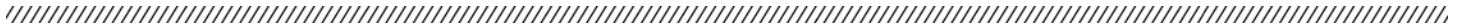


# Quarter Two 2016 Annual Report to the Oregon Public Utility Commission & Energy Trust Board of Directors



**ENERGY TRUST OF OREGON**

**AUGUST 15, 2016**

This report covers activity between April 1 and June 30, 2016

**UPDATED NOVEMBER 18, 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 and Cascade Natural Gas 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 for years to come.

### **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.

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# I Results at a glance<sup>1</sup>

## Savings

■ = Q1 savings    ▨ = Q2 savings

### ⚡ Total electric savings



### 🔥 Total natural gas savings



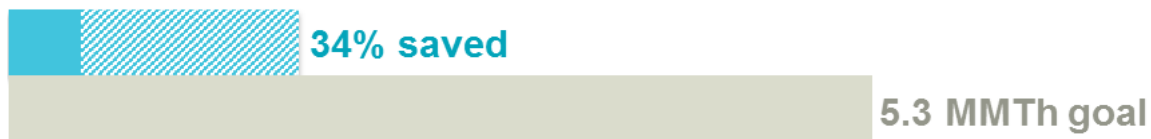
### ⚡ PGE



### ⚡ Pacific Power



### 🔥 NW Natural



### 🔥 Cascade Natural Gas



<sup>1</sup> This document reports net savings, which are adjusted gross savings based on results of current and past evaluations.  
NOTE: aMW indicates average megawatts and MMTh indicates million annual therms

### Generation

■ =Q1 generation    ▨ =Q2 generation

#### ☛ Total renewable generation



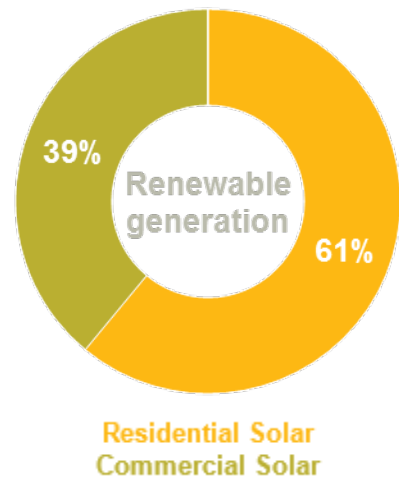
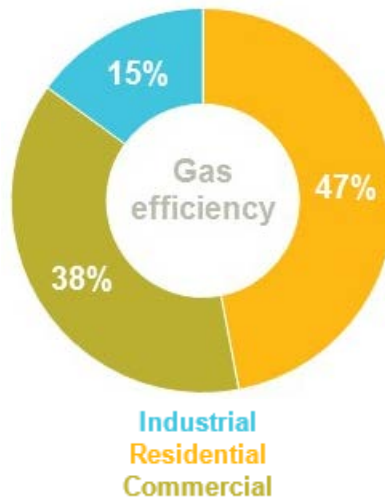
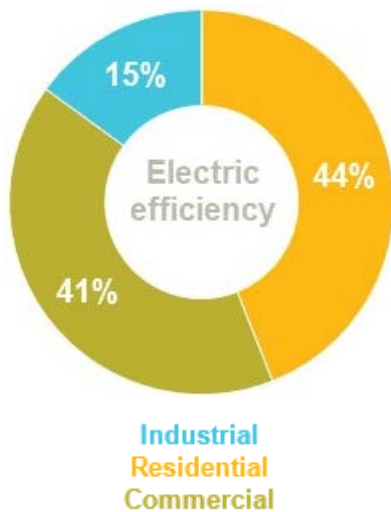
#### ☛ PGE



#### ☛ Pacific Power



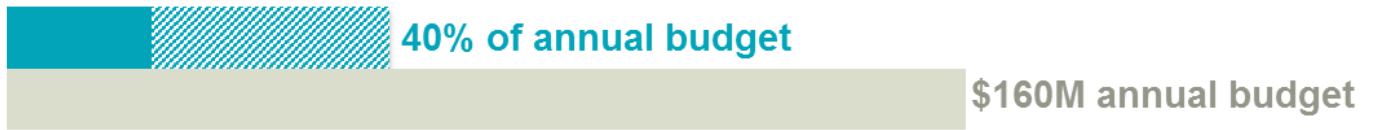
### Percent of Q2 savings and generation by sector



