Quarter Three 2016 Annual Report to the Oregon Public Utility Commission & Energy Trust Board of Directors

ENERGY TRUST OF OREGON
NOVEMBER 15, 2016
This report covers activity between July 1 and September 30, 2016

About Energy Trust of Oregon

An independent nonprofit organization, Energy Trust helps meet Oregon's energy needs with the cheapest and cleanest options available. Our on-the-ground outreach, technical services, cash-back incentives and connections to local contractors help homeowners, renters, businesses, manufacturers, farmers and ranchers across the state cut costs with energy-efficiency solutions. We also help customers power their homes or businesses with renewable energy from solar, biopower, hydropower, wind and geothermal sources.

We are funded by and serve customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista in Oregon, and NW Natural in southwest Washington. Our collaborations with utilities, community leaders, industry organizations, businesses and government agencies help us reach and serve all eligible customers. Working together, we connect Oregonians with smart energy choices that lead to job creation, local economic benefits and a healthier environment.

Vision

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.

Purpose

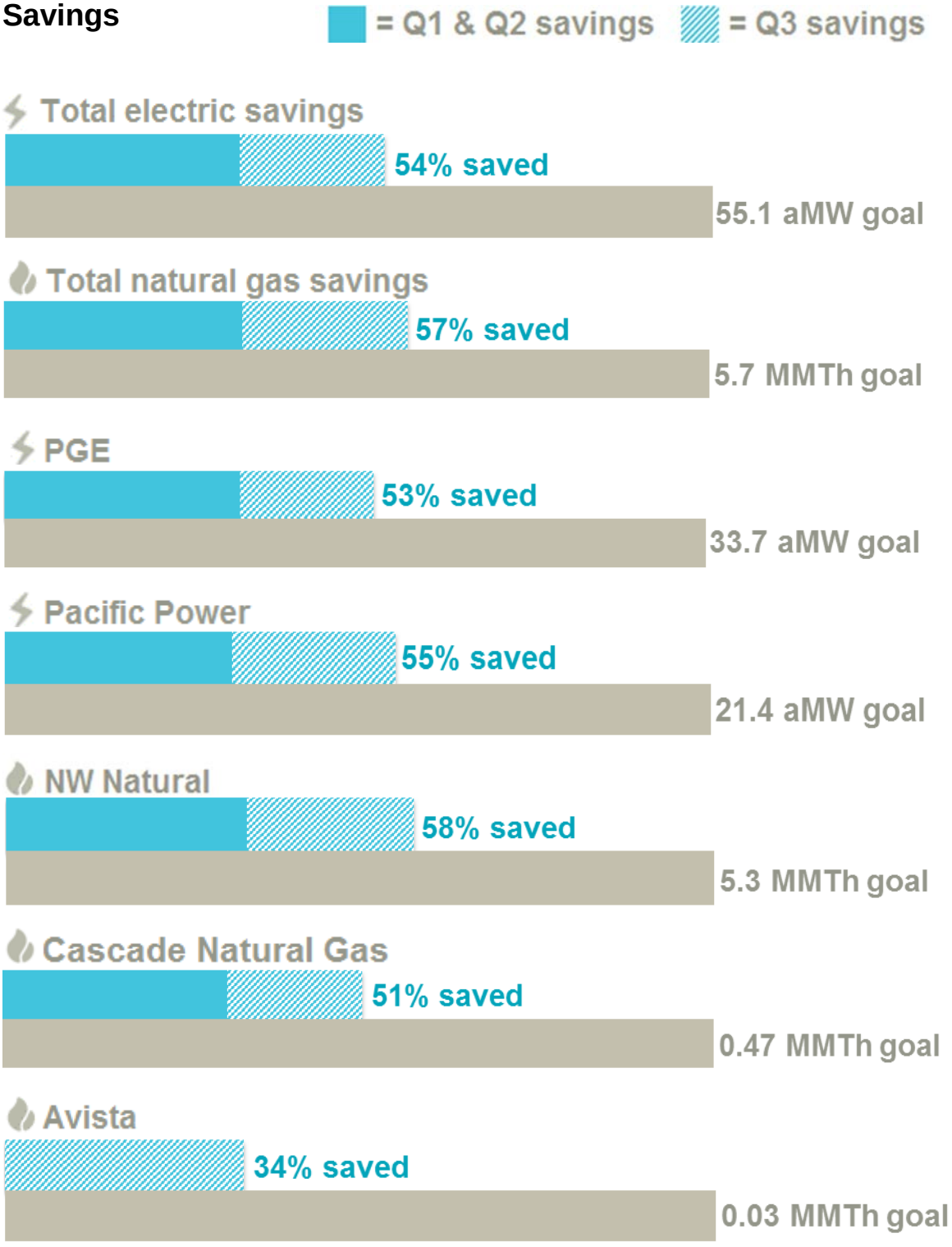
Energy Trust provides comprehensive, sustainable energy efficiency and renewable energy solutions to those we serve.

Table of contents

I	Results at a glance	4
II	Executive summary	7
III	Program and operations activity	11
IV	Revenue and expenditure tables	24
V	Savings and generation tables	26
APPENDIX 1:	Glossary	29
APPENDIX 2:	Customer satisfaction results	32
APPENDIX 3:	OPUC 2016 performance measures and 2015 benefit/cost ratios	34
APPENDIX 4:	Progress to 2015-2019 Strategic Plan goals; Cumulative and total annual results	36
APPENDIX 5:	Q3 2016 report on activities for NW Natural in Washington	37

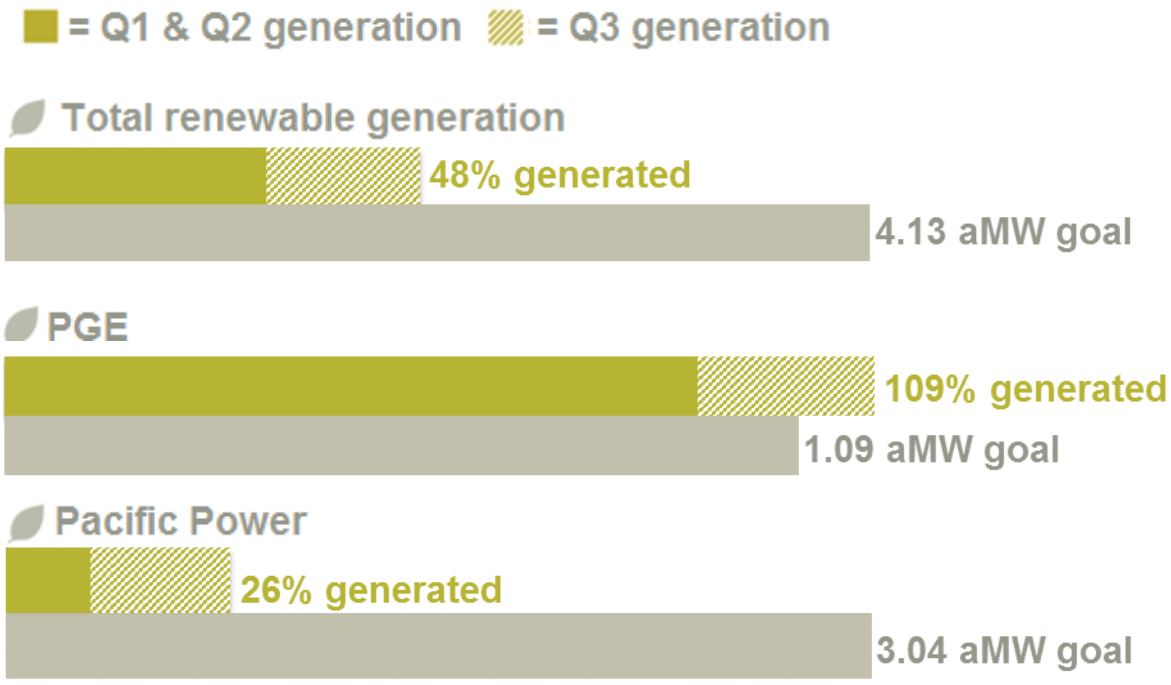
I Results at a glance[1]

Savings

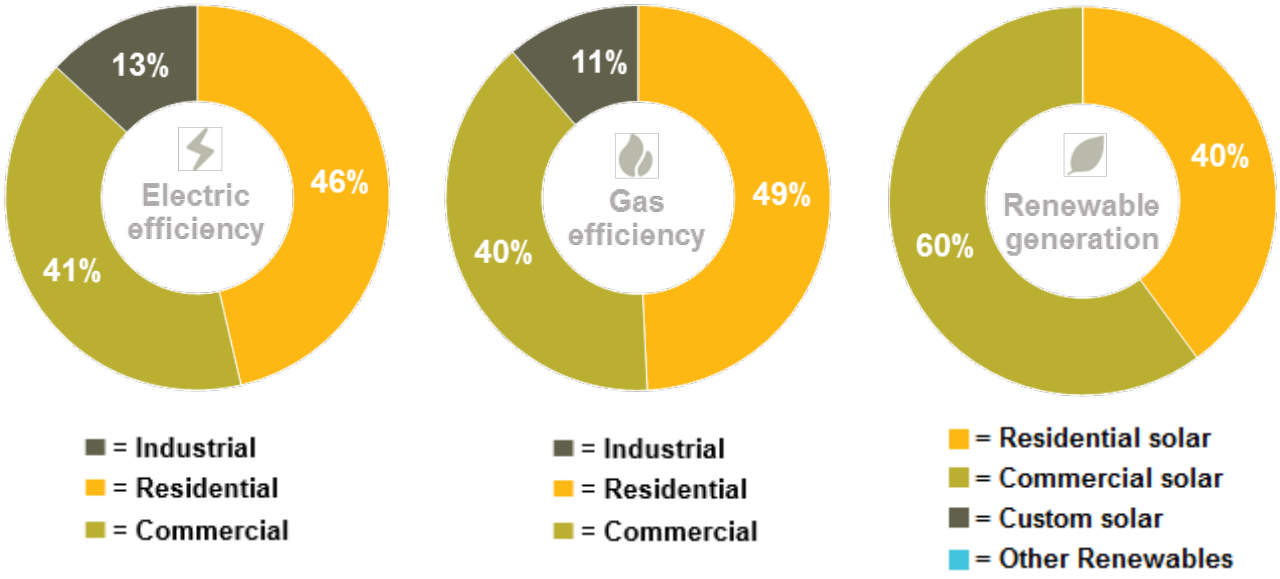


[1] This document reports net savings, which are adjusted gross savings based on results of current and past evaluations.
NOTE: aMW indicates average megawatts, MMTh indicates million annual therms and M is million.

