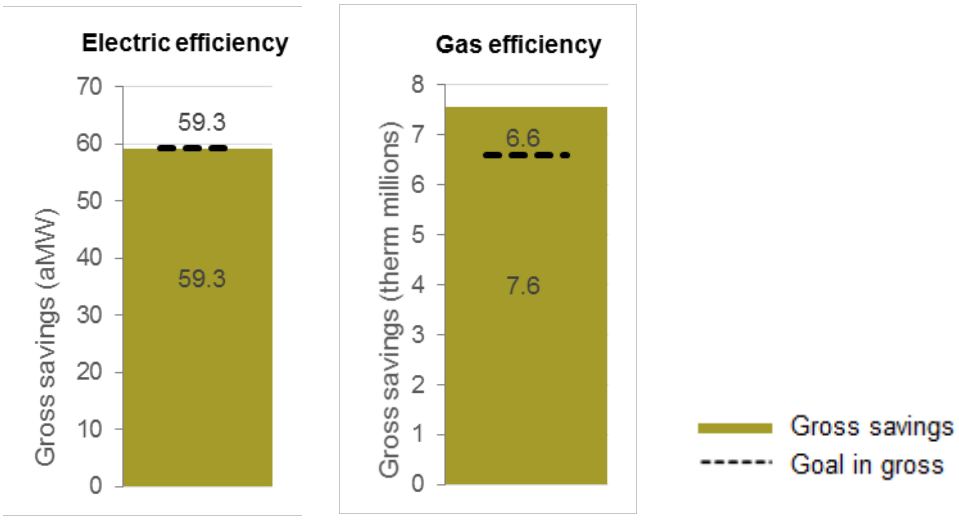
In the body of Energy Trust's annual and quarterly reports to the OPUC, Energy Trust reports results in net savings. **Net savings** refer to only the portion of gross savings that is directly attributable to Energy Trust programs. Net savings does not include savings from participants who would have completed an energy-saving action even in the absence of the program (free riders), and does include estimates of savings from participants who completed an energy-saving action because of awareness of the program but didn't receive a program incentive (participant spillover).

Energy Trust's gross energy generation is equal to net renewable energy generation. Because of Energy Trust's mandate to support only renewable projects with above-market costs, these projects are unlikely to move forward without Energy Trust incentives and therefore are not free riders. Additionally, the organization has contributed so significantly to the growth of the Oregon's renewable energy market that we have shaped the choices available for consumers. Based on these factors, Energy Trust claims 100 percent of generation for all renewable energy projects that receive incentives.

Progress toward gross annual efficiency and generation goals

	Annual expenditures	Annual savings/ generation (gross)	Energy Trust annual goal (gross)	Percent achieved
Electric savings	$ 125,362,913	59.3 aMW	59.3 aMW	100%
Natural gas savings	$ 20,774,895	7.6 million therms	6.6 million therms	115%
Electric generation	$ 17,857,466	3.90 aMW	3.47 aMW	113%

Gross savings



APPENDIX 4: NW NATURAL INDUSTRIAL DEMAND-SIDE MANAGEMENT ACTIVITIES

Since 2009, Energy Trust has provided service to NW Natural's Schedule 31 and 32 non-transport customers, funded through a special rate adjustment mechanism rather than through the public purpose charge. Program costs and therm savings for these customers in 2015 are included in the body of this annual report as a portion of NW Natural savings and reported separately below.

Program/customer type	2015 annual therms saved	Actual expenditures	Levelized cost / therm
Production Efficiency	1,685,999	$1,123,195	6.3 ¢
Existing Buildings	636,911	$1,442,888	28.7 ¢
New Buildings	55,629	$60,515	9.0 ¢
Total	**2,378,538**	**$2,626,598**	**11.15 ¢**

APPENDIX 5: BACKGROUND, MISSION AND GOALS

A. Background

Our mission is to help customers and utilities meet their energy needs with the cheapest and cleanest energy available. Since March 2002, we have been entrusted to invest public purpose funds from utility customers and deliver benefits from energy-efficiency improvements and renewable energy generation. We serve customers in coordination with utilities, community and industry organizations, government agencies and two other electric public purpose fund administrators—Oregon Housing and Community Services and the Oregon Department of Energy. This work benefits our state by building a more sustainable and brighter energy future, and contributing to our local and state economy in positive ways.

Energy Trust is an independent 501(c)(3) nonprofit organization funded by and serving Oregon customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas, and NW Natural customers in Washington. We offer energy efficiency and renewable energy programs and services to every type of customer, including those who own, rent or lease their home or building, product manufacturers, small and large businesses and industries, nonprofit and public organizations, farmers and ranchers. New offers and effective collaboration enable us to provide clean energy solutions for a growing number of consumers, businesses, communities and schools. We provide information, technical expertise and financial assistance to help people modify their energy usage habits, choose high-efficiency products, invest in energy-efficient construction and install renewable energy projects. Through these actions, participating customers derive a range of benefits—lower energy bills, greater comfort, better indoor air quality, improved productivity and lower carbon emissions.

As a steward of utility customer dollars, we consistently maintain low administrative and program support costs, and ensure the majority of public purpose funds flow back to customers as incentives, services and education. We competitively bid our program management and delivery contracts, assuring the best prices for the services provided. For most programs, Energy Trust leverages specialized local trade and program ally businesses—many of whom employ 20 or fewer staff—already serving customers in the marketplace. We support and leverage this network of trade ally contractors, allied professionals and participating retailers throughout the state who are familiar with Energy Trust incentives and connect customers directly to them. This approach keeps Energy Trust costs low, supports our region's energy services sector and sustains opportunities in the areas we serve.

We are led by an independent, diverse board of directors whose members volunteer their time and expertise, and our work is shaped by advice from two advisory councils comprised of stakeholders. We strive to be inclusive and transparent by holding open meetings and publishing meeting agendas, notes, independent third-party evaluations of programs, draft and final budgets and action plans, reports and audited financial statements on our website.

We comply with legal requirements and minimum performance measures set forth in our contract with the Oregon Public Utility Commission. Annual goals for electric and natural gas energy savings are developed in consultation with PGE, Pacific Power, NW Natural and Cascade Natural Gas and built from each utility's Integrated Resource Plan. This collaboration enables Energy Trust to focus on and be accountable for delivering the lowest-cost energy available to meet the needs of every utility customer. In

addition, annual renewable energy generation goals are developed using knowledge of the market obtained through renewable resource assessments.

B. Purpose statement

Energy Trust provides comprehensive, sustainable energy efficiency and renewable energy solutions to those we serve.

C. Vision statement

Energy Trust envisions a high quality of life, a vibrant economy and a healthy environment and climate for generations to come, built with renewable energy, efficient energy use and conservation.

D. 2015-2019 Strategic Plan goals and strategies

- Save 240 aMW of electricity
- Save 24 million annual therms of natural gas
- Install 10 aMW of renewable energy
- Expand participation
- Make energy efficiency more affordable
- Identify new technologies with energy-saving potential
- Continuously improve programs and services
- Provide project development support and incentives for renewable energy projects
- Work more efficiently
- Remain flexible and open to new opportunities

APPENDIX 6: PROGRAM DESCRIPTIONS

Existing Buildings. Existing Buildings offers technical assistance and cash incentives for installation of qualified energy-efficient equipment to help commercial businesses of all types and sizes reduce energy use and lower operating costs. Existing Buildings offers incentives for improvements including lighting, HVAC, foodservice and insulation, as well as customized solutions and operations and maintenance improvements. Existing Buildings' technical staff helps customers identify and evaluate energy-saving opportunities with technical energy studies, contractor referrals and other technical services. Portions of the program are offered to NW Natural customers in Washington. Existing Buildings began in 2003 and was implemented in 2015 by Program Management Contractor, ICF International, with additional technical services for Strategic Energy Management provided by SEG, CLEAResult (formerly Triple Point) and Enernoc.

Existing Multifamily. Multifamily serves all existing multifamily structures with two or more units, including apartments, condos and townhomes, affordable housing facilities, assisted living facilities and campus living facilities. Multifamily property owners and managers have a menu of offerings for financial and service incentives for both in-unit and common-area improvements. Technical services include direct installation of energy-efficient light bulbs, showerheads, faucet aerators and advanced power strips in tenant spaces, energy surveys and custom incentive solutions, as well as cash incentives for common-area lighting, appliances, weatherization and HVAC systems. Existing Multifamily was implemented in 2015 by Lockheed Martin Services, Inc.

New Buildings. This program provides incentives for energy-efficient design and equipment to support construction of high-performance commercial new buildings and major renovations of all sizes and building types. Participants can leverage a comprehensive set of services and incentives, such as early design and energy modeling assistance, a wide array of standard and customized equipment incentives, including modeled savings incentives for whole-building approaches and incentives for integrating solar designs. Since late 2012, the market solutions offering helps small businesses under 70,000 square feet achieve deeper energy savings through standard tiered incentive packages for restaurants, groceries, multifamily buildings, office buildings, schools and retail buildings. Incentives are offered for projects that save energy beyond the Oregon Energy Efficiency Specialty Code requirements. New Buildings was implemented in 2015 by CLEAResult Consulting, Inc.