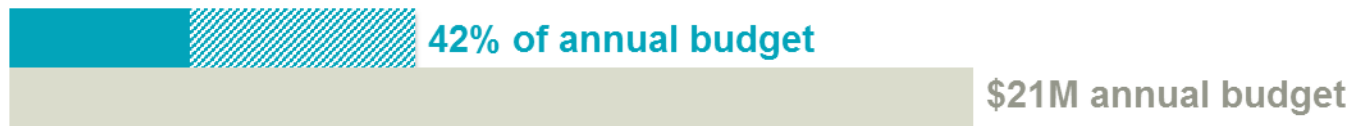
### Expenditures

■ = Q1 expenditures    ▨ = Q2 expenditures

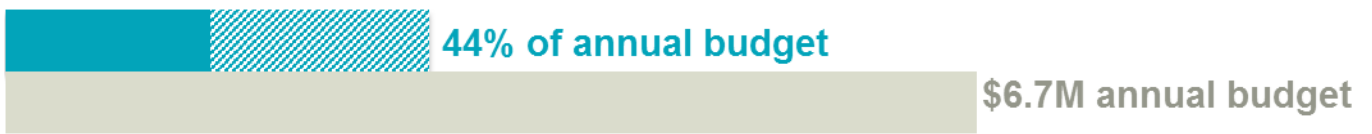
#### \$ Energy efficiency



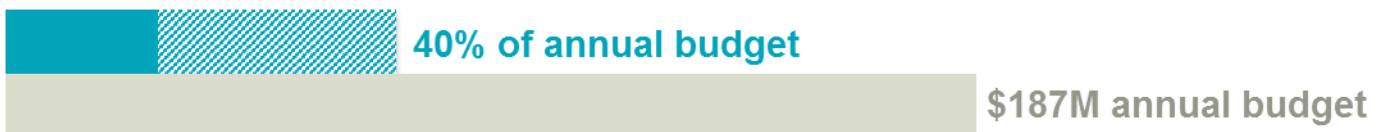
#### \$ Renewable energy



#### \$ Administrative



#### \$ Total



## II Executive summary

- **Progress to energy efficiency and renewable generation goals<sup>2,3</sup>**
  - **At the close of quarter two, Energy Trust is on track to meet or exceed savings** goals in all utility territories in 2016. Achievement of annual generation goals is uncertain due to the delay of several large custom solar projects.
  - **Savings are typically lower in the first half of the year** as more studies and assessments are completed compared to the second half of the year when more projects close. This report focuses on the development of those potential projects expected to save or generate energy and contribute to organizational goals by year-end.
  - **Electric efficiency improvements completed during Q2 will save 13 average megawatts** of electricity, about 24 percent of the 2016 goal of 55.1 aMW. Q2 2016 electric savings were approximately 12 percent greater than savings in Q2 2015.
  - **Gas efficiency improvements completed during Q2 will save 1.4 million annual therms** of natural gas<sup>4</sup>, about 25 percent of the 2016 goal of 5.7 million annual therms. Q2 2016 gas savings were approximately 50 percent greater than savings in Q2 2015, largely due to stronger early-year gas savings from commercial and industrial projects, and increased commercial incentives.
  - **Renewable energy systems installed during Q2** will generate 0.5 aMW of electricity, 12 percent of the 2016 goal of 4.13 aMW.
  - **Savings and generation achieved in Q2 2016 represent about 63,000 tons of carbon dioxide** kept out of the atmosphere, the equivalent of removing about 11,000 cars from Oregon roads for one year.
- **Market and program trends**
  - **Energy Trust helped make housing more energy efficient for Oregon's growing population** by engaging new and existing multifamily properties. Savings from new multifamily construction has increased steadily in the past five years, and now contribute more New Buildings electric and gas savings than any other market sector. Despite historically low vacancy rates, Energy Trust served existing multifamily properties with fast upgrades with minimal inconvenience to tenants, such as common-area lighting upgrades and in-unit installation of efficient lighting and showerheads.
  - **Energy Trust completed the 10,000th EPS™ home by engaging residential builders around the state, especially in Central and Southern Oregon.** Two new verifiers began serving Coos Bay and Rogue Valley areas, with recruitment underway for a third verifier in Eastern Oregon. Trade ally verifiers provide technical guidance and inspection to builders, ensuring that new homes rated with EPS save energy through energy-efficient windows, HVAC, appliances and weatherization.
  - **More gas-only and dual-fuel commercial projects were completed this quarter** compared to Q2 2015 due to an increase in incentives implemented in late 2015 and carried into 2016.
  - **Energy Trust completed its first efficient lighting upgrade at an industrial facility growing cannabis** for recreational use. To develop a holistic approach to energy-efficient cannabis production,

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<sup>2</sup> This document reports net savings, which are adjusted gross savings based on results of current and past evaluations.

<sup>3</sup> 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](http://www.energytrust.org/reports).

<sup>4</sup> Gas savings do not include NW Natural results in Washington. These results are reported in Appendix 4.

Energy Trust initiated several studies on custom HVAC upgrades at recreational cannabis production facilities. To date, 14 medical marijuana grow facilities participated with efficiency upgrades.

- **With a record 289 incentive applications in the month of June**, Energy Trust supported continued growth in demand for solar installations, especially for residential customers.
- **The Clean Energy States Alliance 2016 State Leadership in Clean Energy Award was presented to Energy Trust.** The national award recognizes the coordinated and comprehensive approach developed by Energy Trust and Farmers Conservation Alliance to help irrigation districts and the farmers they serve develop modern irrigation systems that can generate hydropower and save billions of gallons of water annually.
- **Energy Trust engaged new residential, commercial and industrial customers** by adding new program outreach staff in Bend, Pendleton and Eugene; providing efficient products through new engagements with food banks and water districts in Newberg, Tangent, Astoria, Warrenton, Brownsville, McMinnville, Redmond, Monmouth, Dallas and Lafayette; and selling discounted products through new rural engagements in Enterprise, Molalla, Sweet Home and Philomath.

## • Notable achievements

- **Staff prepared to begin delivering services to Avista's Oregon customers on a limited basis in Q3 2016**, following the OPUC's determination that administration and delivery of gas efficiency services will be transferred to Energy Trust. In Q3, Energy Trust will serve residential customers with discounted showerheads available in stores, and will serve commercial customers with early design assistance for new commercial buildings. In addition, incentives will be 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.
- **The board of directors appointed a new executive director to begin in Q3**, Michael Colgrove from the New York State Research and Development Authority. The appointment followed a rigorous five-month national search for candidates informed by stakeholders, including the OPUC, utilities and Energy Trust advisory councils.
- **Staff provided information to Energy Trust's board of directors at an annual strategic planning retreat**, including progress to 2015-2019 Strategic Plan goals. Staff also shared potential opportunities to serve customers with more educational information on energy efficiency and renewable energy, explore demand response programs and reassess residential programs in response to anticipated cost and savings constraints.
- **Energy Trust began evaluating opportunities to improve the incentive processing system**, the fourth core administrative area Energy Trust identified for process improvement in response to the 2014 Management Review. The other three process improvement focus areas are project tracking processes using IT systems, the internal procurement and payment process and customer services by phone. Staff will continue to track and report process improvements and efficiency benefits throughout 2016.
- **Energy Trust released a request for proposals for management of the Existing Buildings program and a request for qualifications** for delivery of the Production Efficiency program's streamlined tracks, following best practice to periodically bid out contracts to ensure effective service delivery and value for utility customers. Responses will be reviewed and recommendations made to the board in Q3.



## • Revenue and expenditure results

- **Overall public purpose revenue plus incremental electric revenue from SB 838 totaled \$34.3 million for Q2 2016**, on par with what was budgeted. Typically, actual revenues vary by a few percentage points.
- **Q2 expenditures totaled \$45.8 million**, of which \$27 million or 59 percent was for incentives, compared to \$23.1 million and 57 percent respectively in Q2 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.
- **Q2 electric efficiency expenditures** were 13 percent over budget.
- **Q2 gas efficiency expenditures** were less than 1 percent below budget.
- **Q2 renewable energy expenditures** were 11 percent below budget.

## • Energy Trust sites served by region in Q2<sup>5</sup>

	Commercial	Industrial	Residential	Renewables	Total
Central Oregon	144	33	1,505	30	1,712
Eastern Oregon	11	7	139	13	170
North Coast	51	7	230	7	295
Portland Metro & Hood River	1,311	160	16,183	269	17,923
Southern Oregon	148	72	1,925	51	2,196
Willamette Valley	335	95	4,322	87	4,839
<b>Total</b>	<b>2,000</b>	<b>374</b>	<b>24,304</b>	<b>457</b>	<b>27,135</b>

<sup>5</sup> Total sites served may include sites that participated in more than one sector.