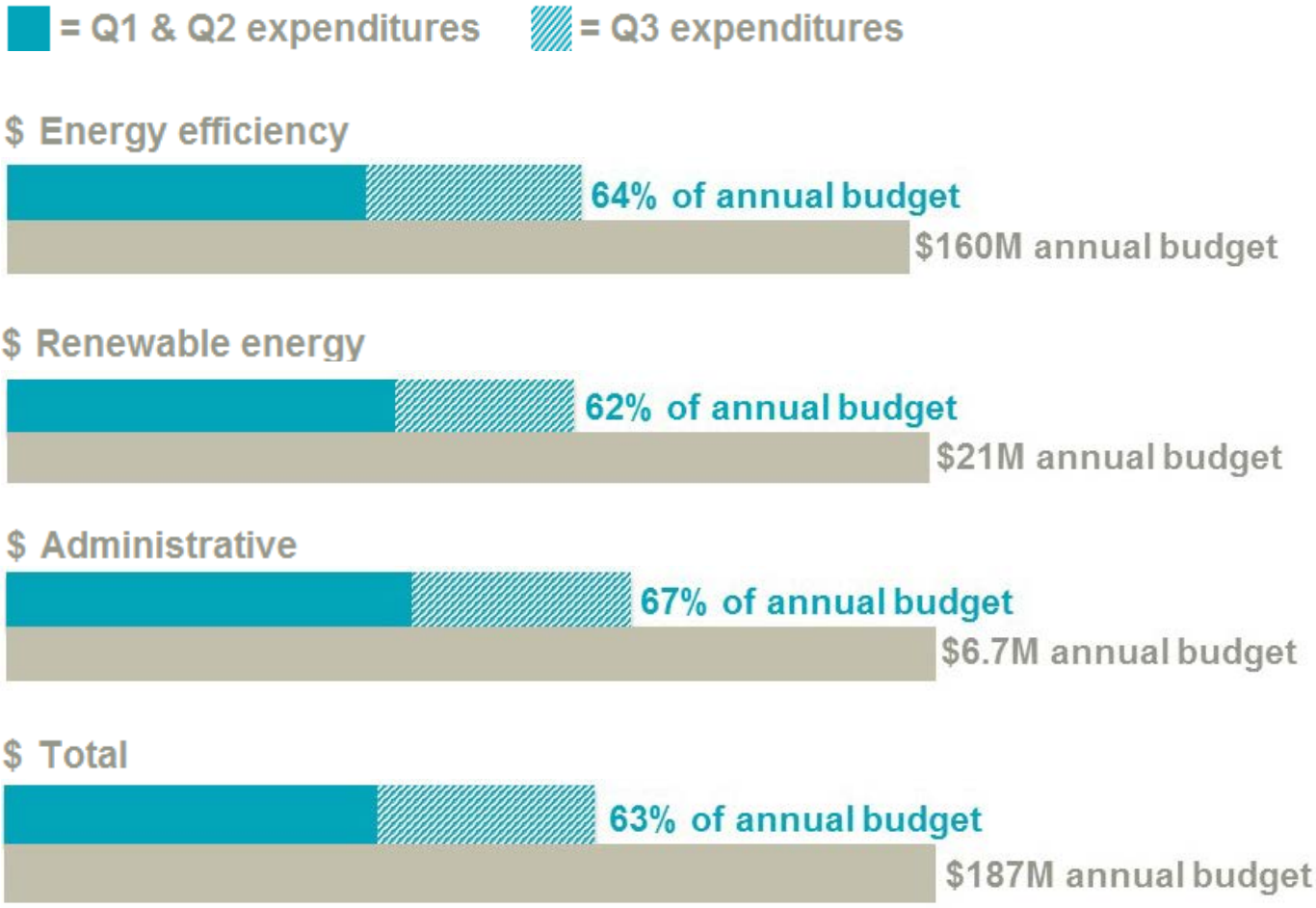
Generation



Percent of 2016 savings and generation by sector YTD



Expenditures



II Executive summary

A. Progress to energy efficiency and renewable generation goals[2,3]

- **At the close of quarter three, Energy Trust is on track to meet or exceed savings goals** in all utility territories in 2016.
- **Energy Trust expects to fall short of its renewable generation goals** in 2016 due to delay of two large solar projects to 2017. However, Energy Trust already exceeded its generation target in PGE territory and the 2016 annual OPUC performance measure of obtaining at least 1.6 aMW of standard, net-metered generation.
- **Electric efficiency improvements completed during Q3 will save 11.3 average megawatts** of electricity, about 21 percent of the 2016 goal of 55.1 aMW. Q3 2016 electric savings were approximately 34 percent greater than savings in Q3 2015, largely due to more savings from Existing Buildings and New Homes programs.
- **Gas efficiency improvements completed during Q3 will save 1.3 million annual therms** of natural gas[4], about 23 percent of the 2016 goal of 5.7 million annual therms. Q3 2016 gas savings were approximately 58 percent greater than savings in Q3 2015, primarily due to more savings from Existing Buildings, Existing Homes and New Homes programs.
- **Renewable energy systems installed during Q3 will generate 0.73 aMW of electricity**, 18 percent of the 2016 goal of 4.13 aMW.
- **Savings and generation achieved in Q3 2016 represent about 58,000 tons of carbon dioxide** kept out of the atmosphere, the equivalent of removing approximately 10,200 cars from Oregon roads for one year.

11.3
AVERAGE MEGAWATTS SAVED

1.3 million
ANNUAL THERMS SAVED

0.73
AMW GENERATED

58,000
TONS OF CARBON DIOXIDE AVOIDED

[2] This document reports net savings, which are adjusted gross savings based on results of current and past evaluations.
[3] This report includes the best available energy savings data as of the date of submission. Energy savings reported here for periods prior to January 1, 2016, 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 2015 Report is available online at www.energytrust.org/reports.
[4] Gas savings do not include NW Natural results in Washington. These results are reported in Appendix 5.

B. Market and program trends

- **Energy Trust continued to support rapid market adoption of LEDs across residential, commercial and industrial sectors**. LEDs offered to residential customers through kits, retail and trade allies comprised a majority of residential electric savings, and Energy Trust began providing incentives for lower-cost LEDs that became ENERGY STAR® certified in Q3. Lighting remained the majority of Existing Buildings electric savings, including upgrades to LED streetlights in Pacific Power territory and LED case lighting in grocery stores. The Production Efficiency program served the emerging cannabis market with 10 lighting upgrades at cannabis production facilities through Q3, with an additional six expected by year-end.

RAPID MARKET ADOPTION OF LEDS ACROSS SECTORS

- **Energy Trust expanded construction of new EPS™ homes, engaging a greater portion of builders in Oregon's strong new construction market**. Energy Trust expects builders will complete **3,500 EPS homes in 2016**, 800 more homes than originally estimated. In addition, new EPS homes were represented on home tours in Bend, Eugene and West Linn.

3,500
EPS HOMES EXPECTED

- **With Oregon's growing population and historically low multifamily vacancy rates**, energy-efficient new construction and major renovations at multifamily buildings has been steadily increasing in the last five years, and is one of the strongest market sectors to participate in Energy Trust's New Buildings program. Through Q3 2016, **100 new multifamily construction projects enrolled** with Energy Trust, compared to 85 projects enrolled through Q3 2015. However, managers of existing multifamily buildings have less motivation to invest in large capital improvements to attract and maintain tenants and instead selected fast and easy projects with minimal disruption to tenants.

100
NEW MULTIFAMILY CONSTRUCTION PROJECTS ENROLLED

- **Energy Trust influenced commercial customers to invest in more gas and dual-fuel efficiency upgrades** at existing buildings through Q3 with revised gas incentives—first tested as a bonus launched in Q4 2015 and then instituted broadly in 2016.
- **Strong interest in irrigation system assessments continued with engagement of 14 irrigation districts** through Energy Trust's irrigation modernization initiative with Farmers Conservation Alliance, with initial results indicating hydropower potential in almost every district. Energy Trust's collaborative irrigation modernization strategy leverages the wide range of benefits irrigation modernization projects can provide, including energy generation, energy and water savings and investment in rural communities.

14
IRRIGATION DISTRICTS ENGAGED IN SYSTEM MODERNIZATION ASSESSMENTS

- **Installation of standard residential and commercial solar systems exceeded expectations**, driven by the strongest quarter ever for commercial solar installations. However, applications for residential solar incentives slowed in Q3 as third-party leasing options withdrew from the Oregon market, reflecting a nationwide trend away from leases and toward loans. As a result, smaller trade ally contractors are expected to increase their market share of customers.
- **To advance design best practices needed for net-zero buildings, Energy Trust developed and launched two Net Zero Fellowships** that will advance successful building designs and energy-efficient systems applicable to Oregon. The research will be presented by the fellows at Energy Trust's Allies for Efficiency trainings held statewide for developers, designers and builders and is expected to address challenges with market adoption or acceptance of design best practices leading to net-zero buildings.

2
NET ZERO FELLOWSHIPS

C. Notable achievements

- **Energy Trust began delivering services to Avista's Oregon customers on a limited basis**, following the OPUC's determination to transfer administration and delivery of gas efficiency services to Energy Trust. Avista serves approximately 90,000 Oregon customers in Roseburg, Medford, Klamath Falls, La Grande and surrounding areas. In Q3, offerings included discounted showerheads available in retail stores and early design assistance for new commercial buildings. In addition, incentives were available for gas fireplaces at select retailers through a pilot program. In 2017, Energy Trust's full range of gas services will be available in Avista's Oregon territory.
- **Michael Colgrove, Energy Trust's new executive director, joined the organization in Q3**, and engaged with board and advisory council members, utilities and other stakeholders.
- **The American Council for an Energy-Efficient Economy named Energy Trust's founding executive director, Margie Harris, the 2016 Champion of Energy Efficiency in Buildings** for outstanding achievement and leadership in the energy efficiency field.
- **Staff advanced Energy Trust's Diversity Initiative by gaining insights to better engage and serve Oregon's increasingly diverse population** of customers, contractors and employees. In Q3, Energy Trust completed three focus groups with representatives of small businesses from rural, Asian and Latino communities. In addition, staff vetted translation services to improve resources for English language learners.
- **Staff improved Energy Trust's annual processes for changing offerings and incentives**. Every January, Energy Trust introduces new and modified offerings and incentives that must be updated in application forms, IT systems, and web and print communications, in coordination with multiple Energy Trust groups, Program Management Contractors, Program Delivery Contractors and trade ally contractors. Sequencing and streamlining these cross-organizational processes will free up staff time to deliver programs and services.
- **Energy Trust submitted a summary of its demand response activity to the OPUC** following the commission's comments on Energy Trust's 2016 Annual Budget, including information about the value of current program impacts, data and tools needed to link utility grid objectives to specific Energy Trust

actions and possible complementary pilots to meet grid optimization objectives to be developed in coordination with utilities. Pilots currently in process or under consideration include a Nest thermostat promotion with PGE, Pacific Power's demand response pilot, quantifying peak natural gas savings with NW Natural and a heat pump water heater pilot.