Production Efficiency. Industrial and agricultural businesses of all types and sizes look to Production Efficiency for technical services and cash incentives to help them identify and implement electric and natural gas efficiency projects and practices. Energy Trust engages highly skilled industrial energy experts to advise Oregon businesses on reducing energy-related operating costs while improving productivity, product quality and environmental performance. The program works closely and consultatively with industries long-term, helping these businesses employ best practices and continuously improve their energy performance. Production Efficiency is managed internally with some customers served by Program Delivery Contractors.

Existing Homes. Homeowners and renters can take advantage of energy-saving recommendations, referrals to qualified trade ally contractors and cash incentives for qualified improvements including weatherization, heating equipment and water heaters. Existing Homes offers specialized services including free weatherization services for manufactured homes, increased cash incentives and on-bill financing for moderate-income homeowners through Savings Within Reach, market-based Home Performance with ENERGY STAR and diagnostic-based whole-home retrofit projects conducted by Building Performance Institute-certified contractors offered through Enhabit. The program offers a web-based Home Energy Review and phone-based support for customers. Customized Energy Saver Kits

with no-cost LED bulbs and water-saving devices may be ordered online, and LivingWise Kits are distributed through schools. The program leverages market actors, including distributors, retailers and community partners, to drive savings throughout the state. Portions of the program are offered to NW Natural customers in Washington. Existing Homes was implemented in 2015 by CLEAResult Consulting, Inc.

New Homes. The New Homes program focuses on acquiring cost-effective electric and gas savings by engaging trade ally contractors and verifiers to build and inspect energy-efficient homes rated with EPS, Energy Trust's energy performance score. New Homes offers incentives, educational opportunities, ally support and quality assurance to help trade allies build energy-efficient homes. New Homes provides builders with performance-based incentives for building efficiency and integrating solar into new homes. New Homes seeks to expand program reach by introducing new individual equipment offerings and engaging new market segments. New Homes also claims gas market transformation savings for influencing the 2008 and 2011 Oregon Residential Specialty Code. New Homes was implemented in 2015 by CLEAResult Consulting, Inc.

Products. The Products program offers cash incentives for purchase of ENERGY STAR qualified clothes washers, refrigerators, freezers, lighting and showerheads, and for recycling old refrigerators and freezers. The program also provides energy-saving kits to food pantries to deliver to their clients, and distributes showerheads through water bureaus and districts throughout the state. In addition, the program works with subcontractors and real estate professionals, and encourages the sale of energy-efficient manufactured homes. Portions of the program are offered to NW Natural customers in Washington. Products was implemented in 2015 by Ecova.

Solar Electric. The program helps homeowners, businesses and public agencies supplement their electricity needs with on-site solar generation. The program provides cash incentives for net-metered solar electric installations, educates consumers about solar purchasing and financing options and ensures high-quality installations through design review and verification. When additional funds are available, the program also supports custom, large-scale solar projects. The program envisions solar as a significant part of Oregon's energy mix and makes strategic investments in projects, infrastructure and ` local industry that will give rise to a healthy, stable market for solar. The Solar program is managed internally.

Other Renewables. The program provides support for renewable energy projects that generate electricity using biopower, wind, hydropower and geothermal technologies. The goal of the program is to expand Energy Trust's renewable energy portfolio across a range of technologies and to improve market conditions. The program provides custom incentives for projects with generating capacities of up to 20 MW. The program provides incentives for project development assistance, which can include incentives to pay a portion of the costs of feasibility studies, technical assistance or other activities to help projects move from concept to construction. Project installation incentives are calculated on a custom basis during a technical and financial review of a project's application. All incentives are paid upon successful project installation or activity completion. Other Renewables is managed internally.

Northwest Energy Efficiency Alliance. NEEA is a nonprofit organization working to maximize energy efficiency to meet our future energy needs. In 2015, Margie Harris, Energy Trust executive director, served as board secretary and chair of the strategic planning committee of the NEEA Board of Directors. NEEA is supported by and works in partnership with Bonneville Power Administration, Energy Trust and more than 100 Northwest utilities for the benefit of more than 12 million energy consumers. NEEA uses the market power of the region to accelerate innovation and adoption of energy-efficient products, services and practices. NEEA has delivered market transformation savings under contract to Energy Trust since 2002.

APPENDIX 7: 2015 ENERGY TRUST BOARD OF DIRECTORS; BOARD DEVELOPMENT GUIDELINES; 2015 ADVISORY COUNCIL MEMBERS AND MEETINGS

PRESIDENT—Debbie Kitchin, Portland, is the co-owner of InterWorks LLC, a construction company engaged in commercial tenant improvement and renovation and residential remodeling services. InterWorks is an award-winning contractor specializing in sustainable building practices. Prior to joining the family business in 1996, she served as senior economist for the Northwest Power and Conservation Council for 15 years and was a regional economist for the Bonneville Power Administration for three years. Debbie is treasurer of the Portland Business Alliance, vice president of the Central Eastside Industrial Council and a board member of the Portland Building Owners and Managers Association. She is a past president of the Portland Commercial Real Estate Women. *Debbie has served as president since February 2014.*

VICE PRESIDENT—Ken Canon, Myrtle Creek, founded in 1981 the Industrial Customers of Northwest Utilities, a regional trade association focused on electric energy issues. Since retiring from that role in 2005, he chaired a committee that examined the performance of NEEA and also managed the Northwest Energy Efficiency Task Force. Earlier in his career, while working for Associated Oregon Industries, he drafted and helped enact Oregon's Business Energy Tax Credit. Later, he helped implement a comprehensive energy-efficiency program at an international paper mill. He has a long history of organizing, managing and advising nonprofit organizations. Applying his expertise to his residence, Ken built the first ENERGY STAR home in Douglas County. Ken, a life-long Oregonian, was born and raised in Medford and graduated from Southern Oregon University and Willamette University College of Law. *Ken has served as vice president since February 2014.*

SECRETARY—Alan Meyer, Salem, recently retired as director of energy management for Weyerhaeuser Company, a diversified forest products manufacturing company. In that role, he was responsible for coordinating energy management activities at numerous manufacturing facilities throughout North America. Prior to joining Weyerhaeuser, he was director of energy for Willamette Industries, holding similar responsibilities. He also worked for PacifiCorp as the Oregon large industrial accounts manager. He previously served on the board of directors of Industrial Customers of Northwest Utilities, a nonprofit advocacy organization focused on energy policies. He has also served for more than 20 years on the City of Salem Morningside Neighborhood Association board. *Alan has served as secretary since February 2013.*

TREASURER—Dan Enloe, Portland, recently retired as supply chain manager at Intel Corporation in Hillsboro, where he worked in varying capacities since 1984. Prior to 1984, he was on active duty in the U.S. Navy and served as a nuclear submarine officer. Since leaving active duty, he served with the Naval Reserve, completed six reserve command tours and retired as a captain in 2009. He is a member of the Naval Reserve Association, the American Legion and the Navy League. A graduate of the U.S. Naval Academy with a degree in electrical engineering, he holds two patents. *Dan has served as treasurer since November 2012.*

Susan Brodahl, Portland, is a vice president in the Portland office of Heffernan Insurance Brokers as well as an owner of Heffernan Group. Heffernan Group has more than 400 employees, and is ranked in the top tier of all privately held brokerages in the country. Susan believes in a creative approach to insurance using a risk funding model. Her philosophy is “clients for life.” Susan is a frequent featured speaker at regional and national conventions as well as published in various trade and mainstream journals. She has been awarded the Lifetime Achievement Award from the Painting and Decorating Contractors of America, and has an economics degree from Willamette University.

Melissa Cribbins, Coos Bay, is a Coos County commissioner and an attorney. Prior to her election in 2012, she worked for the Coquille Indian Tribe as in-house counsel for six years. Before Melissa became an attorney, she worked for the City of Spokane and Eugene Water and Electric Board in the field of water quality. She is a member of the Oregon State Bar and the Washington State Bar, and is active in many organizations both in Coos County and statewide. Melissa is a graduate of Portland State University and Gonzaga University.

Heather Beusse Eberhardt, Portland, is a six-year veteran in the renewable energy field. As project director of development at NextEra Energy Resources, she is responsible for developing distributed generation projects. Prior to NextEra, she held several positions at EDF Renewable Energy in Portland, most recently as director of solar technology evaluation and implementation. Previously, Heather acted as director of partnership development at GLOBIO and worked at Intel in corporate finance where she led the Intel Employee Sustainability Network. Heather currently serves on the board of Burke E. Porter Machinery and volunteers as a member of Social Venture Partners. Her efforts outside of renewable energy included working as a middle school math instructor for Teach For America. Heather graduated from Colby College with a degree in economics and has a Masters of International Management from Thunderbird School of Global Management.

Roger Hamilton, Eugene, is a consultant with Western Grid Group, an organization that promotes transmission access for renewable energy projects across the West. He also consults with The Resource Innovation Group on climate change adaptation and mitigation. He owns and operates a cattle and hay ranch in Southern Oregon. He has spent many years in public service as a Klamath County commissioner, an advisor on energy and watersheds to Governor John Kitzhaber and an Oregon Public Utility Commissioner. He has also served on the Oregon State Parks Commission and the National Association of Public Utility Commissioners. He currently serves on the board of directors of the Regulatory Assistance Project.