## III Program and operations activity<sup>6</sup>

### A. Commercial sector highlights

- **The commercial sector performed in line with expectations** with strong performance across the New Buildings and Existing Buildings programs.
- **Savings from Energy Trust investment in NEEA activities comprised approximately 3 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 building commissioning, a process for ensuring that a building's systems function according to their design.

### 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; standardized prescriptive incentives; lighting incentives; and a Strategic Energy Management offering to help commercial customers reduce energy use through behavioral and operations improvements.*

- **Lighting remained the largest source of electric savings, led by LEDs in lamps and fixtures**, followed by custom and prescriptive projects.
- **Bolstered by a bonus launched in Q1, foodservice equipment upgrades contributed the majority of gas savings** followed by custom projects like large boiler projects. Gas savings were also supported by the increase in gas incentives implemented in late 2015 and carried into 2016.
- **Driven by state bond funding, 28 new school districts engaged** in energy-efficiency projects that are expected to complete in 2016 or 2017.
- **Exceeding expectations, more than 50 customers applied for Energy Trust's retro-commissioning offering**, a process of analyzing and improving efficiency of all equipment in a building or campus, including HVAC, lighting and building automation systems.
- **Staff identified projects eligible for Commercial Property Assessed Clean Energy (CPACE) financing** in Multnomah County, and will help these customers initiate energy-efficiency upgrades. Started in Q3 2015, the two-year CPACE pilot provides 100 percent of funding to commercial property owners in Multnomah County who complete comprehensive energy-efficiency and renewable energy projects, with long-term loans from the Portland Development Commission to be repaid through energy savings or electricity production.
- **The program enrolled two Southern Oregon customers and one Portland customer in commercial Strategic Energy Management**, following successful Q1 recruitment efforts.
- **Staff developed tools to facilitate efficient delivery of commercial SEM**, including operations and maintenance modeling guidelines, a performance tracking tool and diagnostic tools to help customers identify and implement the most effective efficiency improvements.

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<sup>6</sup> Tables summarizing Q2 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.

## 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 provides custom incentives for capital improvements and offers free in-unit installation of LEDs, showerheads, faucet aerators and advanced power strips; lighting upgrades for common areas; prescriptive incentives for water heaters, HVAC equipment, weatherization, appliances and foodservice equipment; and incentives paid to distributors to reduce costs of efficient lighting and equipment for customers.*

- **Similar to recent quarters, 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 prescriptive upgrades.
- **With Oregon's growing population and historically low multifamily vacancy rates**, property managers have less motivation to invest in large capital improvements to attract and maintain tenants and instead select fast and easy projects with minimal disruption to tenants.
- **To help meet annual savings goals, Existing Multifamily will increase promotion for installation of energy-saving products** in units in Pacific Power and NW Natural territories, as well as common-area lighting projects in Pacific Power territory and steam traps, custom projects and prescriptive projects in NW Natural territory.
- **At the Oregon Affordable Housing Management Association trade show**, staff engaged with some of the 300 affordable housing property managers in attendance.

## 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.*

- **A data center and several multifamily, warehouse, grocery and retail projects contributed electric savings** in Q2. Several data center projects are expected to contribute additional electric savings by year-end. Staff will monitor progress of these large projects, as delays can have a significant impact on achievement of annual goals.
- **Gas savings consisted of large and small multifamily buildings and restaurants.**
- **More than one-half of new projects were located outside of the Portland Metro area**, up from 45-50 percent of enrollments last year. A new outreach manager in Bend enrolled 11 Eastern Oregon projects, far exceeding the three Eastern Oregon projects enrolled last year at this time. Staff expect to see more enrollments in these regions into the future based on the additional outreach, relationship building and close assessments of economic factors influencing construction activity unique to these rural areas.
- **Savings from new multifamily construction have increased steadily in the past five years** as Oregon's population grew, and the new construction market sector now contributes more electric and gas savings than any other sector.
- **In 2016, Energy Trust enrolled seven new affordable housing projects.** In Q2, the City of Portland consulted with Energy Trust and began requesting that affordable housing projects participate in Energy Trust's market solutions offering for multifamily buildings.

- **Since inception of the Path to Net Zero offering in 2014, 38 projects have enrolled** with nine expected to complete by year-end. Path to Net Zero offers early design assistance, technical support and cash incentives for projects that set targets to exceed code by 40 percent.
- **On target with expectations, Energy Trust supported eight solar feasibility studies for new construction projects through Q2**, with nine more expected by year-end. Customers that complete solar feasibility studies can apply for solar-ready design incentives, and one customer submitted a solar-ready incentive application for a warehouse expansion project.
- **Staff connected with 115 industry professionals in Bend, Jacksonville and Portland** at three Allies for Efficiency trainings, including the first two Regional Allies for Efficiency trainings. In addition, New Buildings held two Allies for Efficiency 2.0 trainings in Portland and two Building Energy Simulation forums hosted in Portland with remote access around the state—connecting with an additional 160 allies and industry professionals.

## B. Industry and agriculture sector highlights

- **The industry and agriculture sector performed slightly behind expectations**, impacted by the declining average size of projects. For example, in the first half of 2016, the average electric project saved 22 percent less electricity than the average project in the first half of 2015.
- **To help achieve goals by year-end, the program will monitor progress of large projects** to ensure timely completion and engage new projects that can be completed quickly, such as custom operations and maintenance, lighting and streamlined projects.
- **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, streamlined 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 provided the largest share of electric savings through Q2**, with the remainder from lighting and streamlined projects, primarily compressed air and refrigeration equipment. Streamlined projects are trade ally-delivered projects at small and large industrial sites. Additional electric savings from completion of industrial Strategic Energy Management projects are expected in Q4.
- **Through Q2, the majority of gas savings were from custom projects**, with additional savings from an industrial SEM participant and streamlined track projects, primarily insulation.
- **Energy Trust provided customers with information on the benefits of lighting upgrades, and the majority of customers retrofitting their lighting systems selected LED technology.** The program continues to focus on providing lighting expertise to industrial customers as many still have older lighting systems.
- **The board approved a very large project in Lakeview to capture waste heat to power a steam turbine generator**, with power to offset a portion of the site's electricity use. Incentive payments will be paid over three years based on annual project measurement and verification, likely from 2018 through 2020.