D. Revenue and expenditure results

- **Overall public purpose revenue plus incremental electric revenue from SB 838 totaled $34.7 million for Q3 2016,** on par with what was budgeted. Typically, actual revenues vary by a few percentage points.
- **Q3 expenditures totaled $43.6 million**, of which $24.6 million or 56 percent was for incentives, compared to $18.1 million and 51 percent in Q3 2015.
- **As intended, Energy Trust used utility-specific program reserves** to meet expenses in excess of revenue receipts, continuing to draw down program reserves in agreement with the OPUC and the utilities.
- **Q3 electric efficiency expenditures** were 8 percent over budget.
- **Q3 gas efficiency expenditures** were 12 percent over budget.
- **Q3 renewable energy expenditures** were 10 percent below budget.

E. Energy Trust sites served by region in Q3[5]

	Commercial	Industrial	Residential	Renewables	Total
Central Oregon	173	40	1,363	40	1,616
Eastern Oregon	45	15	254	12	326
North Coast	43	3	462	5	513
Portland Metro & Hood River	1,254	157	9,526	257	11,194
Southern Oregon	181	58	5,039	60	5,338
Willamette Valley	295	117	3,827	100	4,339
Total	**1,991**	**390**	**20,471**	**474**	**23,326**

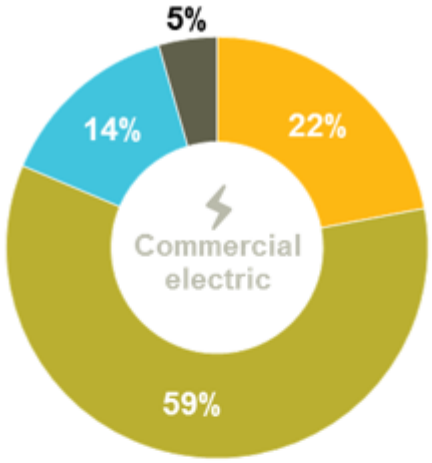
[5] Total sites served may include sites that participated in more than one sector.

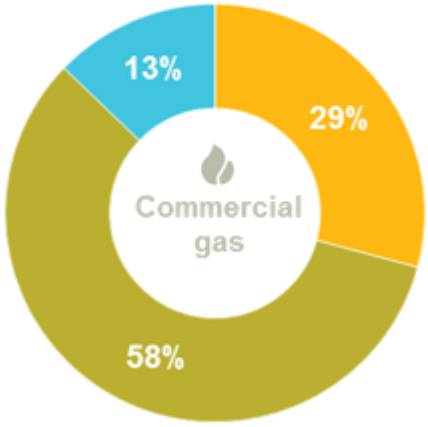
III Program and operations activity[6]

A. Commercial sector highlights

- **The commercial sector expects to meet or exceed goals in all utility territories in 2016**. Strong electric and gas savings were supported by Existing Buildings lighting and standard gas upgrades and new commercial construction.
- **Savings from Energy Trust investment in NEEA** activities comprised approximately 4 percent and 5 percent of the sector's results in PGE and Pacific Power territories. Savings are anticipated from building code improvements, working with distributors and manufacturers to encourage stocking of efficient commercial lighting, and retrocommissioning, a process for ensuring that a building's systems function according to their design.

Commercial sector savings YTD





= New Buildings
= Existing Buildings
= Existing Multifamily
= NEEA

Existing Buildings

The Existing Buildings program offers energy-efficient improvements for existing commercial buildings of all sizes. Incentives are available for custom projects, including capital upgrades and operations and maintenance improvements; standard upgrades; lighting upgrades; and energy management offerings with tools, training, technical assistance and Strategic Energy Management offerings to help customers reduce energy use through behavioral and operations improvements.

- **Lighting upgrades continued to provide the majority of electric savings** in Q3, especially upgrades to LED streetlights in Pacific Power territory and LED case lighting in grocery stores. Additional savings were from standard and custom projects.
- **Standard measures contributed the majority of gas savings** in Q3, especially from upgrades for foodservice equipment, insulation and heating systems.
- **By year-end, commercial Strategic Energy Management** participants are expected to contribute nearly 15 percent of the program's electric savings and more than 25 percent of gas savings. In addition, Energy Trust began recruitment for new commercial SEM participants to begin in 2017.
- **In response to the rapid pace of lighting projects**, Energy Trust shifted to a streamlined lighting offering with standard lighting options instead of custom analysis, making it easier and faster for customers to install energy-efficient lighting.

[6] Tables summarizing Q3 activity by sector have been omitted due to reduced reporting resources resulting from recent staffing transitions. Tables will be added when resources are expected to become available again.

- **Energy Trust added 45 new Existing Buildings allies** in 2016, a roughly **10 percent increase in total allies**.
- **Facilities managers of 90 hospitals, colleges and other large institutions attended a customer engagement event** at the Moda Center in Portland, with remarks from Energy Trust's new executive director, a presentation about the Moda Center's sustainability and efficiency efforts, and a tour of efficiency upgrades supported by Energy Trust.

↑ 10%

EXISTING BUILDINGS TRADE ALLIES

Existing Multifamily

The Existing Multifamily program serves existing multifamily buildings with two or more units, including standard market-rate housing, affordable housing, condominiums, homeowner associations, and assisted living and campus living facilities. The program offers standard incentives for water heaters, HVAC equipment, weatherization, appliances and foodservice equipment; free in-unit installation of LEDs, showerheads and faucet aerators and distribution of advanced power strips; custom incentives for capital improvements and lighting upgrades for common areas; and incentives paid to distributors to reduce costs of efficient lighting and equipment for customers.

- **Following recent trends, the majority of electric and gas savings consisted of in-unit installation** of LEDs, showerheads and faucet aerators and distribution of advanced power strips, with significant additional savings from common-area lighting projects and standard upgrades.
- **Two large custom projects bolstered savings** in Cascade Natural Gas territory.
- **Staff identified opportunities to simplify the multifamily incentive structure** with input from the Conservation Advisory Council. Resulting improvements to simplify program offerings and incentive eligibility requirements are planned in 2017.
- **Energy Trust launched a pilot for tier 2 advanced power strips**, anticipated to complete in Q4 with results in early 2017. In addition, staff completed a study of persistence of savings from tier 1 advanced power strips, with results indicating fewer savings than expected. Tier 1 power strips automatically shut down peripheral entertainment system devices, such as DVD players and speakers, when televisions are turned off. Tier 2 power strips can also sense when televisions are not in use through infrared remote signal sensors, and will automatically power down both televisions and peripheral devices when not in use.

LAUNCHED PILOT FOR TIER 2 ADVANCED POWER STRIPS IN MULTIFAMILY PROPERTIES

- **Staff concluded a showerhead and shower wand flow-rate study** indicating lower-than-expected flow rates for pre-existing showerheads and reduced savings from these measures.

New Buildings

The New Buildings program supports design and construction of high-performance commercial buildings and major renovations of all sizes and building types. Staff engage with building owners, developers, business owners and design professionals to provide standard prescriptive incentives, market solutions incentive packages and custom incentives. Tailored market solutions 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.

- **Electric savings consisted largely of data center, multifamily and warehouse distribution center projects**. Two more data center projects are expected to contribute savings by year-end.
- **Multifamily projects remained the largest source of gas savings**, followed by K-12 schools and hotels.
- **Activity in the office sector grew**, with more interest in a streamlined offering that enables office tenants, in addition to building owners, to more broadly participate in the program when upgrading lighting.
- **Energy Trust developed and launched two Net Zero Fellowships** to be awarded in 2017 as a capacity-building approach to grow market adoption of design strategies. Two 12-to-18-month fellowships are available to support research about technology, economical benefits, market barriers and community-based net-zero projects.
- **More than 100 industry professionals attended three trainings** in Q3, including a training for the new construction engineering and modeling community, a Building Energy Simulation Forum about energy modeling of dedicated outdoor air systems for a small commercial pilot project, and an Allies for Efficiency training on envelope design principles in Portland.

NEW MULTIFAMILY CONSTRUCTION REMAINED LARGEST SOURCE OF NEW BUILDINGS GAS SAVINGS

100

PROFESSIONALS ATTENDED NEW BUILDINGS TRAININGS

B. Industry and agriculture sector highlights

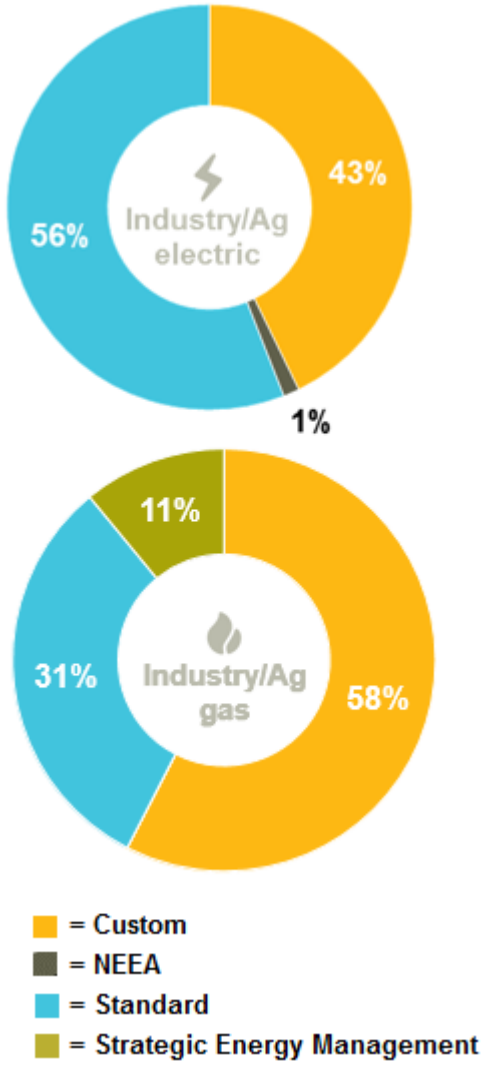
- **The industry and agriculture sector expects to exceed goals in gas territories and fall short of goals in electric territories.** Strong participation in custom projects and standard greenhouse upgrades contributed to gas savings, with electric savings supported by lighting projects.
- **Several custom electric projects delayed completion** to 2017, supporting a strong pipeline of custom projects in 2017, including several large projects in the high-tech sector.
- **Staff kicked off several efforts to help achieve goals** by year-end, including launching an incentive bonus for custom projects in PGE and Cascade Natural Gas territories.
- **Savings from NEEA activities comprised approximately 1 percent** of the sector's results in PGE and Pacific Power territories. Though NEEA is winding down industrial sector market transformation efforts, savings in 2016 are expected to come from a previously funded initiative to improve awareness of and establish standards for efficient electric motors.