Lindsey Hardy, Bend, is the project director of the Bend Energy Challenge, a program of The Environmental Center. The Bend Energy Challenge is competing for the Georgetown University Energy Prize, a national, two-year competition to reduce energy use. Most recently Lindsey was the outreach director at Sunlight Solar Energy. She sat on the Steering Committee of the High Desert Branch of the Cascadia Green Building Council for three years and planned Central Oregon’s Green and Solar Tour. Previously as an AmeriCorps volunteer with the University of Oregon’s Resource Assistance for Rural Environments, she oversaw the Solarize Pendleton campaign, helping neighborhoods benefit from efficiency of scale in residential solar installations. Lindsey graduated from Ithaca College with a Bachelor of Arts in Environmental Studies. *Lindsey was elected to the board in May 2015.*

Mark Kendall, Salem, has more than 33 years of experience in energy management and renewable resource development in Oregon. Prior to founding his own consultancy, Kendall Energy, in 2009, he spent 19 years with the Oregon Department of Energy working in commercial and industrial energy management policy, including serving as the governor's appointee to the Northwest Energy Efficiency Alliance board from 2001-2006. Before working for the state, he spent 11 years with the Eugene Water and Electric Board. He also served on the Oregon Low Carbon Fuel Standard Advisory Committee, and facilitated the 2009 Industrial Greenhouse Gas Reduction subcommittee of the Oregon Global Warming Commission. He received his bachelor's degree from Linfield College with an emphasis in communications and energy management, and his master's degree in organizational development from the Leadership Institute of Seattle City University.

John Reynolds, Eugene, is a professor of architecture emeritus at the University of Oregon and a fellow of the American Institute of Architects. He has been involved in energy issues in Oregon since 1972, when he was elected to the Eugene Water and Electric Board. Since then, he has served as chair of the American Solar Energy Society, president of Solar Energy Association of Oregon and member of the board of the International Solar Energy Society. He has served on the Oregon Alternate Energy Commission and the Energy Committee of the Building Codes Structures Board.

Anne Haworth Root, Medford, is co-owner and general manager of EdenVale Winery and Eden Valley Orchards, a destination winery, historic pear orchard and events center in southeast Medford. A second tasting room called Enoteca is located in Ashland. An award-winning entrepreneur, she developed the concept and helped found the Oregon Wine and Farm Tour, an agritourism coalition of Southern Oregon wineries, historic farms and specialty food and cheese companies. She is a graduate of Southern Oregon University, where she was student body president and chair of the Oregon Student Lobby. She pursued postgraduate studies in the Master of Commerce program at Wollongong University in Australia.

Edmund Patrick Sherman, Portland, is a principal with Against the Current Consulting Group and works with clients interested in improving the quality of life in Native American communities. Eddie is a member of the Navajo and Omaha Nations and grew up on the Navajo Nation Reservation. In Navajo tradition, it is customary to identify someone's clan upon introduction: *Ya'at'eeh, Shi ei Eddie Sherman. Nat'oh Dine'e Tachii'nii nishlii doo [Tapa] Omaha Deer Clan ei bashishchiin. Bit'ahnii'nii ei dashicheii, nana [Tapa] Omaha Deer Clan ei dashinali. Todineeshzhee'dee ei naasha.* This translates to: Hello, my name is Eddie Sherman. I am Tobacco People, born for the [Tapa] Omaha Deer Clan. My maternal Grandfather's clan is Folded Arms people and my paternal Grandfather's clan is [Tapa] Omaha Deer Clan. I am from Kayenta, Arizona.

Prior to Against the Current Consulting Group, he was the communications and development manager for ONABEN, a nonprofit founded by four Oregon tribes to encourage private sector development on reservations. He currently serves on the board of the Native American Youth and Family Center, NAYA, co-chairs the Steering Committee for JustPortland and served on the Portland Human Rights Commission. Eddie received his bachelor's degree in International Political Economy from Colorado College.

Dave Slavensky, Bend, is the operations manager at EarthCruiser USA, building adventure vehicles to travel the globe. Prior to joining EarthCruiser, he was chief operating officer for Structus Building

Technologies, a Bend manufacturing company specializing in construction products. He has worked as a manufacturing consultant with Oregon Manufacturing Extension Partnership, as vice president of operations at KVP in Sacramento and as a consultant with the California Manufacturing Technology Center. He also spent five years working for Aircon Energy, Inc., an energy management and HVAC service company founded by his father. In 2007 he co-founded the High Desert Enterprise Consortium, a group of companies in Central Oregon committed to employing Lean Manufacturing principles to improve their businesses. He has conducted professional seminars in numerous process improvement techniques including Lean, Kaizen and Just-in-Time. He has been a member of the Bend Economic Development Advisory Board since 2009, and was the president of the Cascades Mountaineers in Bend from 2008 - 2010. *Dave resigned from the board in February 2015.*

ex-officio

John Savage, Salem, is one of three Oregon Public Utility Commissioners. He joined the staff of the Commission in 2002 as Director of its Utility Program, after serving as Director of the Oregon Department of Energy from 1993 - 2002. He was Administrator of the Department of Energy's Policy and Planning division from 1987 - 1993. He received a master's degree in natural resource economics from Oregon State University in 1979 and a Bachelor of Science degree from Oregon State University in 1975.

Oregon Department of Energy Special Board Advisor

Warren Cook, Salem, is the manager of Energy Efficiency and Conservation at the Oregon Department of Energy. In this role, Warren develops and implements programs and services for the public sector, schools, and industrial and agricultural facilities. With more than 30 years of experience in energy efficiency, Warren has worked in residential and commercial program design and development, and provided technical training to trade allies and technical schools. Warren started his career as a weatherization contractor in eastern Washington during the initial launch of energy-efficiency programs in the region. As a U.S. Department of Energy trained Residential Conservation Service auditor and trainer, he performed more than 2,000 residential audits and developed early software for energy retrofit assessments. Warren supported the development of the Northwest Energy Code and Washington State Energy Code. He is a corresponding member of the Northwest Power and Conservation Council's Regional Technical Forum, an Associate at the American Society of Heating, Refrigerating and Air-Conditioning Engineers, and holds certification in Information Technology from Willamette University.

Board Development Guidelines

The Oregon Public Utility Commission grant agreement with Energy Trust calls for the Energy Trust board to include the skills, broad representation and diversity necessary to achieve the nonprofit's mission. Energy Trust's board of directors is a non-stakeholder, volunteer board. The board oversees Energy Trust management, provides strategic and policy direction and approves the organization's budget and major expenditures. The board carries out its oversight role collectively and through several committees. The board's bylaws ensure that Energy Trust board meetings and other processes are clear, open and accessible to the public.

The initial board of directors included nine members from a variety of energy and business backgrounds, and one non-voting ex-officio member from the OPUC. As board openings arise, the board consults advisory councils, individuals and collaborating organizations to identify candidates with appropriate

experience from throughout the state. To allow further diversity, the board expanded its size to 13 voting members in 2008.

The 2015 board included voting members with background in business (agriculture, industry/ manufacturing, construction/remodeling, hospitality), private consulting, nonprofit and higher education. Members come from Bend, Coos Bay, Eugene, Medford, Myrtle Creek, Salem and the Portland area. Of the 13 voting members at the end of the year, six were women. The board's OPUC ex-officio member is Commissioner John Savage. The board created an additional non-voting position for an appointee of the Oregon Department of Energy in 2003. Warren Cook, Oregon Department of Energy energy conservation manager, occupied this "special advisor" position beginning in 2014.

All new members participate in an orientation session and are provided handbooks containing historical information, policies, plans, budgets and program descriptions. The majority of board members also attend advisory councils and participate on board committees. All regular board and advisory council meetings and background information are public. Advisory council and board meetings are well attended, and public comment is included in every meeting.

All regular board members complete and sign disclosure of economic interest forms each year. The OPUC ex-officio board member and the special advisor from the Oregon Department of Energy do not receive confidential information. Once each year, board and staff members participate in a planning session to review progress and discuss Energy Trust's strategic direction. Board development is a part of this public planning session, if warranted.