- **Energy Trust completed its first efficient lighting upgrade at a facility growing cannabis** for recreational use, and 15 other projects are in the pipeline for completion this year and next. To develop a holistic approach to energy-efficient cannabis production, Production Efficiency initiated several studies on custom HVAC upgrades at recreational cannabis production facilities.
- **Production Efficiency launched a new industrial SEM cohort in Roseburg** with nine participants expected to recognize savings in 2017.
- **The program increased outreach to Central Oregon, Eastern Oregon and Willamette Valley** customers by adding new outreach staff located in Bend, Pendleton and Eugene.

## C. Residential sector highlights

- **The residential sector exceeded expectations**, with strong performance across Existing Homes, New Homes and Products programs.
- **Staff began assessing the residential sector structure to reduce costs, attract new participants and identify new energy-saving strategies** in the face of continued decline of natural gas costs, tighter codes and standards, and less opportunity for savings from measures that have been rapidly adopted, such as LEDs. The assessment will identify current challenges, identify alternate program approaches and develop recommendations to address those challenges. It is expected recommendations would be fully developed in 2017 and implemented in 2018.
- **Launched in Q1, a midstream incentive for intermittent ignition gas fireplaces resulted in strong savings**, with costs and savings shared across Existing Homes and New Homes programs. Midstream incentives are provided to distributors and retailers, with savings passed onto customers.
- **Energy Trust continued coordination with PGE on demand response efforts** to reduce energy use during peak periods, including incorporating efficiency analysis into PGE's Time of Use Pilot. Energy Trust also supported enrollment of customers with Nest thermostats in PGE's Rush Hour Rewards program, and collaborated with PGE to ensure there were no customer enrollment conflicts between the utility's program and Energy Trust's Seasonal Savings pilot. Energy Trust offers incentives for installing qualifying smart thermostats, which can reduce energy use during periods of peak demand by cycling off forced air furnaces, air conditioners and heat pumps.
- **Savings from NEEA activities comprised approximately 12 percent and 15 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. New ductless heat pump and heat pump water heater initiatives are also expected to deliver savings in 2016.

## 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 and cash incentives for heating and water heating equipment, smart thermostats, insulation, windows and LEDs, and showerheads and faucet aerators delivered through kits. Enhanced Savings Within Reach incentives are available for moderate-income residents.*

- **LEDs, showerheads and faucet aerators offered through kits** provided the majority of electric savings, followed by heat pumps and ductless heat pumps.
- **Gas savings consisted of showerheads and faucet aerators provided through kits**, gas fireplaces, gas furnaces and smart thermostats.

- **More renters and moderate-income customers benefited from efficient gas furnaces**, following promotion and outreach to trade allies for an incentive for gas furnaces in single-family rental homes and the introduction of an on-bill financing offer for moderate-income Savings Within Reach customers.
- **Staff collaborated with the Southern Oregon Coquille Indian Tribe** to help members benefit from energy-efficient home improvements.

## 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 contributed nearly all electric savings and one-third of gas savings** in Q2. Builders can receive cash incentives for new homes constructed to EPS requirements, indicating low energy consumption, utility costs and carbon footprint.
- **Market transformation efforts provided two-thirds of gas savings.** Market transformation includes Energy Trust's impact on state building codes, influencing builders and benefiting customers who do not work directly with Energy Trust.
- **Individual equipment installations contributed the remainder of electric and gas savings.**
- **Energy Trust completed the 10,000th EPS home by engaging residential builders around the state, especially in Central and Southern Oregon.** New home construction markets were strongest in the Portland Metro and Bend areas.
- **Two new verifiers began serving Coos Bay and Rogue Valley communities**, with recruitment underway for a third verifier in Eastern Oregon. 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.
- **The program provided Spanish language technical trainings** for two trade ally subcontractor crews, as part of an ongoing strategy to engage diverse trade allies.

## 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 manufactured homes.*

- **Consumer lighting purchases made up 90 percent of electric savings, largely from LEDs.** Refrigerator, freezer and clothes washer recycling, consumer showerhead purchases, lighting and showerheads delivered through kits, new manufactured homes, new appliance purchases and smart thermostats contributed the remainder.
- **ENERGY STAR LED sales exceeded expectations due to Energy Trust incentives and education** resulting in competitive prices, increased availability and consumer acceptance that ENERGY STAR LEDs offer greater value and performance to lower-cost, non-ENERGY STAR bulbs.
- **In Q3, lower-cost and shorter-lasting LEDs will be certified by ENERGY STAR** and Energy Trust will begin supporting them with incentives.
- **Consumer showerhead purchases contributed roughly one-half of gas savings**, followed by showerheads delivered through kits, smart thermostats, appliances, clothes washer recycling and new

manufactured homes. In Q2, Costco began offering discounted showerheads, which helps make up for The Home Depot electing not to participate in showerhead promotions beginning in Q1.

- **Energy Trust helped customers recycle more than 950 clothes washers** since the offering launched in Q1, far more than anticipated.
- **The program made it easy for new customers to purchase discounted LEDs and showerheads** at 36 pop-up retail events around the state, including at offices, college campuses and farmers markets in Medford, Bend, Redmond, Albany, Grants Pass, Eagle Point, Gold Hill and the Portland Metro area.
- **Outreach efforts resulted in new partnerships with 10 food banks and water districts** that serve customers outside major population centers, including in Newberg, Tangent, Astoria, Warrenton, Brownsville, McMinnville, Redmond, Monmouth, Dallas and Lafayette.
- **Energy Trust launched discounted lighting through new rural store engagements** in Enterprise, Molalla, Sweet Home and Philomath.
- **The program increased lighting and showerhead incentives at small retailers** to help Habitat for Humanity Restore, Goodwill and Grover stores remain competitive with large retailers, including in Prineville, Coos Bay, Rogue River, Sutherlin and White City.

## D. Renewable energy sector highlights

- **The renewable energy sector performed in line with expectations**, with continued growth in solar projects and a strong pipeline of Other Renewables projects. However, two custom solar projects may not complete in 2016, which would negatively impact the sector's achievement of goal.