Production Efficiency

The Production Efficiency program offers technical assistance and incentives to industrial and agricultural businesses, including incentives for custom projects, standard lighting and equipment upgrades, and an industrial Strategic Energy Management offering to help customers achieve persistent energy savings through behavioral and operations and maintenance improvements.

- **Custom projects accounted for more than 40 percent of electric savings** through Q3, with standard lighting projects contributing one-third of savings and standard track industrial and agricultural projects contributing the remaining one-quarter of savings. Custom projects are expected to represent a greater portion of savings when additional projects complete in Q4.
- **Through Q3, nearly 60 percent of gas savings were from custom projects**, with an additional third from standard track projects, primarily greenhouse upgrades. An industrial Strategic Energy Management engagement contributed the remainder.
- **Industrial SEM projects are expected to contribute additional electric and gas savings in Q4** when customers complete participation in this annual offer.
- **LEDs remain approximately 80 percent** of the sector's lighting savings.
- **Energy savings from cannabis growing facilities increased** as the Oregon Liquor Control Commission (OLCC) began approving facility licenses, with **10 lighting projects completed** through Q3 and six more expected by year-end. In

Industry and agriculture sector savings YTD



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PROJECTS COMPLETED AT CANNABIS GROWING FACILITIES

addition, the OLCC listed Energy Trust as a resource for technical assistance and support for energy efficiency, and delivery staff began conducting outreach to licensed facilities to educate business owners about energy-efficient lighting options.

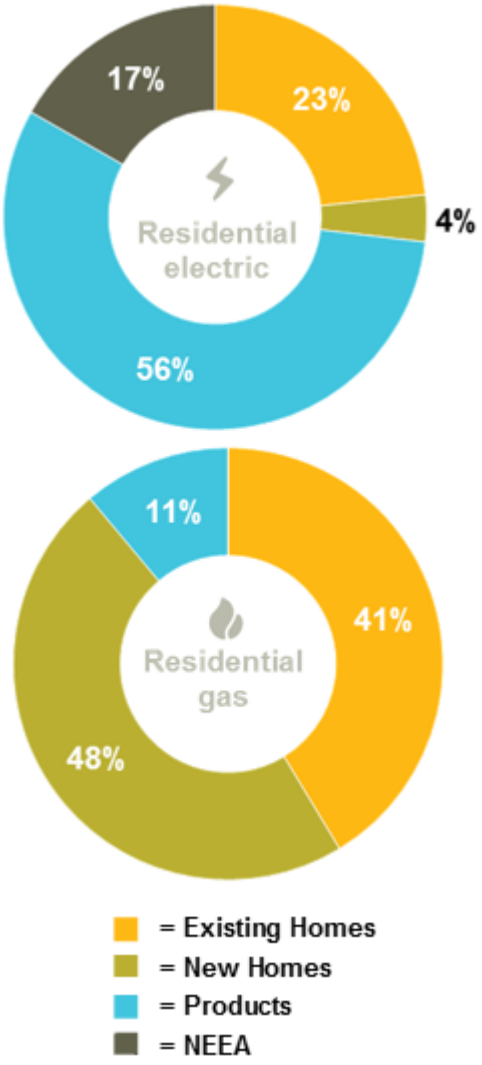
- **The program recruited the first 15 participants for a new Continuous SEM offering** that provides ongoing engagement and support for graduates of first-year SEM offerings. Continuous SEM provides coaching services, technical training, energy performance tracking support and performance-based incentives to drive continuous improvement in energy performance.
- **Energy Trust worked with Sustainable Northwest on outreach to Klamath Basin farmers**, resulting in **27 irrigation upgrade projects at 19 farms**.

27
IRRIGATION UPGRADE PROJECTS

C. Residential sector highlights

- **The residential sector expects to exceed goals in all utility territories** in 2016. Strength in retail lighting, growth in the new home construction market, and steady expansion in rental and moderate-income heating system installations resulted in strong electric and gas savings.
- **Staff continued assessment of its program delivery structure to reduce costs, attract new participants and identify new energy-saving strategies** in the face of continued low natural gas costs, tighter codes and standards, and fewer savings from measures that are anticipated to be rapidly adopted, such as LEDs. The assessment will identify alternate program approaches and develop recommendations to address those challenges in Q4, with potential changes implemented in 2018.
- **Energy Trust began offering incentives for EcoBee3 smart thermostats**, in addition to Nest thermostats.
- **Savings from NEEA activities comprised 16 percent and 17 percent** of the sector's savings in PGE and Pacific Power territories, respectively. Savings are expected from previously funded efforts on battery charger standards, energy-efficient televisions and residential building code improvements. Ductless heat pump and heat pump water heater initiatives are also expected to deliver savings in 2016.

Residential sector savings YTD



Existing Homes

The Existing Homes program serves single-family homeowners, renters and owners of existing manufactured homes with energy-saving recommendations, referrals to qualified trade ally contractors, cash incentives for heating and water heating equipment, smart thermostats, insulation and windows, and LEDs, showerheads and faucet aerators delivered through kits. Enhanced Savings Within Reach incentives are available for moderate-income residents.

- **Efficient LEDs, showerheads and faucet aerators delivered through kits provided the majority of electric savings**, followed by smart thermostats, ducted and ductless heat pumps and windows.
- **Gas savings consisted primarily of showerheads and faucet aerators delivered through kits**, with additional savings from smart thermostats, gas hearths and gas furnaces installed in rental and moderate-income homes.
- **Growth in savings from gas furnace installations in rental and moderate-income homes** demonstrated that targeted market strategies can help reach and serve new customers.

SHOWERHEADS AND FAUCET AERATORS PROVIDED THE MAJORITY OF EXISTING HOMES GAS SAVINGS

- **Online purchases of smart thermostats were supported by a Nest promotion** and $50 discount in Q3, plus coordinated outreach with PGE.
- **Energy Trust launched a Nest Seasonal Savings pilot** to test whether additional control capabilities of Nest thermostats can further reduce energy use for 2,800 participating customers that have existing Nest thermostats connected to heat pumps or air conditioners. For participating customers, Nest thermostats will reduce energy use by making small, gradual temperature adjustments based on occupant habits and preferences. An additional participant group will launch in Q4 with customers that have existing Nest thermostats on forced air furnaces and heat pumps.

LAUNCHED PILOT FOR NEST THERMOSTATS

New Homes

The New Homes program works with trade ally builders, subcontractors and verifiers to construct energy-efficient homes that exceed code through construction of EPS-rated homes and prescriptive incentives for individual equipment.

- **Construction of new EPS homes provided nearly all of the program's electric savings**, with a small remainder 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.
- **Gas savings were split between construction of new EPS homes and market transformation**, with a small remainder from individual equipment installations. Market transformation reflects Energy Trust'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 benefits of customers. Market transformation savings are claimed twice a year, in Q2 and Q4.
- **Growth in New Homes savings was driven by Oregon's strong new construction market** and more builders participating. Based on this success, Energy Trust expects to complete **3,500 EPS homes**, 800 more homes than originally expected. By year-end, 40 percent of new homes built in Energy Trust territory are expected to exceed Oregon's residential building energy code, up from 36 percent in 2015.
- **Staff met with City of Hillsboro staff to discuss the city's sustainability goals for development of new homes**. New Homes, Solar and New Buildings programs met with and provided support to city staff and developers in assessing

3,500

EPS NEW HOMES EXPECTED BY YEAR-END

opportunities to achieve energy savings and new renewable generation throughout Hillsboro.

- **Tankless gas water heaters were added** to the list of eligible individual equipment installations.
- **New EPS homes were represented on home tours** in Bend, Eugene and West Linn.
- **Staff met with the Confederated Tribes of the Umatilla Indian Reservation** housing director to discuss building 30 to 100 potential new EPS homes.
- **Staff provided technical and market expertise to the City of Portland** for its proposed home energy score policy, which would require sellers of single-family homes to obtain and disclose a home energy performance report.

Products

The Products program offers cash incentives for ENERGY STAR qualified products, including lighting, clothes washers and showerheads, and for recycling old refrigerators, freezers and clothes washers. The program also provides energy-saving kits to food pantries to deliver to their clients, and distributes showerheads through water bureaus and districts. In addition, the program encourages the sale of energy-efficient new manufactured homes.

- **Retail lighting purchases comprised more than 80 percent of electric savings**, primarily from LEDs. The remainder of electric savings were from recycling of refrigerators, freezers and clothes washers; showerheads purchased in stores; and lighting and showerheads given away through food banks and water bureaus. New manufactured homes, smart thermostats, appliances and water heaters purchased in stores each contributed less than 1 percent of electric savings.
- **Efficient showerheads contributed 80 percent of gas savings**, primarily through retail purchases and also distributed with faucet aerators through food banks and water bureaus. Smart thermostats provided 15 percent of savings, with a small remainder from retail appliance purchases, new manufactured homes and gas water heaters.
- **In Q3, lower-cost LEDs were certified by ENERGY STAR** and became eligible for Energy Trust incentives. Available at Wal-Mart and The Home Depot, these LEDs last for 15,000 hours rather than the previous minimum of 25,000 hours.

80%

OF PRODUCTS ELECTRIC SAVINGS FROM RETAIL LIGHTING PURCHASES

80%

OF PRODUCTS GAS SAVING FROM EFFICIENT SHOWERHEADS

D. Renewable energy sector highlights

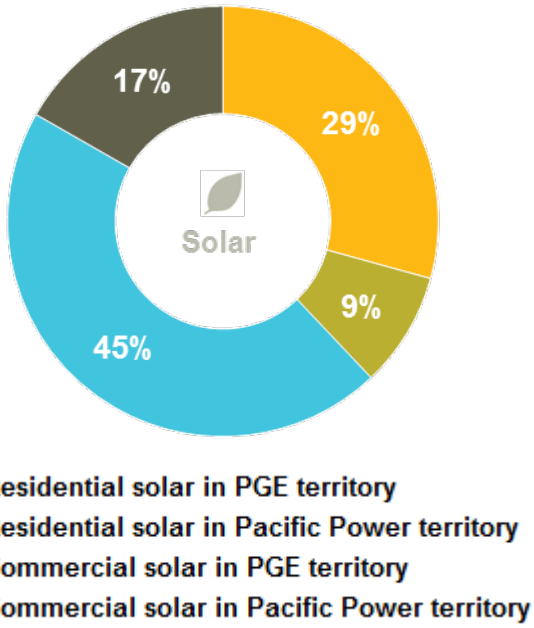
- **The renewables sector is expected to fall short of goal**, with completion of two custom solar projects delayed to 2017. It is not unusual for delays to occur with large, complicated projects.
- **The sector already exceeded its annual target for PGE territory and its annual OPUC performance measure** of obtaining at least 1.6 aMW of standard, net-metered generation.