2015 Advisory Council Members and Meetings

Conservation Advisory Council

Jim Abrahamson, Cascade Natural Gas
Brent Barclay, Bonneville Power Administration
Jeff Bissonnette, Fair and Clean Energy Coalition
Warren Cook, Oregon Department of Energy
Bruce Dobbs, Building Owners and Managers Association
Joe Esmonde, International Brotherhood of Electrical Workers
Wendy Gerlitz, Northwest Energy Coalition
Charlie Grist, NW Power and Conservation Council
Garrett Harris, Portland General Electric
Julia Harper, Northwest Energy Efficiency Alliance
Scott Inman, Oregon Remodelers Association
Andria Jacob, City of Portland Bureau of Planning and Sustainability
Don Jones, Jr., PacifiCorp
Don MacOdrum, Home Performance Guild of Oregon
Holly Meyer, NW Natural
Tyler Pepple, Industrial Customers of Northwest Utilities
Elaine Prause, Oregon Public Utility Commission
Stan Price, Northwest Energy Efficiency Council

	Conservation Advisory Council discussion topics
February 4	2014 preliminary annual results, Path to Net Zero, Nest thermostat evaluation, greenhouse gas emissions reduction at NW Natural, natural gas combined heat and power
March 11	Residential weatherization incentive caps, New Buildings market strategies, EPS™ and solar electric valuation study
April 29	Large customer funding, 2015-2019 commercial and industrial sector strategic plans
June 3	UM 1622 incentive cap outcomes, advanced power strips for multifamily customers, commercial and industrial sector lighting measure changes
July 15	Results through quarter two, My Business marketing campaign, 2015-2019 residential sector strategic plan
September 9	Executive director transition, gas fireplaces, efficacy of incentive bonuses
October 21	Draft 2016 annual budget and two-year action plan, 2016 residential incentive changes
November 20	Final proposed 2016 annual budget and two-year action plan, continued discussion of 2016 residential incentive changes, multifamily windows incentive changes, avoided costs

Renewable Energy Advisory Council

Diane Broad, Oregon Department of Energy
Jason Busch, Oregon Wave Energy Trust
Shaun Foster, Portland General Electric
Kari Greer, Pacific Power
Robert Grott, Northwest Environmental Business Council
Kendra Hubbard, Solar Energy Industries Association
Suzanne Leta-Liou, SunPower
Matt Mylet, Beneficial State Bank
Michael O'Brien, Renewable Northwest
Elaine Prause, Oregon Public Utility Commission
Frank Vignola, Solar Monitoring, University of Oregon
Dick Wanderscheid, Bonneville Environmental Foundation
Peter Weisberg, The Climate Trust

	Renewable Energy Advisory Council discussion topics
February 4	2014 preliminary annual results, 2015-2019 Other Renewables program strategic plan, challenges faced by small energy generators related to transmission scheduling and costs
March 11	Northwest Solar Communities Solar Ready Toolkit, solar soft costs survey, Bonneville Environmental Foundation's community solar work
April 29	Renewable Energy Certificates and Energy Trust's REC policy
June 3	Solar requests for proposals, OPUC dockets related to solar energy, solar policy comparison report from Green Energy Institute at Lewis & Clark Law School
July 15	2016 annual budget considerations, draft changes to Renewable Energy Certificate policy, results through quarter two
September 9	2016 budget themes, executive director transition, draft changes to Renewable Energy Certificate policy
October 21	Energy Trust budgeting overview, draft 2016 annual budget and two-year action plan, presentation of Ewauna 2 solar project, Renewable Energy Certificate policy change
November 20	Irrigation modernization initiative, final proposed 2016 annual budget and two-year action plan, update on biogas workshops for breweries

APPENDIX 8: ENERGY TRUST 2015 ANNUAL REPORT ON ACTIVITIES FOR NW NATURAL IN WASHINGTON

I INTRODUCTION, BACKGROUND, OVERSIGHT AND GOALS

A. Introduction

This report covers 2015, the sixth 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 revenues and expenditures, number of completed measures, 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 2015. This report presents Energy Trust's performance against those goals.

II. ANNUAL REPORT HIGHLIGHTS

A. Summary

- **Gas efficiency measures installed in 2015** by NW Natural's Washington customers saved 201,446 annual therms of natural gas—including 73,437 annual therms in Existing Buildings, 58,465 annual therms in Existing Homes and 69,545 annual therms in New Homes programs.
- **Total 2015 savings were approximately 78 percent of Energy Trust's 2015 goal** of 257,063 therms, which roughly aligns with NW Natural's stretch performance measure of 259,895 therms as detailed in NW Natural's 2015 Energy Efficiency Plan.
- **While residential programs exceeded goals, the Existing Buildings program fell short of its goal**. With a small portfolio of savings in Washington, delay of just a few large projects can have a big influence on annual savings. This was the case in 2015 as several large custom Existing Buildings projects were delayed to 2016, and custom projects that did complete in 2015 were smaller and saved less energy than expected. In addition, few prescriptive projects were completed, which could indicate that incentive levels were not high enough to spur customer action.
- **The shortfall in Existing Buildings savings negatively impacted other performance** metrics, which are calculated based on energy savings. Energy Trust spent $6.82 per therm saved, falling short of the dollars spent per therm saved metric of less than $6.50.
- **To spur business customers to invest in energy-efficiency upgrades, Existing Buildings increased incentives for custom projects in 2015**. Incentives were increased from $2.00 per therm capped at 60 percent of eligible project cost to $2.50 per therm capped at 70 percent of eligible project cost. While not enough to achieve goal in 2015, increasing incentives helped develop a strong pipeline of six custom projects expected to complete in 2016. Incentives were further increased in Q1 2016 to spur customer participation and help ensure achievement of 2016 goals. Reduced demand for commercial gas projects was widespread and consistent with low gas savings for Existing Buildings customers in Oregon.

B. Washington Utilities and Transportation Commission performance metrics

The table below compares 2015 annual results to 2015 goals, as established in NW Natural's Energy Efficiency Plan for Washington (approved December 2014).

2015 results compared to goals[21,22]

Metrics	Goal	2015 total YTD	Q1 Results	Q2 Results	Q3 Results	Q4 Results
Therms Saved	220,991 – 259,895	201,446	24,469	28,816	28,804	119,357
Total Program Costs	$1,342,559 – $1,570,292	$1,373,523	$228,791	$278,382	$309,000	$557,350
Average Levelized Cost Per Measure	Less than $0.65	$0.52	$0.84	$0.68	$0.74	$0.37
Dollars Spent Per Therm Saved	Less than $6.50	$6.82	$9.35	$9.66	$10.73	$4.67
Utility Costs at Portfolio Level	Greater than 1.0	1.0	Reported annually	Reported annually	Reported annually	Reported annually

2015 Utility Cost and Total Resource Cost benefit cost ratios by program[2]

Program	Utility Cost Test benefit cost ratio	Total Resource Cost benefit cost ratio
Existing Buildings	0.8	0.8
Existing Homes	1.0	0.9
New Homes	1.1	0.8
Total NW Natural Washington portfolio	**1.0**	**0.8**

2015 Total Utility Cost and Total Resource Cost benefit cost ratios[2]

Program	Utility Cost Test benefit cost ratio	Total Resource Cost benefit cost ratio
NW Natural Washington Portfolio	1.0	0.8
NW Natural Washington Low Income	0.9	0.6
Total	**1.0**	**0.8**

2015 benefit cost ratios were impacted by the Existing Buildings Washington program, which fell short of goal as few large projects completed. Historically, Existing Buildings has provided a high volume of low-cost savings, supporting benefit cost ratios of 1 and above.

[21] Achievement of metrics were calculated excluding spending on Northwest Energy Efficiency Alliance gas efforts in Washington.
[22] While Energy Trust is required to report the Total Resource Cost benefit cost ratio, it is not included as a performance metric for utility costs at the portfolio level.

C. Commercial sector highlights

Existing Buildings

- **Existing Buildings saved 73,437 annual therms, 51 percent less than the goal** of 150,000 annual therms in 2015.
- **Completion of several large custom projects was delayed to 2016**, negatively impacting savings in 2015. In addition, custom projects that did complete in 2015 were smaller and saved less energy than expected.
- **Existing Buildings increased incentives for custom projects in 2015** to spur business customers to invest in energy-efficiency upgrades. Incentives were increased from $2.00 per therm capped at 60 percent of eligible project cost to $2.50 per therm capped at 70 percent of eligible project cost. While not enough to achieve goal in 2015, increasing incentives helped develop a strong pipeline of projects expected to complete in 2016.
- **Existing Buildings also offered bonus incentives** (temporarily increased incentive amounts) for qualifying insulation installations between April 1 and November 30. Despite the bonus, participation remained low. As a result, Energy Trust increased prescriptive incentives for 2016 and additional food service equipment bonuses have been planned for Q2 and Q3 of 2016 to drive more activity earlier in the year.
- **Existing Buildings installed one boiler in 2015 compared to four in 2014.** With an average of 4,800 therms savings per boiler, just a few projects can make a big difference in year-end savings goals.
- **Similar to 2014, gas fryers accounted for roughly one-quarter of savings**. Custom projects also contributed significant savings, with the remainder from condensing boilers, building controls and efficient showerheads. Weatherization also contributed a very small proportion of savings.
- **Energy Trust offered a sales performance incentive to restaurant equipment retailers**, dealers and distributers to promote sales of energy-efficient equipment. The effort resulted in sales of 13 qualifying measures representing more than 7,000 therms in 2015.
- **A bonus to encourage boiler retrofits** increased the total available incentive level to be consistent with incentives for boilers in Oregon, however the bonus did not boost savings. In 2016, boiler incentives in Washington will remain consistent with the Oregon service territory.
- **As is typical, the majority of energy savings occurred in the fourth quarter.** To promote savings earlier in the year, the program planned to launch 2016 bonuses before Q4 2016.
- **Existing Buildings, New Homes and Existing Homes programs collaborated** to coordinate with Clark Public Utilities and to plan trade ally engagement events in 2016.

D. Residential sector highlights

- **The residential sector saved 128,010 annual therms** in 2015, 20 percent above the 2015 goal, and 31 percent more than residential sector savings achieved in 2014.