### 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 reviews incentive levels regularly and gradually reduces them to manage budget and respond to decreases in solar costs.*

- **Two of four large custom solar projects are on track to complete this year.** It is uncertain whether the remaining two custom solar projects will complete as expected in 2016, which could negatively impact the sector's achievement of annual goals.
- **With a record 289 incentive applications in the month of June**, Energy Trust supported continued growth in demand for solar installations, especially for residential customers.
- **In response to demand and reductions in solar costs, Energy Trust reduced incentives** across all market segments during Q2.
- **Staff hosted financial management and marketing training for 42 trade ally contractors** prior to the Oregon Solar Energy Conference to help business owners reduce costs through more efficient operations.
- **The board of directors approved a \$1.25 million incentive for a 1.9-MW solar system** at the Rogue Valley International—Medford Airport. The project is expected to complete construction by 2018.
- **Staff attended the Rocky Mountain Institute's invitation-only Electric Innovation Lab Accelerator**, which convenes national thought leaders to address institutional, regulatory, business, economic and technical barriers to deployment of distributed resources in the U.S. electricity sector. Together with staff from PGE and the OPUC, Energy Trust began working on a pilot project to learn about utility and customer benefits of customer-sited energy storage systems and gain a greater understanding of the link between grid reliability and resilience.

- **Energy Trust implemented acceptance of electronic signatures on incentive applications** submitted through the application tracking system PowerClerk, saving staff time by reducing incomplete applications and saving contractors an estimated two hours of work per application—an estimated total of 660 hours saved for contractors during Q2.

## 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.*

- **Energy Trust committed project development assistance to 12 hydropower projects and one biopower project**, adding to the existing strong pipeline of more than 40 projects receiving project development assistance.
- **The program dedicated incentive funds for five 2.1-kilowatt wind turbines** in Independence and a 10-kW wind project in Coos Bay. All projects are expected to reach commercial operation by year-end.
- **Construction of a small hydropower project continued at a Wallowa County ranch**, expected to begin generating 80,000 kWh annually by year-end.
- **A second competitive solicitation for projects with installation incentives greater than \$200,000 closed** in Q2, with two applications under consideration. A third competitive solicitation will occur in Q4.
- **Energy Trust received a Clean Energy States Alliance 2016 State Leadership in Clean Energy Award.** The national award recognizes the coordinated and comprehensive approach developed by Energy Trust and Farmers Conservation Alliance to help irrigation districts and the farmers they serve develop modern irrigation systems that can generate hydropower and save billions of gallons of water annually.
- **Energy Trust supported a ribbon-cutting event for Clean Water Services' new 1.7-MW cogeneration system** that converts wastewater and food grease into renewable energy at its Durham Treatment Facility in Tigard. The event was attended by local, county and state officials as well as potential customers and resulted in several news stories.

## E. Highlights of internal operations

### Communications

- **Received 258,656 website visits in Q2 2016, a 23 percent increase** compared to the same period in 2015. There was a notable increase in visitors from areas outside the Portland Metro area, led by Bend, Medford, Boardman, Grants Pass, Roseburg and Klamath Falls.
- **Received 54 percent of all website visits from mobile devices, compared to 41 percent** at this time last year. A project is underway to redesign the website and optimize it for mobile devices, including phones and tablets.
- **Improved and relaunched website landing pages for two marketing campaigns** promoting Path to Net Zero and market solutions offerings for new business customers.
- **Distributed nine press releases in Q2**, featuring announcements of Energy Trust's new executive director, 2015 annual results, low-income senior housing in Prineville and Clean Water Services' new cogeneration system.



- **Garnered 95 news stories about Energy Trust programs and services** in print and broadcast with a media value of \$73,000—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.

## Customer service

- **Responded to 480 inquiries via info@energytrust.org, 15 percent more** than in Q2 2015.
- **Received 4,700 calls in Q2 2016, 23 percent fewer** than the calls received in Q2 2015. Customer calls continue to decrease as Energy Trust builds more online self-service content and tools and customers increasingly opt to use them.
- **Received and addressed one complaint, six fewer** than in Q2 2015.
- **Trained call center staff on gathering data from Energy Trust’s Interactive Voice Response System** launched in Q1, the automatic greeting and navigation instructions customers hear when they call Energy Trust’s main phone number. The new data will enhance future trend, call routing and complaint reports.
- **Identified metrics to monitor and identify opportunities to improve customer phone call experience** and call center operations, including total call time, total wait time, call volume, call abandon rate and call quality.

## Trade, program and lending allies

- **Provided ongoing support for trade allies through webinars and training opportunities**, individual meetings and regular communication through the monthly Insider e-newsletter. Energy Trust strategy relies increasingly on trade allies to communicate about and deliver Energy Trust offerings to customers.
- **Met with 30 trade allies at a trade ally forum in Coos Bay**, which was attended by city and county planners, tribal housing representatives and a state senator. The new format developed for this event can be used for additional trade ally events in rural areas.
- **Attended and identified 14 potential new trade allies** at the Oregon Association of Minority Entrepreneurs trade show.
- **Replaced the paper trade ally application process with an online trade ally application** to allow contractors to join the Trade Ally Network or enroll as a trade ally in an additional program. The online enrollment tool makes enrollment faster and easier for trade allies and reduces Energy Trust staff time to process applications by two hours per week on average.

## General outreach

- **Organized a ribbon-cutting event to promote a new assisted living facility for seniors in Prineville**, which enrolled in Energy Trust’s Path to Net Zero offering and installed a solar system.
- **Increased awareness about Energy Trust programs and services through presentations** to the League of Oregon Cities, Douglas County Smart Energy, Pendleton City Council, Umatilla County Climate Change event, Umpqua Basin Economic Alliance and Wallowa Resources.
- **Developed relationships with stakeholders by attending meetings and events**, including Pacific Power Roadshows, the Community Action Partnership of Oregon symposium, NEEA’s Energy Efficiency Exchange Conference and the Regards to Rural Conference in Ontario. In addition, staff attended meetings of the Oregon Department of Environmental Quality’s Woodsmoke Workgroup, Lakeview County Resources, Pendleton Progress Board, Restore Pendleton Committee, Sustainable Northwest, Northeast Oregon Home Builders Association, the Oregon Manufacturing Innovation Center in Scappoose, Business Oregon’s Infrastructure Finance Authority, Rural Oregon Development Council,

Regional Solutions for Greater Eastern Oregon and the Northeast Oregon Economic Development District.

- **Provided program information through meetings** with state and local elected officials and staff from the City of Albany, Rental Owners Association of Southwestern Oregon and Confederated Tribes of the Umatilla Indian Reservation.