Solar

The Solar program aims to create a vigorous and sustainable market for solar energy by offering cash incentives that lower above-market costs for small residential and commercial solar projects, educating consumers, creating and enforcing quality standards and ensuring a robust network of qualified trade ally contractors. Staff review incentive levels regularly and gradually reduce them to manage budget and respond to decreases in solar costs. The Solar program supports installation of standard solar systems on residential and commercial properties, and also large custom projects if funding is available.

- **Completion of two custom solar projects was delayed to 2017**, which will cause the renewable energy sector to fall short of its annual goal.
- **Installation of standard residential and commercial solar systems exceeded** expectations, driven by the strongest quarter ever for commercial solar installations.
- **Applications for residential solar incentives slowed in Q3 as third-party leasing options withdrew** from the Oregon market, reflecting a nationwide trend away from leases and toward loans. As a result, smaller trade ally contractors are expected to increase their market share of customers.
- **Staff supported community and media events** celebrating completed solar projects, including a 150-kW solar system at the Oregon Army National Guard's facility in Pendleton and a 35-kW solar system at Ireland Trucking's Myrtle Creek headquarters. Events increased awareness of Energy Trust's services through media articles.
- **Staff provided information to and coordinated with the OPUC regarding UM 1758**, the docket to review solar incentive programs in Oregon.

Solar program generation YTD



Other Renewables

The Other Renewables program provides project development assistance and incentives that lower above-market costs for projects that generate renewable energy from hydropower, biopower, wind and geothermal resources. Project development assistance supports early-stage development and helps build a pipeline of future renewable energy installation projects. In 2016, staff are focused on projects that provide a wide range of benefits, including biogas projects generating energy from anaerobic digestion of organic waste and hydropower projects at irrigation districts.

- **The board of directors approved a $750,000 incentive** for a 0.37-aMW Deschutes Valley Water District Opal Springs hydropower project expected to complete in 2019. The project applied for an installation incentive during a competitive solicitation in Q1.
- **One small hydropower project and one small wind project** were under construction in Q3, with commercial operation expected in Q4 as planned.
- **The program committed project development assistance to 10 new projects**, bringing its current pipeline to 47 projects, including 36 hydropower, eight biogas, two geothermal and one wind project receiving project development assistance.
- **Staff reviewed two applications resulting** from a second competitive solicitation for project installation incentives, with neither selected for funding.
- **Staff released a request for qualifications seeking consultants to evaluate the performance of operating biogas and irrigation hydropower** projects that received Energy Trust installation incentives. Best practices and opportunities for improved performance will be documented and shared with proposed projects.
- **Irrigation system assessments continued at 14 districts** through Energy Trust's irrigation modernization initiative with Farmers Conservation Alliance, with initial results indicating hydropower potential at almost every district. The collaborative irrigation modernization strategy leverages the wide range of benefits irrigation modernization projects can provide, including energy generation, energy and water savings and investment in rural communities.
- **Small wind projects will now be evaluated on a custom basis**, rather than receiving standard incentives. This change brings management of small wind projects in line with hydropower, biopower and geothermal projects.
- **Staff shared expertise with local and national audiences**, including through a national webinar on the irrigation

10
NEW PROJECTS RECEIVING PROJECT DEVELOPMENT ASSISTANCE

14
IRRIGATION MODERNIZATION ASSESSMENTS UNDERWAY

modernization initiative for the Clean Energy States Alliance, a presentation to the Oregon Association of Clean Water Agencies on the energy generation options available at wastewater treatment plants, and a presentation to the Oregon Senate Committee on Veterans and Emergency Preparedness on the resiliency benefits of in-conduit hydropower plus other small- and community-scale renewable energy and energy-efficiency projects.

E. Highlights of internal operations

Communications

- **Received 218,200 website visits in Q3 2016, a 3 percent increase** compared to the same period in 2015.
- **More than two-thirds of all web visits were from first-time visitors**, due in large part to marketing campaigns promoting campaign microsites like My Home and My Business.
- **Received 52 percent of all website visits from mobile devices**. A project is underway to redesign the website and optimize it for mobile devices beginning in Q1 2017, including phones and tablets.
- **The Energy Saver Kit order form continues to be one of the most visited web pages**, with nearly 24,000 visits in Q3 that resulted in about 10,000 kit orders.
- **Advertising in Q3 focused on the My Home and My Business** campaigns, through print, online, radio and TV.
- **Distributed five press releases in Q3**, featuring solar installations at a Douglas County log hauling company and the Oregon National Guard, EPS homes, clothes washer recycling and an award from American Council for an Energy-Efficient Economy for Energy Trust's founding executive director.
- **Garnered 98 news stories about Energy Trust programs and services** in print and broadcast with a **media value of $42,000**—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.

218,200
WEBSITE VISITS

52%
OF WEBSITE VISITS FROM MOBILE DEVICES

$42,000
MEDIA VALUE OF EARNED NEWS STORIES

Customer service

- **Responded to 370 inquiries via info@energytrust.org, 25 percent fewer** than in Q3 2015. The general trend has been a gradual increase in email inquiries.
- **Received 4,700 calls in Q3 2016, 15 percent fewer** than received in Q3 2015. Customer calls continue to

4,700
CUSTOMER CALLS RECEIVED

decrease as Energy Trust builds more online self-service content and tools and customers increasingly opt to use them.

- **Received and addressed five complaints, the same as in Q3 2015.**
- **Improved accuracy of tracking call volume by program** using initial data from Energy Trust's Interactive Voice Response System launched in Q1. Interactive Voice Response System is the automated greeting and navigation instructions customers hear when they call Energy Trust's main phone number.

Trade, program and lending allies

HELD TRADE ALLY FORUM IN PENDLETON

- **Held a trade ally forum in Pendleton** and met with 10 trade allies.
- **Trained Energy Trust's main call center representatives** to process trade ally enrollment requests and respond to enrollment and insurance questions from contractors.
- **Assisted the Solar program in developing a new star rating for trade allies**, similar to the Existing Homes rating system.

General outreach

- **Expanded awareness about Energy Trust services through presentations** to the Klamath Rental Owners Association and at the Oregon Society of Healthcare Engineering annual conference in Lincoln City.
- **Presented to Immigration and Refugee Community Organization** and discussed opportunities to leverage the nonprofit's programs and community connections to expand participation.
- **Developed relationships with stakeholders and customers by attending meetings and events**, including town hall meetings in Eastern Oregon, the Washington County Air Quality committee, a Nez Perce event, a League of Oregon Cities meeting in Myrtle Creek, the Greater Rogue Valley Multicultural Fair, an Oregon Rural Development Council event attended by the Governor's Regional Solutions staff, Port of Morrow site tour and Eugene-based Rural Development Initiatives.
- **Provided information about Energy Trust services through meetings** with Senators Ron Wyden and Jeff Merkley, the Governor's energy policy advisor, state and local elected officials, the City of Albany, Drive Oregon, Deschutes Brewery, Bank of America, Beneficial Bank, Confederated Tribes of the Umatilla, Blue Mountain Community College Small Business Development Center, Douglas County Community Action

Agency, several regional rental owners associations and Causa, a Salem-based nonprofit that supports Latino immigrants.

- **Helped Hood River County acquire an energy and sustainability coordinator** through AmeriCorps Resource Assistance for Rural Environments program. Local governments and Energy Trust contributed funding to create the position, which will lead to a comprehensive vision and energy action plan. The position was an outcome of Making Energy Work for Rural Oregon, hosted by Sustainable Northwest and Gorge Owned in Hood River in fall 2015.

IT

16,300
CUSTOMER PROJECTS PROCESSED

- **Processed 16,300 customer projects in Energy Trust systems**, including 11,800 submitted through web applications.
- **Continued investment in foundational IT system improvements** to help anticipate program needs and reduce future costs, including:
  - **Enhanced Project Tracker**, Energy Trust's measure and project tracking system, to improve user experience and enable faster data retrieval.
  - **Automated queuing of payments** in Project Tracker for projects with many measures, cutting staff time to process payments.
  - **Automated processes for importing utility customer information from utilities**, including data scrubbing that improves the quality and reliability of the data.
- **Streamlined online trade ally enrollment** with e-signatures and automated PDF document generation.

Planning and evaluation

45
NEW ENERGY-EFFIENCY MEASURES

- **Created 45 new energy-efficiency measures** and revised 18 measures.
- **Provided input for Integrated Resource Plan development** to PGE, Pacific Power and NW Natural.
- **Tracked development of PGE and Pacific Power transportation electrification** programs per SB 1547.

3
EVALUATION AND MARKET STUDIES

- **Completed and posted three evaluations** and market studies on the Energy Trust website, including:
  - Small Business Energy Savings Process Evaluation
  - Path to Net Zero Pilot Impact Evaluation
  - New Homes Air Sealing Pilot II Evaluation

IV Revenue and expenditure tables[7,8]

A. Revenues

Revenues includes public purpose revenue plus incremental electric revenue from SB 838. 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.

Source		Q3 actual revenues		Q3 budgeted revenues
Portland General Electric	$	8,599,926	$	9,386,665
PGE Incremental	$	9,728,307	$	10,093,799
Pacific Power	$	6,709,413	$	6,633,259
Pacific Power Incremental	$	7,352,186	$	6,182,699
NW Natural	$	1,106,193	$	1,391,230
NW Natural Industrial DSM	$	1,009,018	$	1,071,908
Cascade Natural Gas	$	191,499	$	162,351
Avista	$	46,800	$	0
Total	$	**34,743,342**	**$**	**34,921,909**

B. Expenditures by utility

Source		Q3 actual expenditures		Q3 budgeted expenditures
Portland General Electric	$	21,534,187	$	21,116,422
Pacific Power	$	16,080,624	$	14,444,173
NW Natural	$	4,449,889	$	4,055,308
NW Natural Industrial DSM	$	850,239	$	762,730
Cascade Natural Gas	$	653,396	$	502,788
Avista	$	25,307	$	-
Total	**$**	**43,593,641**	**$**	**40,881,421**

As intended, Energy Trust used utility-specific program reserves to meet expenses in excess of revenue receipts, continuing to draw down program reserves in agreement with the OPUC and the utilities.