Existing Homes

- **Existing Homes saved 58,465 annual therms, 14 percent above the goal** of 51,148 annual therms in 2015.

- **The program exceeded savings goals for 2015 due to increased outreach and incentives** that drove installation of efficient gas furnaces, resulting in a 200 percent increase in Existing Homes savings compared to 2015.
- **HVAC measures contributed 73 percent of total Existing Homes savings**, with gas furnaces providing the majority, followed by gas hearths, smart thermostats and boilers.
- **Savings from energy- and water-saving devices doubled compared to 2014**, as a result of efficient showerheads and faucet aerators distributed in schools through Energy Trust's LivingWise Kits and curriculum. Working with regional school districts and the electric utility in Clark County, the program distributed 360 LivingWise Kits to fifth graders at 10 schools in Clark County.
- **Existing Homes launched a new incentive for smart thermostats in Q4**, following a successful pilot that completed in Q2. Nearly 40 smart thermostats were installed with the new incentive.
- **Energy Trust launched a financing offering with an option to repay loans for energy-efficiency upgrades through energy bills**. In 2015, 23 southwest Washington customers applied for loans, including many for gas furnaces.

New Homes and Products

- **New Homes and Products saved 69,545 annual therms, 24 percent more than the goal** of 55,915 annual therms in 2015.
- **The program exceeded goals as a result of a strong new construction market** in Southwest Washington. In 2015, nearly 2,200 new construction permits were issued, a 40 percent increase compared to 2014.
- **The program worked with our verifier network to increase builder participation.** Outreach was targeted to verifiers to drive builder participation and support application submission.
- **Newly built ENERGY STAR® certified homes contributed 64 percent of all New Homes savings**. These nearly 400 homes represent 18 percent of total new construction market activity in Southwest Washington.
- **New Homes and Products developed an EPS™ offering to launch in 2016** for new homes built in Southwest Washington. EPS is an energy performance score that helps homebuyers understand and compare the energy-efficiency of newly built homes.
- **The retail clothes washer incentive for gas customers was discontinued at the end of 2015** due to an increase in the federal energy code baseline.

E. Trade Ally Network highlights

- **By year-end, 191 trade allies served Washington**, including 79 *based* in Washington.
- **Energy Trust enrolled 27 new trade allies serving Washington in 2015**.
- **Energy Trust held two networking events exclusively for Washington trade allies**, one in June and one in December. Open to Existing Homes and Existing Buildings trade allies, attendance and engagement at these networking events continued to grow in 2015.
- **New Homes hosted two breakfast events for verifiers in 2015**, one in early 2015 to discuss program updates and one in October to discuss the program transition to EPS.

III. ANNUAL RESULTS

A. Activity highlights—sites served

	Q1	Q2	Q3	Q4	Total
Existing Commercial					
School/college retrofits	0	1	1	0	**2**
Other commercial retrofits	2	2	3	9	**16**
Studies	1	1	2	1	**5**
Existing Homes					
Weatherization (insulation, air and duct sealing and windows)	6	44	42	67	**159**
Gas hearths	11	36	7	45	**99**
Energy Saver Kits	19	8	5	34	**66**
Smart thermostats	20	1	0	18	**39**
Gas furnaces	39	95	69	217	**420**
Water heaters	2	12	6	6	**26**
Online Home Energy Reviews	31	28	23	21	**103**
New homes and products					
ENERGY STAR home certification	22	43	115	217	**397**
Clothes washers	305	124	51	122	**602**

B. Revenues

Source	Annual actual revenue	Annual budgeted revenue
NW Natural	$ 1,435,515	$ 1,411,352

C. Expenditures

		Annual actual expenditures	Annual budgeted expenditures	Variance
Commercial programs	Existing Buildings	$ 403,698	$ 663,666	$ 259,968
	NEEA commercial	$ 6,527	$ 22,964	$ 16,437
	Subtotal	**$ 410,225**	**$ 686,630**	**$ 276,405**
Residential programs	Existing Homes	$ 464,767	$ 453,272	$ (11,496)
	New Homes	$ 459,863	$ 344,105	$ (115,758)
	NEEA residential	$ 14,712	$ 29,110	$ 14,398
	Subtotal	**$ 939,343**	**$ 826,487**	**$ (112,856)**
Administration		**$ 45,922**	**$ 61,511**	**$ 15,589**
Total		**$ 1,395,490**	**$ 1,574,628**	**$ 179,138**

- The program spent less than budgeted, largely due to the shortfall of activity in the Existing Buildings program. Spending was higher than budgeted for the residential aspects of the portfolio due to strong customer participation.

- Budgeted expenditures reflect Energy Trust's final budget. The 2015 Energy Efficiency Plan was filed with preliminary budget numbers. Small changes occurred across program delivery line items in Energy Trust's final budget. Energy Trust always works to ensure this new budget amount is within total funds available as determined by new revenue, existing budget and carryover funds from the previous year. This misalignment of Energy Trust's final budget and the Energy Efficiency Plan is a result of Energy Trust's internal processes not in full alignment with WUTC filing schedule. Energy Trust takes care in ensuring this small risk is managed and misalignment is minimal.

D. Incentives paid

		Annual actual incentives
Commercial programs	Existing Buildings	$ 148,287
	Subtotal	**$ 148,287**
Residential programs	Existing Homes	$ 252,954
	New Homes	$ 232,371
	Subtotal	**$ 485,325**
Total		**$ 633,612**

Incentives paid account for 53 percent of year-to-date program expense, when total program expense is adjusted down by 15 percent to account for costs that a utility-delivered program would recover through rates.

E. Savings

		Total savings therms	Annual goal	Percent achieved	$/therm	Levelized cost/therm
Commercial programs	Existing Buildings	73,437	150,000	49%	$ 5.80	0.60
	Subtotal	**73,437**	**150,000**	**49%**	**$ 5.89**	**0.61**
Residential programs	Existing Homes	58,465	51,148	114%	$ 8.08	0.54
	New Homes	69,545	55,915	124%	$ 6.84	0.48
	Subtotal	**128,009**	**107,063**	**120%**	**$ 7.52**	**0.52**
Total		**201,446**	**257,063**	**78%**	**$ 6.93**	**0.53**

NW NATURAL APPENDIX 1: 2015 ENERGY EFFICIENCY MEASURE COUNTS AND SAVINGS

Table 1: Residential sector measures

Category	Measure	Measures installed	Total therms saved
Energy Saver Kits	Energy Saver Kits	66	2,379
	LivingWise kits distributed through schools	360	4,140
	Energy Saver Kits total	**426**	**6,519**
Online Home Energy Reviews	**Online Home Energy Reviews total**	**103**	**0**
Weatherization	Air sealing	3	77
	Ceiling insulation	20	1,246
	Floor Insulation	7	293
	Duct Insulation	3	37
	Windows	131	6,202
	Weatherization total	**164**	**7,855**
Space heating	Boilers	3	89
	Smart thermostats	39	1,059
	Furnaces	420	33,924
	Gas Fireplaces	99	8,287
	Space heating total	**561**	**43,359**
Water heating	Tank water heaters	26	732
	Water heating total	**26**	**732**
New homes and products	ENERGY STAR home certification	397	44,844
	High-efficiency clothes washers	602	2,366
	Water saving products	2,628	22,335
	New homes and products total	**3,627**	**69,545**
	Grand total	**4,907**	**128,009**

Table 2: Commercial sector measures

Category	Measure	Installed	Saved
Foodservice Equipment	Gas fryers	35	19,915
	Convection ovens	6	1,812
	Dishwashers	1	554
	Foodservice equipment total	**42**	**22,281**
Shell insulation	Ceiling insulation	1	1,075
	Shell insulation total	**1**	**1,075**
Space heating	Boilers	1	4,378
	Space heating total	**1**	**4,378**
Water heating	Conventional condensing tanks	202	714
	Showerwands	340	5,270
	Water heating total	**542**	**5,984**
Motors	Custom variable frequency drive	-	-
	Motors total	**-**	**-**
Custom	Studies	5	-
	Custom building controls	2	9,528
	Misc. custom measures	6	30,191
	Custom total	**13**	**39,719**

NW NATURAL APPENDIX 2: CUSTOMER SATISFACTION

In 2015, Energy Trust conducted short phone surveys of NW Natural customers in Washington to determine satisfaction with their participation in Energy Trust programs. Results from 154 residential customers and thirteen commercial customers indicate a generally high level of customer satisfaction, with moderate satisfaction regarding turnaround time to receive an incentive.

Lower-than-expected customer satisfaction with turnaround time to receive incentives is attributed to processing delays in early 2015 related to an increased volume of incentives at the end of 2014, staff turning, and a transition to a new Program Management Contractor. During this time, incentive processing did not exceed established service level agreements of six to eight weeks.

To improve the experiences of customers in Southwest Washington regarding turnaround time to receive incentives, Energy Trust launched new online incentive applications and instant incentives that expedite incentive distribution. In addition, Energy Trust increased outreach to trade allies serving Southwest Washington to ensure consistent and high-quality interactions with customers.