## IT

- **Processed 33,600 customer projects in Energy Trust systems**, including 28,600 submitted through web applications.
- **Continued investment in foundational IT system improvements** to help anticipate program needs and reduce future costs, including:
  - **Upgraded nightly data update process to a new platform**, reducing time needed from four hours to 30 minutes.
  - **Improved integration between Energy Trust and PMC systems** and the Solar program application tracking system PowerClerk, improving data accuracy and access.

## Planning and evaluation

- **Created 151 new energy-efficiency measures and revised 72 measures.**
- **Completed and posted six evaluations and market studies** on the Energy Trust website, including:
  - Process Evaluation of the Savings Within Reach On-Bill Repayment Loan Pilot
  - 2014-2015 New Homes Program Process Evaluation
  - 2012 New Buildings Program Impact Evaluation
  - Gas Water Heater Market Research Report
  - CORE Improvement Pilot—Year 2 Evaluation Report
  - Gas Smart Thermostat Pilot Evaluation Report
- **Responded to NW Natural and Pacific Power Integrated Resource Plan data requests**, including working with NW Natural regarding a potential demand response pilot to defer the expansion of the gas distribution system.

## IV Revenue and expenditure tables<sup>7,8</sup>

### 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	Q2 actual revenues	Q2 budgeted revenues
Portland General Electric	\$ 8,399,021	\$ 8,629,595
PGE Incremental	\$ 9,543,410	\$ 9,481,244
Pacific Power	\$ 6,356,607	\$ 6,231,087
Pacific Power Incremental	\$ 4,962,571	\$ 5,574,990
Cascade Natural Gas	\$ 380,166	\$ 378,624
NW Natural	\$ 3,638,984	\$ 3,671,929
NW Natural Industrial DSM	\$ 1,009,017	\$ 1,071,908
Avista	\$ 46,800	\$ -
<b>Total</b>	<b>\$ 34,336,576</b>	<b>\$ 35,039,376</b>

### B. Expenditures by utility

Source	Q2 actual expenditures	Q2 budgeted expenditures
Portland General Electric	\$ 26,540,185	\$ 23,223,901
Pacific Power	\$ 14,075,296	\$ 13,817,593
Cascade Natural Gas	\$ 422,596	\$ 504,051
NW Natural	\$ 3,990,362	\$ 4,199,607
NW Natural Industrial DSM	\$ 813,624	\$ 570,029
Avista	\$ 10,723	\$ -
<b>Total</b>	<b>\$ 45,852,786</b>	<b>\$ 42,315,181</b>

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.

<sup>7</sup> Columns may not total due to rounding.

<sup>8</sup> The gas expenditures do not include NW Natural in Washington. These results are reported in Appendix 4.

### C. Expenditures by sector and program

		Q2 actual expenditures		Q2 budgeted expenditures	
Commercial	Existing Buildings and Multifamily	\$	13,868,577	\$	10,226,929
	New Buildings	\$	4,524,991	\$	3,575,917
	NEEA Commercial	\$	649,558	\$	664,293
<b>Commercial total</b>		<b>\$</b>	<b>19,043,126</b>	<b>\$</b>	<b>14,467,139</b>
Industrial	Production Efficiency	\$	6,896,207	\$	7,423,328
	NEEA Industrial	\$	83,798	\$	77,158
	<b>Industrial total</b>	<b>\$</b>	<b>6,980,005</b>	<b>\$</b>	<b>7,500,486</b>
Residential	Existing Homes	\$	5,061,291	\$	5,289,260
	New Homes and Products	\$	7,133,229	\$	7,016,371
	NEEA Residential	\$	1,285,285	\$	1,001,534
<b>Residential total</b>		<b>\$</b>	<b>13,479,805</b>	<b>\$</b>	<b>13,307,164</b>
<b>Energy efficiency total</b>		<b>\$</b>	<b>39,502,936</b>	<b>\$</b>	<b>35,274,789</b>
Renewables	Solar	\$	3,117,274	\$	3,284,025
	Other Renewables	\$	1,711,021	\$	2,152,434
	<b>Renewable generation total</b>	<b>\$</b>	<b>4,828,295</b>	<b>\$</b>	<b>5,436,459</b>
Administration	<b>Administration</b>	<b>\$</b>	<b>1,511,805</b>	<b>\$</b>	<b>1,603,933</b>
Development	<b>Avista Development *</b>	<b>\$</b>	<b>9,750</b>	<b>\$</b>	<b>-</b>
<b>Total expenditures</b>		<b>\$</b>	<b>45,852,786</b>	<b>\$</b>	<b>42,315,181</b>

\*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	PGE generation	Pacific Power generation	Total
Q1	\$4,288,591	\$3,154,390	\$1,149,249	\$82,957	\$2,294,772	\$726,292	\$11,696,250
Q2	\$12,929,962	\$7,100,571	\$2,726,806	\$226,423	\$2,638,594	\$1,421,608	\$27,043,963
<b>Total</b>	<b>\$17,218,553</b>	<b>\$10,254,961</b>	<b>\$3,876,055</b>	<b>\$309,380</b>	<b>\$4,933,365</b>	<b>\$2,147,900</b>	<b>\$38,740,213</b>

## V Savings and generation tables<sup>9, 10, 11, 12</sup>

### A. Savings and generation by fuel

	Q2 savings/generation	YTD savings/generation	Annual goal	Percent achieved YTD
Electric savings	13.0 aMW	18.2 aMW	55.1 aMW	33%
Natural gas savings	1.4 million therms	1.9 million therms	5.7 million therms	33%
Electric generation	0.50 aMW	1.25 aMW	4.13 aMW	30%

### B. Progress toward annual efficiency goals and targets by utility

	Q2 savings	YTD savings	Annual goal	Percent achieved YTD	Annual IRP target	Percent achieved YTD
Portland General Electric	8.3 aMW	11.3 aMW	33.7 aMW	34%	27.2 aMW	42%
Pacific Power	4.7 aMW	6.9 aMW	21.4 aMW	32%	16.8 aMW	41%
NW Natural	1.3 million therms	1.8 million therms	5.3 million therms	34%	3.9 million therms	45%
Cascade Natural Gas	99,968 therms	147,394 therms	466,577 therms	32%	447,071 therms*	33%

\*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.