[7] Columns may not total due to rounding.
[8] The gas expenditures do not include NW Natural in Washington. These results are reported in Appendix 5.

C. Expenditures by sector and program

			Q3 actual expenditures		Q3 budgeted expenditures
Commercial	Existing Buildings and Multifamily	$	13,232,832	$	11,350,498
	New Buildings	$	3,320,427	$	4,185,016
	NEEA Commercial	$	624,994	$	722,195
	Commercial total	**$**	**17,178,252**	**$**	**16,257,710**
Industrial	Production Efficiency	$	6,982,655	$	6,133,033
	NEEA Industrial	$	71,342	$	93,443
	Industrial total	**$**	**7,053,997**	**$**	**6,226,476**
Residential	Existing Homes	$	4,397,617	$	4,423,930
	New Homes and Products	$	8,046,255	$	6,721,833
	NEEA Residential	$	1,316,337	$	1,160,200
	Residential total	**$**	**13,760,209**	**$**	**12,305,963**
	Energy efficiency total	**$**	**37,992,459**	**$**	**34,790,148**
Renewables	Solar	$	3,119,661	$	3,192,329
	Other Renewables	$	888,076	$	1,212,798
	Renewable generation total	**$**	**4,007,736**	**$**	**4,405,126**
Administration	**Administration**	**$**	**1,582,802**	**$**	**1,686,146**
Development	**Avista Development ***	**$**	**10,644**	**$**	**-**
	Total expenditures	**$**	**43,593,641**	**$**	**40,881,421**

*Avista development funds are temporary funds designated to develop capacity in 2016 to deliver Energy Trust services to Avista's Oregon customers in 2017. Avista development funds are separate from program delivery funds and are not associated with individual programs.

D. Incentives paid

Quarter	PGE efficiency	Pacific Power efficiency	NW Natural efficiency	Cascade Natural Gas efficiency	Avista efficiency	PGE generation	Pacific Power generation	Total
Q1	$4,288,591	$3,154,390	$1,149,249	$82,957	$0	$2,294,772	$726,292	$11,696,250
Q2	$12,929,962	$7,100,571	$2,726,806	$226,423	$0	$2,638,594	$1,421,608	$27,043,963
Q3	$10,696,488	$7,175,765	$3,067,178	$354,833	$7,955	$1,364,680	$1,940,889	$24,607,788
Total	**$27,915,041**	**$17,430,725**	**$6,943,233**	**$664,212**	**$7,955**	**$6,298,045**	**$4,088,789**	**$63,348,001**

V Savings and generation tables[9, 10, 11, 12]

A. Savings and generation by fuel

	Q3 savings/generation	YTD savings/generation	Annual goal	Percent achieved YTD
Electric savings	11.3 aMW	29.5 aMW	55.1 aMW	54%
Natural gas savings	1.3 million therms	3.3 million therms	5.7 million therms	57%
Electric generation	0.73 aMW	1.98 aMW	4.13 aMW	48%

B. Progress toward annual efficiency goals and targets by utility

	Q3 savings	YTD savings	Annual goal	Percent achieved YTD	Annual IRP target	Percent achieved YTD
Portland General Electric	6.4 aMW	17.7 aMW	33.7 aMW	53%	27.2 aMW	65%
Pacific Power	5. aMW	11.8 aMW	21.4 aMW	55%	16.8 aMW	70%
NW Natural	1.2 million therms	3.0 million therms	5.3 million therms	58%	3.9 million therms	77%
Cascade Natural Gas	88,924 therms	236,317 therms	466,577 therms	51%	447,071 therms*	53%
Avista	10,587 therms	10,587 therms	31,574 therms	34%	N/A**	N/A

*Cascade Natural Gas Integrated Resource Plan target was submitted as part of the ongoing Integrated Resource Plan process. It was not acknowledged by the OPUC and Energy Trust will work with Cascade Natural Gas on future updates.

[9] Columns may not total due to rounding.
[10] Electric savings also include transmission and distribution savings.
[11] The gas savings do not include results for NW Natural in Washington. These results are reported in Appendix 5.
[12] 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.

C. Electric savings by sector and program

		Q3 savings aMW	YTD savings aMW	Annual goal aMW	Percent achieved YTD
Commercial	Existing Buildings and Multifamily	3.9	8.8	15.5	57%
	New Buildings	0.7	2.6	5.3	50%
	NEEA Commercial	0.3	0.5	1.0	52%
	Commercial total	**4.9**	**12.0**	**21.8**	**55%**
Industrial	Production Efficiency	1.4	3.8	13.4	28%
	NEEA Industrial	0.0	0.0	0.1	34%
	Industrial total	**1.4**	**3.9**	**13.6**	**29%**
Residential	Existing Homes	1.1	3.2	4.0	80%
	New Homes and Products	2.7	8.2	9.9	83%
	NEEA Residential	1.1	2.3	5.8	40%
	Residential total	**5.0**	**13.7**	**19.7**	**70%**
	Total electric savings	**11.3**	**29.5**	**55.1**	**54%**

D. Natural gas savings by sector and program

		Q3 savings thm	YTD savings thm	Annual goal thm	Percent achieved YTD
Commercial	Existing Buildings and Multifamily	543,952	914,949	2,001,169	46%
	New Buildings	69,146	376,994	597,301	63%
	Commercial total	**613,098**	**1,291,943**	**2,598,470**	**50%**
Industrial	Production Efficiency	129,359	370,081	1,036,453	36%
	Industrial total	**129,359**	**370,081**	**1,036,453**	**36%**
Residential	Existing Homes	179,578	666,237	787,964	85%
	New Homes and Products	418,713	945,918	1,298,258	73%
	Residential total	**598,291**	**1,612,156**	**2,086,222**	**77%**
	Total natural gas savings	**1,340,748**	**3,274,180**	**5,721,145**	**57%**

Energy Trust allocated budget to NEEA for gas market transformation activities. While there were no associated savings through Q3, savings are expected in subsequent years.

E. Renewable energy generation by utility

	Q3 generation aMW	YTD generation aMW	Annual goal aMW	Percent achieved YTD
Portland General Electric	0.24	1.19	1.09	109%
Pacific Power	0.49	0.79	3.04	26%
Total	**0.73**	**1.98**	**4.13**	**48%**

F. Renewable energy generation by program

	Q3 generation aMW	YTD generation aMW	Annual goal aMW	Percent achieved YTD
Other Renewables program	0.00	0.00	0.01	0%
Solar program	0.73	1.98	4.12	48%
Total generation	**0.73**	**1.98**	**4.13**	**48%**

G. Incremental utility SB 838 expenditures[13]

Utility	2016 Q2 SB 838 Expenditures	YTD SB 838 Expenditures
Portland General Electric	$ 212,253	$ 583,400
Pacific Power	$ 191,889	$ 591,379
Total	**$ 404,142**	**$ 1,174,779**

[13] 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.

APPENDIX 1: Glossary

Allied technical assistance contractors: Allied technical assistance contractors provide technical analysis and studies to help industrial customers identify energy-efficiency upgrades.

Avoided cost: The amount of money that an electric utility would spend for the next increment of electric generation it would need to either produce or purchase if not for the reduction in demand due to energy-efficiency savings or the energy that a co-generator or small-power producer provides. Federal law establishes broad guidelines for determining how much a qualifying facility gets paid for power sold to the utility.

Benefit/cost ratio: Energy Trust ensures investment in cost-effective energy efficiency based on the Total Resource Cost Test benefit/cost ratio and the Utility Cost Test benefit/cost ratio. Together, the tests assess the value of the energy-efficiency investment compared to a utility supplying the same amount of energy, and determine whether energy efficiency is the best energy buy for a utility and for all utility customers.

> **Total Resource Cost Test:** This is the main test that determines whether Energy Trust can offer an incentive for a project. Benefits include the value of energy savings to the ratepayers of the utility system over the expected life of the energy-efficiency resource (otherwise known as the avoided cost of energy), and in some cases benefits also include quantifiable non-energy benefits, such as water savings and operations and maintenance benefits. Costs include the total cost of the energy-efficiency resource, including Energy Trust incentives and the project cost paid by the participating customer
>
> **Utility Cost Test:** This test is used to indicate the incentive amount for a project. It helps Energy Trust determine whether providing an incentive is cost effective for the utility system. Benefits include the value of energy savings to the ratepayers of the utility system over the expected life of the energy-efficiency resource (otherwise known as the avoided cost of energy). Costs include the cost of the Energy Trust incentive.

Commercial Property Assessed Clean Energy (CPACE): Started in Q3 2015, CPACE provides 100 percent of funding to commercial property owners that complete comprehensive energy-efficiency and renewable energy projects, with standard incentives from Energy Trust and long-term loans from the Portland Development Commission repaid through energy savings or electricity production.

Cost-effectiveness: The OPUC has a definition that refers to ORS 469.631 (4) stating that an energy resource, facility or conservation measure during its life cycle results in delivered power costs to the ultimate consumer no greater than the comparable incremental cost of the least-cost alternative new energy resource, facility or conservation measure. Cost comparison under this definition shall include but not be limited to: (a) cost escalations and future availability of fuels; (b) waste disposal and decommissioning cost; (c) transmission and distribution costs; (d) geographic, climatic and other differences in the state; and (e) environmental impact. ORS 757.612 (4) (SB 1149) exempts utilities from the requirements of ORS 469.631 to 469.645 when the public purpose charge is implemented.

By law, Oregon public purpose funds may be invested only in cost-effective energy-efficiency measures—that is, efficiency measures must cost less than acquiring the energy from conventional sources, unless exempted by the OPUC.

Demand response: A load management strategy, it is the reduction in electricity consumption by end-use customers from their normal pattern of consumption during times of peak energy use, when wholesale electricity prices are high and/or when system reliability is jeopardized. Customers are often compensated for participating in demand response programs.

Energy Saver Kit: Customers of PGE, Pacific Power, NW Natural and Cascade Natural Gas can order free Energy Saver Kits from Energy Trust's website, including energy-saving LEDs, showerheads and faucet aerators.

EPS™: Builders can receive cash incentives for new homes constructed to EPS energy performance requirements, indicating low energy consumption, utility costs and carbon footprint. The score helps homebuyers assess and compare the energy use and costs of similarly sized homes.