Table 1: NW Natural Washington residential customer satisfaction 2015

Residential (n=154)	Dissatisfied	Neutral	Satisfied
Overall satisfaction	3%	8%	90%
Incentive application form	3%	3%	94%
Turnaround time to receive incentive	15%	13%	72%

Energy Trust surveyed thirteen commercial customers in 2015. Most respondents were satisfied with their overall program experience, incentive amount, ease of applying for an incentive and interaction with program representatives.

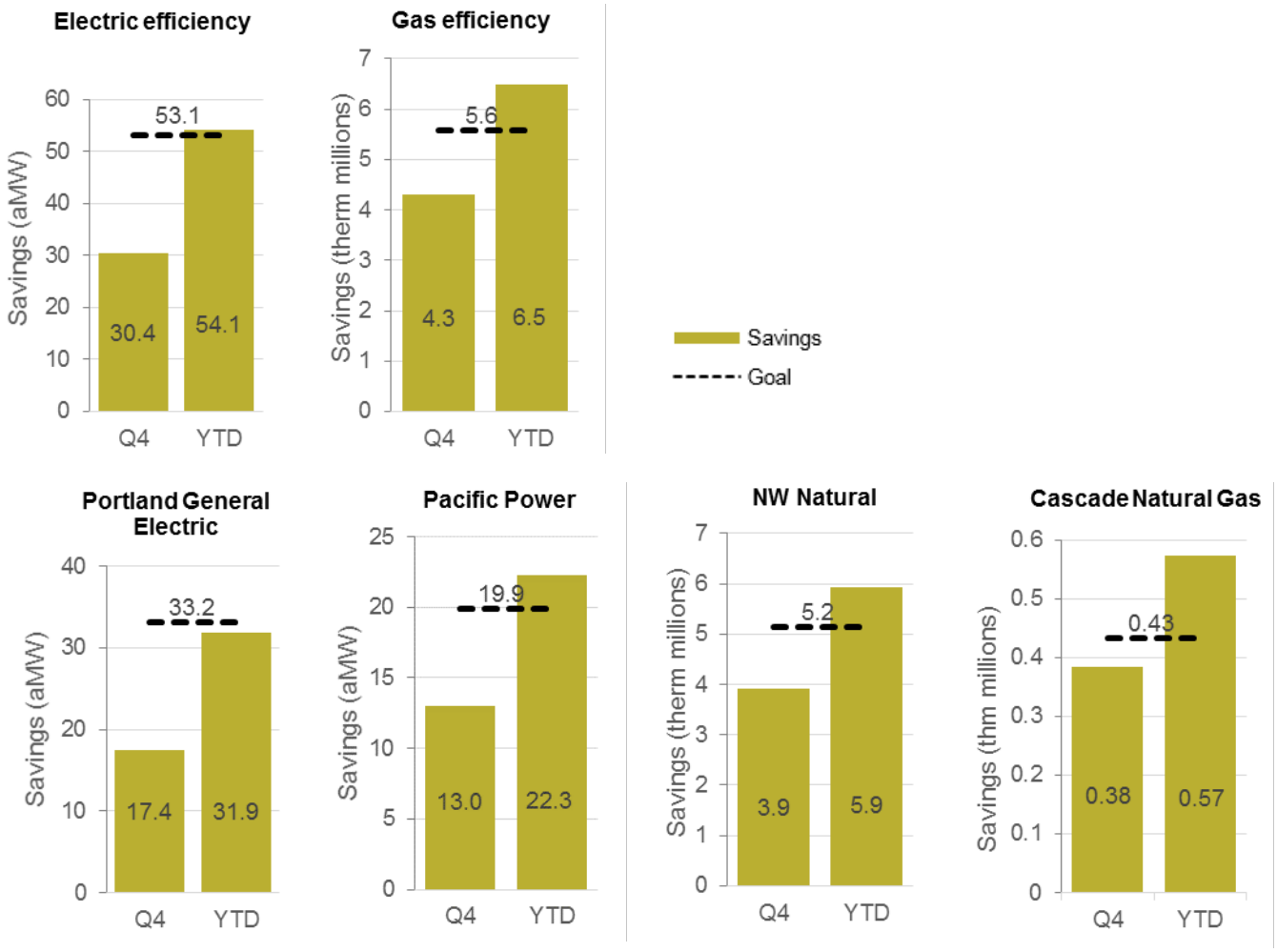
Table 2: NW Natural Washington commercial customer satisfaction 2015

Commercial (n=13)	Dissatisfied	Neutral	Satisfied
Overall satisfaction	-	-	13
Incentive amount	-	-	13
Ease of applying for incentive	-	-	13
Interaction with program representative	-	-	13
Performance of equipment or system installed	-	-	13
Turnaround time to receive incentive	1	1	11