### C. Electric savings by sector and program

	Q2 electric efficiency savings	Q2 savings aMW	YTD savings aMW	Annual goal aMW	Percent achieved YTD
Commercial	Existing Buildings and Multifamily	4.0	4.9	15.5	32%
	New Buildings	1.3	1.9	5.3	36%
	NEEA Commercial	0.1	0.2	1.0	20%
	<b>Commercial total</b>	<b>5.4</b>	<b>7.0</b>	<b>21.8</b>	<b>32%</b>
Industrial	Production Efficiency	2.0	2.4	13.4	18%
	NEEA Industrial	0.0	0.0	0.1	20%
	<b>Industrial total</b>	<b>2.0</b>	<b>2.5</b>	<b>13.6</b>	<b>18%</b>
Residential	Existing Homes	1.4	2.0	4.0	51%
	New Homes and Products	3.7	5.5	9.9	56%
	NEEA Residential	0.6	1.2	5.8	20%
	<b>Residential total</b>	<b>5.7</b>	<b>8.7</b>	<b>19.7</b>	<b>44%</b>
	<b>Total electric savings</b>	<b>13.0</b>	<b>18.2</b>	<b>55.1</b>	<b>33%</b>

<sup>9</sup> Columns may not total due to rounding.

<sup>10</sup> Electric savings also include transmission and distribution savings.

<sup>11</sup> The gas savings do not include results for NW Natural in Washington. These results are reported in Appendix 4.

<sup>12</sup> 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. Natural gas savings by sector and program

Q2 gas efficiency savings		Q2 savings thm	YTD savings thm	Annual goal thm	Percent achieved YTD
Commercial	Existing Buildings and Multifamily	314,280	370,997	2,001,169	19%
	New Buildings	230,618	307,848	597,301	52%
<b>Commercial total</b>		<b>544,898</b>	<b>678,845</b>	<b>2,598,470</b>	<b>26%</b>
Industrial	Production Efficiency	207,245	221,010	1,036,453	21%
	<b>Industrial total</b>	<b>207,245</b>	<b>221,010</b>	<b>1,036,453</b>	<b>21%</b>
Residential	Existing Homes	369,578	486,659	787,964	62%
	New Homes and Products	305,878	527,205	1,298,258	41%
<b>Residential total</b>		<b>675,457</b>	<b>1,013,864</b>	<b>2,086,222</b>	<b>49%</b>
<b>Total natural gas savings</b>		<b>1,427,599</b>	<b>1,913,720</b>	<b>5,721,145</b>	<b>33%</b>

Energy Trust allocated budget to NEEA for gas market transformation activities. While there were no associated savings through Q2, savings are expected in subsequent years.

## E. Renewable energy generation by utility

Q2 renewable energy generation	Q2 generation aMW	YTD generation aMW	Annual goal aMW	Percent achieved YTD
Portland General Electric	0.31	0.95	1.09	87%
Pacific Power	0.18	0.30	3.04	10%
<b>Total generation</b>	<b>0.50</b>	<b>1.25</b>	<b>4.13</b>	<b>30%</b>

## F. Renewable energy generation by program

Q2 renewable energy generation	Q2 generation aMW	YTD generation aMW	Annual goal aMW	Percent achieved YTD
Other Renewables program	0.00	0.00	0.01	0%
Solar program	0.50	1.25	4.12	30%
<b>Total generation</b>	<b>0.50</b>	<b>1.25</b>	<b>4.13</b>	<b>30%</b>

## G. Incremental utility SB 838 expenditures<sup>13</sup>

Utility	2016 Q2 SB 838 Expenditures	YTD SB 838 Expenditures
Portland General Electric \$	188,189 \$	371,950
Pacific Power \$	314,302 \$	399,490
<b>Total expenditures \$</b>	<b>502,491 \$</b>	<b>771,440</b>

<sup>13</sup> 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: Customer satisfaction results

## Customer satisfaction results from Q1 2016 were appended to the report on November 18, 2016.

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. Survey responses from customers served in Q1 2016 were delayed due to employee family leave and other unexpected staffing transitions, and were not originally included in the Q2 Report. Customer satisfaction results from Q1 2016 were appended to the report on November 18, 2016.

In addition, the Q3 2016 report's survey responses from customers served in Q2 2016 are expected to be delayed, and 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.

### Customer satisfaction results for Q1 2016

From August 2016 through the end of October 2016, Energy Trust delivered a short telephone survey to 690 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 the Existing Buildings, Production Efficiency and Solar programs were also asked about satisfaction with program representatives.<sup>14</sup>

### Customer satisfaction results for Q1 2016

Program	Respondent count	Percent satisfied overall	Percent satisfied with program representative
Existing Buildings, including Existing Multifamily	78	90%	96%
Production Efficiency	49	98%	100%
Products	117	97%	N/A
Existing Homes	394	92%	N/A
Solar	52	88%	N/A <sup>15</sup>

### 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

<sup>14</sup> 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.

<sup>15</sup> Only commercial solar customers are 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."

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 2: 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: <ul style="list-style-type: none"> <li>• Save at least 28.6 aMW</li> <li>• Levelized cost not to exceed 3.4 cents/kWh</li> </ul> Pacific Power: <ul style="list-style-type: none"> <li>• Save at least 18.2 aMW</li> <li>• Levelized cost not to exceed 3.5 cents/kWh</li> </ul>
Natural gas efficiency	NW Natural: <ul style="list-style-type: none"> <li>• Save at least 4.5 million annual therms</li> <li>• Levelized cost not to exceed 37 cents/therm</li> </ul> Cascade Natural Gas: <ul style="list-style-type: none"> <li>• Save at least 0.40 million annual therms</li> <li>• Levelized cost not to exceed 47 cents/therm</li> </ul>
Renewable energy	<ul style="list-style-type: none"> <li>• 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</li> <li>• Obtain at least 1.6 aMW of installed generation of net-metered standard projects including solar and small wind</li> <li>• For non-solar custom projects, the three-year rolling average incentive is not to exceed \$25/allocated MWh</li> <li>• For innovative and custom solar projects, report sources of funding for projects and the selection criteria</li> </ul>
Financial integrity	<ul style="list-style-type: none"> <li>• Receive an unmodified financial opinion from an independent auditor on annual financial statements</li> </ul>
Administrative/ program support costs	<ul style="list-style-type: none"> <li>• Keep below 8 percent of annual revenues</li> </ul>
Staffing	<ul style="list-style-type: none"> <li>• 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</li> </ul>
Customer satisfaction	Demonstrate greater than 85 percent satisfaction rates for: <ul style="list-style-type: none"> <li>• Interaction with program representatives</li> <li>• Overall satisfaction</li> </ul>
Benefit/cost ratios	<ul style="list-style-type: none"> <li>• Report both utility system and total resource perspective</li> <li>• Report significant mid-year changes as necessary in quarterly reports</li> </ul>

## 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.

<b>Program</b>	<b>Combined Utility Cost Test benefit/cost ratio</b>	<b>Combined Total Resource Cost Test benefit/cost ratio</b>
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 3: Progress to 2015-2019 Strategic Plan goals; cumulative and total annual results

### Progress to 2015-2019 Strategic Plan goals

- Energy Trust saved 30 percent of the Strategic Plan electric goal of 240 aMW through Q2 2016.
- Energy Trust saved 35 percent of the Strategic Plan gas goal of 24 million annual therms through Q2 2016.
- Energy Trust generated 52 percent of the Strategic Plan renewable generation goal of 10 aMW through Q2 2016.