Irrigation modernization: A collaborative effort by Energy Trust and Farmers Conservation Alliance, irrigation modernization connects irrigation districts and farmers with tools to invest in modern irrigation infrastructure, saving water and energy, improving habitats for fish and generating clean energy through small-scale hydropower systems installed in pipes.

Levelized cost: The level of payment necessary each year to recover the total investment and interest payments (at a specified interest rate) over the life of a measure.

LivingWise kits: LivingWise kits and curriculum are delivered to sixth-grade students in Oregon schools. Energy Trust provides free LivingWise science curriculum to teachers, and offers energy-saving LEDs and showerheads for students to install in homes.

Market solutions: Tailored market solutions 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.

Market transformation: Lasting structural or behavioral change in the marketplace and/or changes to energy codes and equipment standards that increases the adoption of energy-efficient technologies and practices.

Megaproject: Large commercial or industrial projects receiving more than $500,000 in incentives for energy-efficiency upgrades are considered megaprojects. These projects are reviewed and approved by Energy Trust's Board of Directors.

Midstream incentive: Midstream incentives are provided to distributors and to retailers, with savings passed onto customers. Downstream incentives are provided directly to customers.

Path to Net Zero: The Path to Net Zero offering provides increased design, technical assistance, construction, and measurement and reporting incentives to new commercial construction projects that aim to exceed energy code by 40 percent through a combination of energy-efficiency and renewable energy features.

Pay for Performance: The Pay for Performance offering for commercial customers offers incentives for capital and operations and maintenance improvements over a multiyear period to help achieve additional energy savings for more comprehensive projects.

Program Management Contractor (PMC): Company contracted with to deliver and implement a program or major program track. PMCs keeps costs low for utility customers, draw from existing expertise and skills in the market, and allow Energy Trust to remain flexible and nimble as the market changes. PMC contracts are competitively selected, reviewed by a committee with internal staff and external representatives, and approved by the board. Contracts are rebid on a regular basis.

Program Delivery Contractor (PDC): Company contracted with to implement a specific program track. PDCs keeps costs low for utility customers, draw from existing expertise and skills in the market, and allow Energy Trust to remain flexible and nimble as the market changes. PDC contracts are competitively selected, reviewed by a committee with internal staff and external representatives, and approved by the board. Contracts are rebid on a regular basis.

Project development assistance: Incentives and support for early-stage development of Other Renewables projects, project development assistance helps build a pipeline of future renewable energy projects.

Retrocommissioning: A systematic process for identifying less-than-optimal performance in commercial equipment, lighting and control systems and improving the energy efficiency of these existing systems.

Savings Within Reach: Owners of single-family or manufactured homes who meet moderate-income qualifications can receive enhanced Savings Within Reach incentives for qualifying projects.

Strategic Energy Management: Energy Trust helps industrial and commercial customers reduce energy use and save money through behavioral and low-cost operations and maintenance improvements.

Verifier: Trade ally verifiers provide technical guidance and inspection to home builders, ensuring that homes rated with EPS save energy through energy-efficient windows, HVAC, appliances and weatherization.

APPENDIX 2: Customer satisfaction results

Q2 2016 customer satisfaction results delayed

Energy Trust reports annually on the OPUC's customer satisfaction performance measure, which states a minimum threshold of 85 percent of customers are satisfied overall and with program representatives. In addition, Energy Trust provides quarterly customer satisfaction results following surveys and analysis of customer feedback from participants in the previous quarter. The Q3 2016 report's survey responses from customers served in Q2 2016 are delayed due to employee family leave and other unexpected staffing transitions and are not included in this report. **Energy Trust will amend and resubmit the Q3 2016 Report with Q2 2016 customer satisfaction results when they are available.**

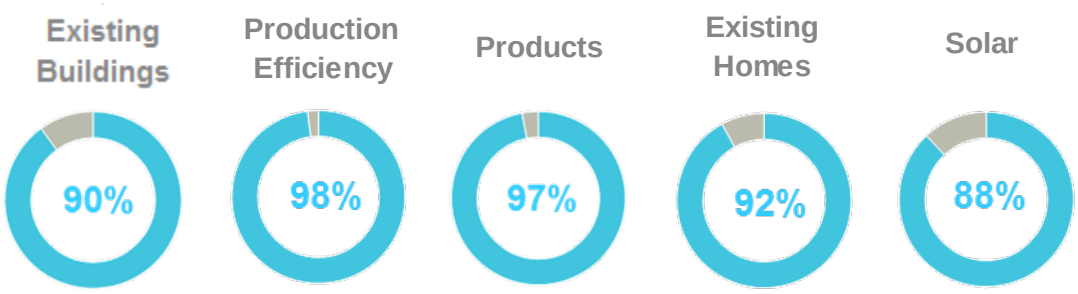
Energy Trust will resume the regular schedule by the end of 2016, and customer satisfaction results for the full 2016 year will be included in the 2016 Annual Report as usual. For reference, the most recent customer satisfaction results from Q1 2016 are below.

Customer satisfaction results for Q1 2016

From August 2016 through the end of October 2016, Energy Trust delivered a short telephone survey to 694 randomly selected Oregon participants in five programs who completed projects between January and March 2016. Below are results from Fast Feedback surveys of these customers. The survey asked participants about overall satisfaction with Energy Trust. Satisfaction rates for Q1 2016 remained consistent with past quarters, although overall satisfaction for participants in the Solar program was slightly lower relative to prior quarters.

Participants in Existing Buildings, including Existing Multifamily, and Production Efficiency were surveyed about satisfaction with program representatives. In Q1 2016, 96 percent of Existing Buildings customers and 100 percent of Production Efficiency customers were satisfied with program representatives. Commercial solar customers were also surveyed about satisfaction with program representatives. In Q1 2016, six commercial solar customers were surveyed; five of the six were satisfied with their interactions with program representatives and one customer responded that the question was "not applicable."

Percent of customers satisfied overall for Q1 2016[14]



[14] Respondent counts for Q1 2016 customer satisfaction surveys were as follows: Existing Buildings, including Existing Multifamily: 78; Production Efficiency: 49; Products: 117; Existing Homes: 394; Solar: 52.

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 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.

APPENDIX 3: OPUC 2016 performance measures and 2015 benefit/cost ratios

1. 2016 OPUC performance measures

Following are the 2016 performance measures established by the OPUC for Energy Trust. Comparison of 2016 performance against these measures will be reported in the 2016 Annual Report.

Category	Measure
Electric efficiency	PGE: • Save at least 28.6 aMW • Levelized cost not to exceed 3.4 cents/kWh Pacific Power: • Save at least 18.2 aMW • Levelized cost not to exceed 3.5 cents/kWh
Natural gas efficiency	NW Natural: • Save at least 4.5 million annual therms • Levelized cost not to exceed 37 cents/therm Cascade Natural Gas: • Save at least 0.40 million annual therms • Levelized cost not to exceed 47 cents/therm
Renewable energy	• 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 • Obtain at least 1.6 aMW of installed generation of net-metered standard projects including solar and small wind • For non-solar custom projects, the three-year rolling average incentive is not to exceed $25/allocated MWh • For innovative and custom solar projects, report sources of funding for projects and the selection criteria
Financial integrity	• Receive an unmodified financial opinion from an independent auditor on annual financial statements
Administrative/ program support costs	• Keep below 8 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
Customer satisfaction	Demonstrate greater than 85 percent satisfaction rates for: • Interaction with program representatives • Overall satisfaction
Benefit/cost ratios	• Report both utility system and total resource perspective • Report significant mid-year changes as necessary in quarterly reports

2. 2015 benefit/cost ratios

The following benefit/cost ratios were calculated for and published in Energy Trust's 2015 Annual Report to the OPUC, which requires their publication as one element of its performance oversight. OPUC also requires Energy Trust to report significant mid-year changes in quarterly reports. Energy Trust has no significant changes to report at this time.

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

APPENDIX 4: Progress to 2015-2019 Strategic Plan goals; Cumulative and total annual results

Progress to 2015-2019 Strategic Plan goals

- **Energy Trust saved 34 percent of the Strategic Plan electric goal of 240 aMW** through Q3 2016.
- **Energy Trust saved 41 percent of the Strategic Plan gas goal of 24 million annual therms** through Q3 2016.
- **Energy Trust generated 59 percent of the Strategic Plan renewable generation goal of 10 aMW** through Q3 2016.

Cumulative and total annual results

- **Total annual savings of 576 aMW** have been realized since electric efficiency programs began in 2002, equivalent to powering approximately 446,500 Oregon homes. This total includes some savings from self-direct customers.
- **Total annual savings of 48.3 million annual therms** have been realized since gas efficiency programs began in 2003, equivalent to providing gas heat to approximately 95,300 Oregon homes.
- **Total annual renewable energy generation of 120.6 aMW** has been installed since 2002, equivalent to powering approximately 93,500 Oregon homes.

APPENDIX 5: Q3 2016 report on activities for NW Natural in Washington

This quarterly report covers the period July 1 through September 30, 2016, and addresses progress toward 2016 goals for the NW Natural energy-efficiency program in Washington. It includes information on expenditures, gas savings, projects completed and incentives paid during the quarter and year to date.

I. PROGRAM SUMMARY

A. General

- **Gas efficiency measures installed in Q3 2016 by NW Natural's Washington customers saved 82,948 annual therms of natural gas**—including 4,729 annual therms in Existing Buildings, 20,049 annual therms in Existing Homes and 58,170 annual therms in New Homes.
- **Q3 2016 savings were approximately 32 percent of the 2016 annual performance metric** of 263,184 annual therms in NW Natural's 2016 Energy Efficiency Plan submitted to the Washington Utilities and Transportation Commission.[15]
- **Energy Trust expects to meet 2016 goals**, with a strong pipeline of new EPS™ homes expected to complete by year-end.
- **Energy Trust's portfolio of programs and savings strategies is a strength** that helps make progress to overall goals and adjust to variable market conditions. In Q3, achievements in the residential sector balanced challenges in the commercial sector. Existing Buildings is expected to fall short of its annual goal due to large custom projects shifting to 2017 and low natural gas costs that made it more challenging to attract and complete custom and standard projects.
- **Savings achieved in Q3 2016 were nearly twice as high as Q3 2015 savings**, due to strong performance from the residential sector—mainly efficient furnaces and fireplaces installed in Existing Homes and a significant increase in newly built EPS™ homes.