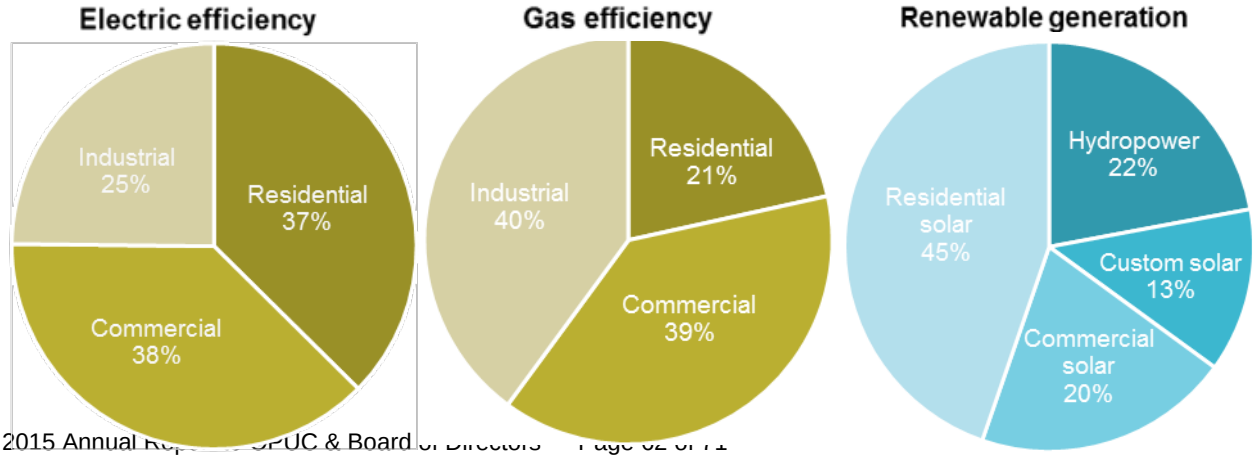
APPENDIX 9: QUARTER FOUR RESULTS TABLES

I Q4 2015 ACTIVITY AT A GLANCE

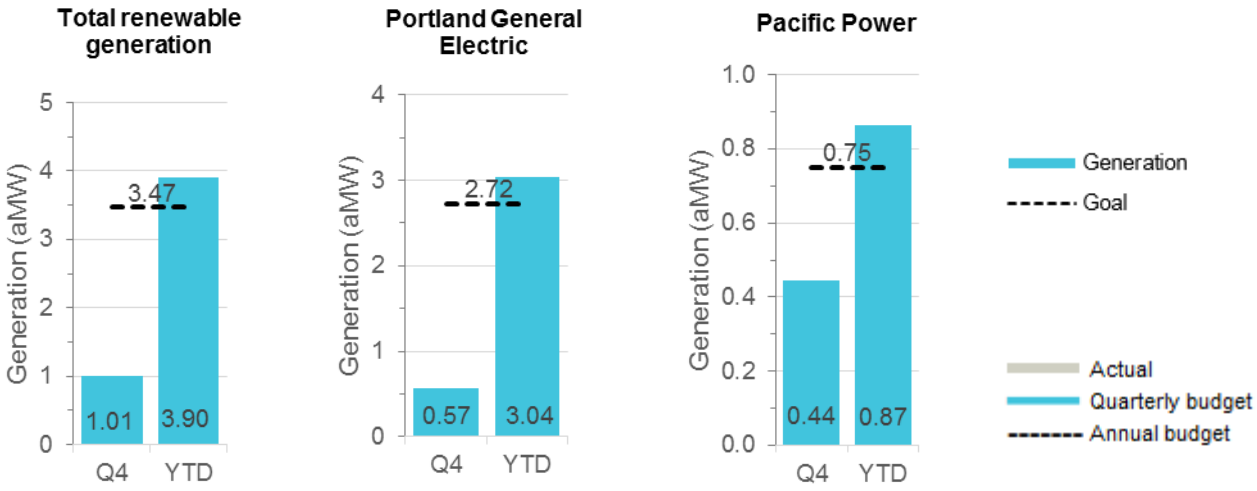
Savings



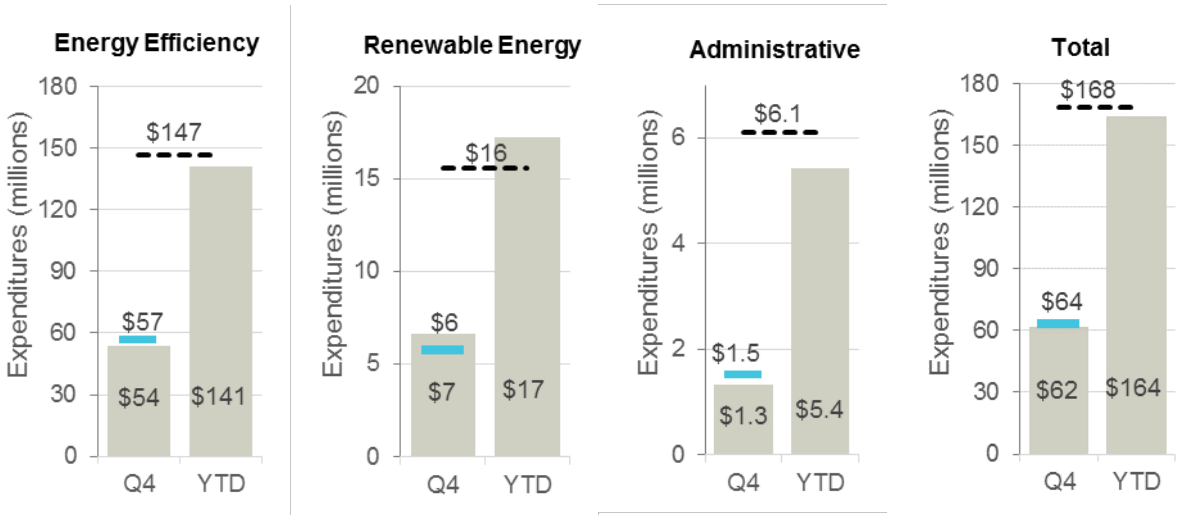
Percent of Q4 savings or generation by sector



Generation



Expenditures



Energy Trust sites served by region in Q4[23]

	Commercial	Industrial	Residential	Renewables	Total
Central Oregon	216	34	44	1,823	2,117
Eastern Oregon	49	22	23	362	456
North Coast	51	5	-	382	438
Portland Metro & Hood River	1,776	213	472	17,830	20,291
Southern Oregon	195	90	66	3,956	4,307
Willamette Valley	591	125	120	5,641	6,477
Total	**2,878**	**489**	**725**	**29,994**	**34,086**

[23] Total sites served may include sites that participated in more than one sector.

II REVENUE AND EXPENDITURE TABLES[24]

A. Revenues

Source	Q4 actual revenues received	Q4 budgeted revenues
Portland General Electric	$ 8,728,673	$ 8,378,168
PGE incremental	$ 9,573,527	$ 10,864,728
Pacific Power	$ 6,384,680	$ 7,361,179
Pacific Power incremental	$ 4,724,972	$ 5,443,809
Cascade Natural Gas	$ 299,454	$ 593,250
NW Natural	$ 1,883,924	$ 2,247,145
NW Natural Industrial DSM	$ 1,026,144	$ 999,138
Total	**$ 32,621,375**	**$ 35,887,417**

Incremental revenues are those authorized under SB 838 to support capturing additional cost-effective electric efficiency savings above the amount supported by funding through SB 1149.

B. Expenditures

Type	Q4 actual expenditures	Q4 budgeted expenditures
Energy efficiency programs	$ 53,888,099	$ 56,577,845
Renewable energy programs	$ 6,633,610	$ 5,818,020
Administration	$ 1,314,792	$ 1,519,409
Total	**$ 61,836,500**	**$ 63,915,275**

Source	Q4 actual expenditures	Q4 budgeted expenditures
Portland General Electric	$ 32,315,213	$ 36,963,028
Pacific Power	$ 21,467,189	$ 18,485,233
Cascade Natural Gas	$ 1,010,095	$ 808,295
NW Natural	$ 5,583,908	$ 5,634,008
NW Natural Industrial DSM	$ 1,460,096	$ 2,024,710
Total	**$ 61,836,500**	**$ 63,915,275**

C. Incentives paid

	Energy efficiency				Renewable energy		Total
Quarter	PGE	Pacific Power	NW Natural	Cascade Natural Gas	PGE	Pacific Power	
Q1	$ 3,622,453	$ 2,051,460	$ 991,270	$ 97,245	$ 1,596,961	$ 649,081	$ 9,008,469
Q2	$10,041,800	$ 7,269,604	$ 2,257,203	$ 188,473	$ 2,477,706	$ 911,363	$23,146,150
Q3	$ 8,592,019	$ 4,291,955	$ 2,042,556	$ 223,411	$ 1,966,264	$ 1,022,738	$18,138,944
Q4	$19,733,505	$13,534,450	$ 5,103,640	$ 710,782	$ 3,916,646	$ 1,863,273	$44,862,295
Total	**$41,989,777**	**$27,147,470**	**$10,394,669**	**$ 1,219,911**	**$ 9,957,576**	**$ 4,446,456**	**$95,155,858**

[24]Columns may not total due to rounding.

III SAVINGS AND GENERATION TABLES[25, 26, 27, 28]

F. Progress toward annual efficiency and generation goals

	YTD expenditures	YTD savings/ generation	Energy Trust annual goal	Percent achieved
Electric savings	$ 125,362,913	54.1 aMW	53.1 aMW	102%
Natural gas savings	$ 20,774,895	6.5 million therms	5.6 million therms	116%
Electric generation	$ 17,857,466	3.90 aMW	3.47 aMW	113%

G. Progress toward annual efficiency goals by utility

	YTD expenditures	YTD savings	Energy Trust annual goal	Percent achieved	Annual IRP target	Percent achieved
Portland General Electric	$ 75,586,384	31.9 aMW	33.2 aMW	96%	33.8 aMW	94%
Pacific Power	$ 49,776,529	22.3 aMW	19.9 aMW	112%	19.1 aMW*	117%
NW Natural	$ 18,553,019	5.9 million therms	5.2 million therms	115%	4.6 million therms	128%
Cascade Natural Gas	$ 2,221,876	572,526 therms	433,020 therms	132%	433,020 therms **	132%

* Pacific Power IRP target is pending acknowledgement from OPUC and was revised in April 2015. Energy Trust noted the forthcoming change in the 2015 Annual Budget adopted in December 2014, where the Integrated Resource Plan target was indicated as 14.62 aMW.

** Cascade Natural Gas IRP target is pending acknowledgement from OPUC.

H. Electric efficiency savings and expenditures

Q4 electric efficiency savings	PGE (aMW)	Pacific Power (aMW)	Total savings (aMW)	Expenses
Commercial	6.4	5.1	11.5	$ 21,923,961
Industrial	4.2	3.3	7.6	$ 9,891,815
Residential	6.9	4.5	11.4	$ 15,186,324
Total electric efficiency programs	**17.4**	**13.0**	**30.4**	**$ 47,002,100**

[25] Columns may not total due to rounding.
[26] Electric savings also include transmission and distribution savings.
[27] The gas savings do not include results for NW Natural in Washington.
[28] Energy Trust reports 100 percent of generation and capacity for renewable energy installations supported by Energy Trust's cash incentives. While some of these projects have additional sources of funding, Energy Trust enabled project completion.

I. Gas efficiency savings and expenditures

Q4 gas efficiency savings	NW Natural (thm)	Cascade Natural Gas (thm)	Total savings (thm)	Expenses
Commercial	1,384,854	270,609	1,655,463	$ 3,408,067
Industrial	1,726,776	40,494	1,767,270	$ 833,625
Residential	812,673	71,665	884,338	$ 3,812,407
Total gas efficiency programs	**3,924,303**	**382,768**	**4,307,071**	**$ 8,054,098**

J. Renewable energy generation and expenditures

Q4 renewable energy generation	PGE (aMW)	Pacific Power (aMW)	Total generation (aMW)	Expenses
Other Renewables program	0.00	0.22	0.22	$ 1,468,038
Solar Electric program	0.57	0.22	0.79	$ 5,312,265
Total renewable energy programs	**0.57**	**0.44**	**1.01**	**$ 6,780,302**

I. Energy efficiency savings and expenditures by program[29]

1. Total energy efficiency savings and expenditures

	Q4 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	30.4 aMW	54.1 aMW	53.1 aMW	102%
Gas	4.3 million therms	6.5 million therms	5.6 million therms	116%

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 47,002,100	$ 2,485,123	5.0%	$ 125,362,913	$ 4,996,279	3.8%
Gas	$ 8,054,098	$ 412,915	4.9%	$ 20,774,895	$ 967,257	4.4%
Total	**$ 55,056,198**	**$ 2,898,038**	**5.0%**	**$ 146,137,808**	**$ 5,963,536**	**3.9%**

2. Existing Buildings savings and expenditures

	Q4 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	7.5 aMW	13.8 aMW	15.2 aMW	90%
Gas	1.4 million therms	1.9 million therms	2.2 million therms	85%

[29] Variance is expressed in total dollars *below* budget or (total dollars) *above* budget.

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 16,778,132	$ 2,642,144	13.6%	$ 42,329,566	$ 741,331	1.7%
Gas	$ 2,889,466	$ 611,791	17.5%	$ 5,621,746	$ 1,788,745	24.1%
Total	**$ 19,667,598**	**$ 3,253,935**	**14.2%**	**$ 47,951,312**	**$ 2,530,076**	**5.0%**

3. New Buildings savings and expenditures

	Q4 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	3.4 aMW	5.7 aMW	4.1 aMW	138%
Gas	259,198 therms	552,377 therms	396,086 therms	139%

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 4,589,899	$ (529,700)	-13.0%	$ 12,153,824	$ (879,536)	-7.8%
Gas	$ 502,645	$ (82,053)	-19.5%	$ 1,405,444	$ (158,095)	-12.7%
Total	**$ 5,092,544**	**$ (611,753)**	**-13.7%**	**$ 13,559,268**	**$ (1,037,630)**	**-8.3%**

4. Production Efficiency savings and expenditures

	Q4 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	7.4 aMW	12.6 aMW	15.3 aMW	82%
Gas	1.8 million therms	2.0 million therms	1.1 million therms	191%

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 9,908,185	$ 3,538,438	26.3%	$ 27,207,980	$ 2,055,668	7.0%
Gas	$ 833,625	$ 569,664	40.6%	$ 2,150,472	$ 857,462	28.5%
Total	**$ 10,741,809**	**$ 4,108,101**	**27.7%**	**$ 29,358,451**	**$ 2,913,130**	**9.0%**

- Production Efficiency spent less than expected due to the large yet very cost-effective custom thermal oxidizer project, plus several other large gas custom projects shifting completion to 2016.
- On the electric side, spending was low proportional to lower-than-expected savings in PGE territory.

5. Existing Homes savings and expenditures

	Q4 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	2.6 aMW	5.1 aMW	4.7 aMW	110%
Gas	445,828 therms	940,865 therms	878,334 therms	107%

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 5,607,029	$ (496,872)	-9.7%	$ 15,831,595	$ 1,898,449	10.7%
Gas	$ 1,687,490	$ (21,467)	-1.3%	$ 5,668,527	$ (740,078)	-15.0%
Total	**$ 7,294,520**	**$ (518,340)**	**-7.6%**	**$ 21,500,122**	**$ 1,158,371**	**5.1%**

6. New Homes and Products savings and expenditures

	Q4 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	4.4 aMW	9.6 aMW	8.9 aMW	108%
Gas	438,510 therms	1.1 million therms	1.1 million therms	104%

Includes gas market transformation savings associated with the 2008 and 2011 residential code changes.

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 8,380,366	$ (3,085,402)	-58.3%	$ 21,248,436	$ 652,234	3.0%
Gas	$ 2,088,819	$ (779,356)	-59.5%	$ 5,675,165	$ (1,100,206)	-24.0%
Total	**$ 10,469,185**	**$ (3,864,758)**	**-58.5%**	**$ 26,923,602**	**$ (447,972)**	**-1.7%**

- For both electric and gas savings, New Homes spending was high because the program supported more EPS homes than expected. Products spending was roughly on par with budget.

7. Northwest Energy Efficiency Alliance savings and expenditures[30]

	Q4 savings	YTD savings	Annual energy target
Commercial	0.6 aMW	1.0 aMW	1.0 aMW
Industrial	0.1 aMW	0.2 aMW	0.17 aMW
Residential	4.4 aMW	6.2 aMW	3.7 aMW
Total	**5.2 aMW**	**7.4 aMW**	**4.8 aMW**

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Commercial	$ 571,885	$ 195,524	25.5%	$ 2,335,930	$ 557,518	19.3%
Industrial	$ (16,370)	$ 64,865	133.8%	$ 346,294	$ (178,709)	-106.6%
Residential	$ 1,235,026	$ 270,463	18.0%	$ 4,162,829	$ 468,753	10.1%
Total	**$ 1,790,542**	**$ 530,852**	**22.9%**	**$ 6,845,052**	**$ 847,562**	**11.0%**

- Energy Trust works with NEEA to estimate quarterly and total annual spending by sector. NEEA bills Energy Trust at the beginning of the year based on these estimates, and applies any difference from its actual spending to subsequent quarters. In Q4 2015, a credit applied from Q2 in the industrial sector exceeded the anticipated costs, resulting in a net credit in Q4 for that sector.

[30] Energy Trust allocated budget to NEEA for gas market transformation activities. While there were no associated savings in Q4, savings are expected in subsequent years.

J. Renewable energy generation and expenditures by program[31]

1. Total renewable energy generation and expenditures

	Q4 generation	YTD generation	Energy Trust annual goal	Percent achieved YTD
Electric	1.0 aMW	3.9 aMW	3.5 aMW	113%

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 6,780,302	$ (819,263)	-13.7%	$ 17,857,466	$ (1,666,585)	-10.3%

2. Solar generation and expenditures

	Q4 generation	YTD generation	Energy Trust annual goal	Percent achieved YTD
Electric	0.8 aMW	1.9 aMW	1.5 aMW	130%

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 5,312,265	$ (413,074)	-8.4%	$ 13,685,600	$ (2,194,872)	-19.1%

3. Other Renewables generation and expenditures

	Q4 generation	YTD generation	Energy Trust annual goal	Percent achieved YTD
Electric	0.2 aMW	2.0 aMW	2.0 aMW	100%

	Q4 expenditures	Variance from Q4 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 1,468,038	$ (406,189)	-38.3%	$ 4,171,866	$ 528,287	11.2%

- Other Renewables spent more than expected in Q4 because an incentive payment for a hydropower project reaching commercial operation shifted a few weeks from the end of Q3 into the beginning of Q4.

K. Incremental utility SB 838 expenditures[32]

Utility	2015 Q4 SB 838 Expenditures	YTD SB 838 Expenditures
Portland General Electric	$ 233,724	$ 826,817
Pacific Power	$ 304,093	$ 1,132,012
Total	**$ 537,817**	**$ 1,958,829**

[31] Variance is expressed in total dollars *below* budget or (total dollars) *above* budget.
[32] Reflects expenditures by Pacific Power and PGE in support of utility activities described in SB 838. Reports detailing these activities are submitted annually to the OPUC.

L. Customer satisfaction results

Customer satisfaction results for Q4 2015

From the end of November 2015 through the end of February 2016, Energy Trust delivered a short telephone survey to 737 randomly selected participants in five programs who completed projects between October and December 2015. Below are results from Fast Feedback surveys of these customers. The survey asked participants about overall satisfaction with Energy Trust.

Satisfaction rates for Q4 remained consistent with past quarters. Participants in the Existing Buildings, Production Efficiency and Solar programs were also asked about satisfaction with program representatives.[33]

Customer satisfaction results for Q4 2015

Program	Respondent Count	Percent Satisfied Overall	Percent Satisfied with Program Representative
Existing Buildings, including multifamily	81	99%	97%
Production Efficiency	60	95%	98%
New Homes and Products[34]	208	93%	N/A
Existing Homes	318	90%	N/A
Solar[35]	70	94%	100%[36]

Customer satisfaction results for New Buildings

New Buildings projects often involve numerous market actors (architect, engineer, developer, owner and more) at different project stages, so it is difficult to reach a project representative who is able to respond to questions about satisfaction. Satisfaction with the New Buildings program is obtained from interviews with program participants as part of annual program process evaluations. In the 2014 process evaluation, conducted in early 2015, 37 New Buildings project owners or representatives were surveyed about their overall program satisfaction and satisfaction with communications with program representatives. Of participants surveyed, 97 percent were satisfied with their overall program experience. Satisfaction with program representatives was high at 100 percent.

[33] Since residential customers have varying degrees of interaction with program representatives (many may not have any interaction), and because it is not possible to identify customers who did have interaction to survey, residential customers are not questioned on this topic.
[34] Only Products customers were surveyed. Energy Trust does not track purchasers of new homes.
[35] Customers that installed solar using a third party are not surveyed.
[36] Only commercial solar customers are surveyed about satisfaction with program representatives. In Q4 2015, 10 commercial solar customers were surveyed.

APPENDIX 10: 2015 ENERGY EFFICIENCY RESULTS FOR SB 1149 AND SB 838 FUNDS

2015 SB 1149 Electric Efficiency Results	PGE aMW saved	Pacific Power aMW saved	Total aMW saved	Expenses	mil $/aMW
Commercial	4.90	4.75	9.66	$ 24,636,598	$2.55
Industrial	4.32	3.42	7.74	$ 14,763,877	$1.91
Residential	4.45	3.67	8.12	$ 15,134,071	$1.86
Total electric efficiency programs	**13.67**	**11.85**	**25.52**	**$ 54,534,546**	**$2.14**

2015 SB 838 Electric Efficiency Results	PGE aMW saved	Pacific Power aMW saved	Total aMW saved	Expenses	mil $/aMW
Commercial	7.27	4.04	11.30	$ 32,098,741	$2.84
Industrial	2.72	1.43	4.15	$ 12,790,396	$3.08
Residential	7.57	4.53	12.10	$ 25,939,229	$2.14
Total electric efficiency programs	**17.56**	**10.00**	**27.56**	**$ 70,828,365**	**$2.57**

2015 SB 838 Utility Expenditures	Q1	Q2	Q3	Q4	Total
Portland General Electric	$ 203,536	$ 170,188	$ 219,369	$ 233,724	$ 826,817
Pacific Power	$ 116,087	$ 361,904	$ 349,929	$ 304,093	$ 1,132,012
Total electric efficiency programs	$ 319,623	$ 532,092	$ 569,298	$ 537,817	$ 1,958,829