B. Commercial sector highlights

Existing Buildings

- **Existing Buildings saved 4,729 annual therms in Q3,** primarily through standard foodservice equipment such as gas fryers and gas combination ovens.
- **Existing Buildings expects to fall short of its year-end goal**, due to completion of custom projects shifting to 2017 and fewer standard upgrades than expected. With a small portfolio of commercial projects in Washington, delay of a few large custom Existing Buildings projects can have a big influence on savings.
- **Low natural gas costs made it more challenging to attract and complete custom and standard projects**. Although Existing Buildings increased incentive levels for custom projects and some standard offerings in Q1 2016, market uptake is slower than expected.

[15] Energy Trust's 2016 board-approved budgeted goal for NW Natural territory in Washington differs slightly due to timing. Q3 2016 savings were approximately 31 percent of Energy Trust's 2016 budgeted goal of 265,079 annual therms.

- **Custom studies underway in 2016 are expected to contribute to the pipeline of projects in 2017**. Three studies completed through Q3 and a half dozen more are expected by year-end, resulting from outreach and promotion of studies by Allied Technical Assistance Contractors.
- **Fewer customers upgraded foodservice equipment in Q3, following the end of a bonus offered in Q2**. The bonus was successful in increasing the number of standard upgrades completed through Q2.
- **Existing Buildings launched a new offering to replace failed steam traps at dry cleaners** and laundry facilities, although market uptake has been slow. Under the new offering, the program will pay to replace failed steam traps at no cost to the customer.
- **To help reach year-end goals, Existing Buildings launched a marketing campaign focused on standard measures** and hired a new account manager to promote standard offerings that can complete in 2016.
- **The program developed new measures to launch in 2017**, including g-force washers that use less water and also remove more water from clothes to facilitate efficient drying, and moisture-sensing dryers that turn off when adequate dryness is sensed.

C. Residential sector highlights

- **The residential sector saved 78,219 annual therms in Q3**, primarily through gas furnaces, gas fireplaces and EPS homes.

Existing Homes

- **Existing Homes saved 20,049 annual therms in Q3**, primarily through installation of gas furnaces and fireplaces.
- **Existing Homes promoted its on-bill financing repayment offering to trade allies.** Financing with on-bill repayment reduces upfront costs as a barrier to installing energy-efficient upgrades.
- **Existing Homes collaborated with NW Natural's new outreach and community manager to recruit new NW Natural preferred contractors** that can provide Energy Trust offerings and a high quality of customer service.
- **Due to strong performance through Q2, Existing Homes did not launch a gas furnace bonus** that had been planned for Q3.

New Homes and Products

- **New Homes and Products saved 58,170 annual therms in Q3.** EPS homes remain the core source of savings, representing 62 percent of the total Washington residential portfolio of savings.
- **New Homes and Products discontinued its ENERGY STAR® offering for new homes and completed transition to an EPS offering**. The successful transition from a flat incentive for home certification to the performance-based EPS rating gives builders a greater variety of energy-efficiency measures to build into their homes. EPS is an energy performance score that helps homebuyers understand and compare the energy efficiency of newly built homes.
- **The program engaged a strong new construction market to recognize 360 EPS homes** through Q3, already exceeding the program's annual goal of 300 EPS homes. More than 600 EPS homes are expected by year-end.
- **The program started working with a new high-volume builder** to build EPS homes in Washington.
- **Through Q3, customers purchased more than 900 efficient showerheads** at stores in southwest Washington.
- **The program began using permit data to target outreach and marketing** to potential new builders.

D. Washington Utilities and Transportation Commission performance metrics

The table below compares quarterly results to 2016 goals, as established in NW Natural's Energy Efficiency Plan for Washington (filed December 2015).

Metrics	Goal	2016 YTD	Q1 results	Q2 results	Q3 results	Q4 results
Therms Saved	223,706 - 263,184	155,370	24,195	48,227	82,948	
Total Program Costs	$1,441,218 - $1,695,551	$1,059,189	$261,402	$331,106	$466,681	
Average Levelized Cost Per Measure	Less than $0.65	$0.44	$0.73	$0.49	$0.34	
Dollars Spent Per Therm Saved	Less than $6.50	$6.82	$10.86	$6.87	$5.63	
Utility Costs at Portfolio Level	Greater than 1.0	Reported annually	Reported annually	Reported annually	Reported annually	Reported annually

- **This table does not include savings goal or budget** associated with NW Natural's Washington Low-Income Energy Efficiency program delivery.
- **Energy Trust allocated budget to NEEA for gas market transformation activities,** which is not included in this table.

2015 Utility Cost and Total Resource Cost benefit/cost ratios by program

Program	Utility Cost Test benefit/cost ratio	Total Resource Cost Test benefit/cost ratio
Existing Buildings	1.5	1.5
Existing Homes	0.8	1.0
New Homes and Products	0.9	1.8
Total NW Natural Washington portfolio	**1.1**	**1.5**

2015 Total Utility Cost and Total Resource Cost benefit/cost ratios

Program	Utility Cost Test benefit/cost ratio	Total Resource Cost Test benefit/cost ratio
NW Natural Washington Portfolio	1.1	1.5
NW Natural Washington Low Income	0.7	0.5
Total	**1.1**	**1.4**

II. QUARTERLY RESULTS

A. Expenditures

		Actual expenditures Q3	Budgeted expenditures Q3	Variance
Commercial programs	Existing Buildings	$ 92,814	$ 158,413	$ 65,599
	NEEA commercial	$ 4,495	$ 7,335	$ 2,841
	Commercial total	**$ 97,309**	**$ 165,749**	**$ 68,440**
Residential programs	Existing Homes	$ 78,098	$ 107,482	$ 29,384
	New Homes and Products	$ 278,618	$ 102,699	$ (175,918)
	NEEA residential	$ 17,082	$ 15,337	$ (1,745)
	Residential total	**$ 373,798**	**$ 225,518**	**$ (148,280)**
Administration	**Administration total**	**$ 17,956**	**$ 15,370**	**$ (2,586)**
	Total expenditures	**$ 489,063**	**$ 406,637**	**$ (82,426)**

Energy Trust allocated budget to NEEA for gas market transformation activities in 2016.

B. Incentives paid

		Q3 actual incentives
Commercial programs	Existing Buildings	$ 8,605
	Commercial total	**$ 8,605**
Residential programs	Existing Homes	$ 34,377
	New Homes and Products	$ 213,627
	Residential total	**$ 248,004**
	Total incentives	**$ 256,609**

C. Savings

		Therms saved Q3	Annual goal	Percent achieved Q3	$/therm	Levelized cost/therm
Commercial programs	Existing Buildings	4,729	151,056	3%	$ 19.63	$ 2.13
	Commercial total	**4,729**	**151,056**	**3%**	**$ 19.63**	**$ 2.13**
Residential programs	Existing Homes	20,049	55,054	36%	$ 3.90	$ 0.22
	New Homes and Products	58,170	57,074	102%	$ 4.79	$ 0.29
	Residential total	**78,219**	**112,128**	**70%**	**$ 4.56**	**$ 0.27**
	Total savings	**82,948**	**263,184**	**32%**	**$ 5.63**	**$ 0.34**

Energy trust allocated budget to NEEA for gas market transformation activities in 2016. While there were no associated savings in Q3, savings are expected in subsequent years.

III YEAR-TO-DATE RESULTS

A. Activity highlights—sites served

	Q1	Q2	Q3	Q4	Total
Existing Commercial					
Condensing Tank Water Heater	-	1	-		**1**
Gas Convection Oven	-	2	1		**3**
Gas Combination Oven	1	-	-		**1**
Gas Fryer	4	12	5		**21**
High Efficiency Condensing Unit Heater	-	-	1		**1**
Studies	2	1	-		**3**
Existing Homes					
Weatherization (insulation, air and duct sealing and windows)	29	36	37		**102**
Gas hearths	22	18	14		**54**
Energy Saver Kits	8	23	10		**41**
LivingWise Kits distributed through schools	-	360	-		**360**
Smart thermostats	19	29	46		**94**
Gas furnaces	61	74	66		**201**
Water heaters	5	3	8		**16**
Online Home Energy Reviews	22	19	18		**59**
New Homes and Products					
ENERGY STAR home certification	97	58	76		**231**
Clothes washers	-	10	-		**10**
New EPS homes	-	67	293		**360**

B. Revenue

Source	Actual revenue YTD	Budgeted revenue YTD
NW Natural	$ 1,537,679	$ 1,741,236

C. Expenditures

		Actual expenditures YTD	Budgeted expenditures YTD	Variance
Commercial programs	Existing Buildings	$ 253,192	$ 457,294	$ 204,102
	NEEA commercial	$ 15,735	$ 19,157	$ 3,421
	Commercial total	**$ 268,928**	**$ 476,451**	**$ 207,523**
Residential programs	Existing Homes	$ 257,010	$ 314,474	$ 57,464
	New Homes and Products	$ 508,785	$ 281,627	$ (227,159)
	NEEA residential	$ 50,941	$ 43,131	$ (7,810)
	Residential total	**$ 816,737**	**$ 639,232**	**$ (177,505)**
Administration	**Administration total**	**$ 42,831**	**$ 45,634**	**$ 2,803**
	Total expenditures	**$ 1,128,496**	**$ 1,161,316**	**$ 32,820**

Energy Trust allocated budget to NEEA for gas market transformation activities in 2016.

D. Incentives paid

		Annual actual incentives	
Commercial programs	Existing Buildings	$	43,484
	Commercial total	**$**	**43,484**
Residential programs	Existing Homes	$	117,156
	New Homes and Products	$	333,763
	Residential total	**$**	**450,919**
	Total incentives	**$**	**494,403**

- **Incentives paid account for approximately 51.5 percent of year-to-date program expenses,** 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

		Therms saved YTD	Annual goal	Percent achieved YTD	$/therm	Levelized cost/therm
Commercial programs	Existing Buildings	18,206	151,056	12%	$ 13.91	$ 1.51
	Commercial total	**18,206**	**151,056**	**12%**	**$ 13.91**	**$ 1.51**
Residential programs	Existing Homes	44,865	55,054	81%	$ 5.73	$ 0.36
	New Homes and Products	92,299	57,074	162%	$ 5.51	$ 0.34
	Residential total	**137,164**	**112,128**	**122%**	**$ 5.58**	**$ 0.34**
	Total savings	**155,370**	**263,184**	**59%**	**$ 6.83**	**$ 0.44**

Energy Trust allocated budget to NEEA for gas market transformation activities in 2016. While there were no associated savings to date, savings are expected in subsequent years.

F. Program evaluations

- **In Q3, Energy Trust continued to work on a process evaluation** expected to complete by year-end. The evaluation will feature residential programs in Washington, including installation rates of energy-saving showerheads and faucet aerators and the associated customer experience.