### Cumulative and total annual results

- Total annual savings of 566 aMW have been realized since electric efficiency programs began in 2002, equivalent to powering approximately 438,500 Oregon homes. This total includes 22 aMW of savings from self-direct customers.
- Total annual savings of 47.1 million annual therms have been realized since gas efficiency programs began in 2003, equivalent to providing gas heat to approximately 92,900 Oregon homes.
- Total annual renewable energy generation of 119.9 aMW has been installed since 2002, equivalent to powering approximately 92,900 Oregon homes.

# APPENDIX 4: Q2 2016 report on activities for NW Natural in Washington

This quarterly report covers the period April 1 through June 30, 2016. This report 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 Q2 2016 by NW Natural's Washington customers saved 48,227 annual therms of natural gas**—including 10,621 annual therms in Existing Buildings, 15,184 annual therms in Existing Homes and 22,421 annual therms in New Homes and Products.
- **Q2 2016 savings were approximately 18 percent of the 2016 annual performance metric** of 263,184 therms in NW Natural's 2016 Energy Efficiency Plan submitted to the Washington Utilities and Transportation Commission.<sup>16</sup>
- **In total, savings achieved in Q2 2016 were 67 percent higher than Q2 2015 savings** due to strong program accomplishments in all three programs. Energy Trust supported efficient construction in a thriving new homes market and bolstered installation of commercial foodservice equipment through a bonus incentive.
- **Energy Trust expects to meet 2016 goals with a strong pipeline of projects in all three programs.** Thanks to a strong economy and vintage of homes, in the Existing Homes program, HVAC and equipment measures are also expected to be strong for the remainder of the year. The commercial custom project pipeline currently includes 10 active custom projects scheduled to complete in 2016; which, if all projects come in as projected, will result in more than 55,000 therms saved, twice the year-end goal.

### B. Commercial sector highlights

#### *Existing Buildings*

- **Existing Buildings saved 10,621 annual therms in Q2**, primarily through foodservice equipment such as gas fryers and gas combination ovens.
- **Through Q2, savings from prescriptive measures were 250 percent higher than in the same period in 2015**, with nearly 80 percent of savings from foodservice equipment eligible for a bonus launched in Q1. Boiler projects, expected to complete in Q3 and Q4, will also contribute savings.
- **Launched in Q1, the foodservice equipment bonus** resulted in installation of 17 gas fryers, one combination oven and one convection oven.

<sup>16</sup> Energy Trust's 2016 board-approved budgeted goal for NW Natural territory in Washington differs slightly due to timing. Q2 2016 savings were approximately 18 percent of Energy Trust's 2016 budgeted goal of 265,079 therms.

- **A strong pipeline of custom projects, driven largely by digital controls system upgrades,** are scheduled to finish in the second half of the year. Many of these projects are coming to the program through Allied Technical Assistance Contractors.
- **The program focused outreach on recruiting new participants from grocery stores and schools.** Two new school districts began working with the program, with projects scheduled to complete in 2016.
- **The program worked with Northwest Energy Efficiency Alliance and New Buildings to develop a new Spark pilot approach for commercial properties.** Spark provides customized design concepts and initial economic analysis of a project. Spark was developed for design and real estate professionals and project managers to facilitate and streamline the early analysis of building renovation projects. Spark allows for quicker identification of potential design strategies and project scopes of work, and provides a preliminary view of project costs and economic benefits.
- **The program began developing an Energy Management Certification incentive** for engineers, technicians and facility maintenance and energy managers. Participants learn energy management principles and techniques, including building energy use, glazing, insulation, building envelope, heating and cooling, secondary HVAC, controls, central plant equipment, energy auditing and operations and maintenance. This is being developed as a possible offering in Washington for 2017 on a limited basis, subject to approval by Energy Trust and the Washington Utilities and Transportation Commission.
- **The program promoted market adoption of a Building Operator Certificate,** a professional development program created by NEEA and available to eligible professionals working in Washington. Certification for building operators helps them identify and increase savings opportunities.
- **The program began exploring savings opportunities for new construction projects** in NW Natural's Washington territory.

### C. Residential sector highlights

- **The residential sector saved 37,606 annual therms in Q2,** primarily through ENERGY STAR® and EPS™ rated homes, gas furnaces, gas fireplaces, efficient windows, Energy Saver Kits and showerheads.
- **Energy Trust collaborated with NW Natural to develop an outreach plan to engage** nonprofits and housing organizations to serve as aggregators in support of streamlined outreach and measure adoption and uptake for retrofit and new construction markets.

#### *Existing Homes*

- **Existing Homes saved 15,184 annual therms in Q2,** primarily through gas furnaces and energy-saving products, followed by gas fireplaces and efficient windows.
- **Demand for energy-efficient gas furnaces contributed to strong savings in Q2.**
- **The program collaborated with Clark Public Utilities** to deliver LivingWise Kits to sixth graders in Clark County, providing free LEDs funded through Clark Public Utilities and free showerheads provided through Energy Trust.
- **Gas furnaces, gas hearths and smart thermostats** continued to contribute significant savings.
- **The program initiated a rental market analysis** to better understand housing stock characteristics and inform new strategies to serve customers living in rental properties.
- **Approximately 25 trade allies, distributors, program representatives, utility representatives and other stakeholders** attended a biannual trade ally networking event, hosted in collaboration with Clark Public Utilities.

*New Homes and Products*

- **New Homes and Products saved 22,421 annual therms**, primarily through ENERGY STAR homes, EPS rated homes and showerheads. In Q2, 75 percent of New Homes savings came from whole-home improvements supported by EPS and ENERGY STAR incentives.
- **Strong new construction activity in Clark County supported higher-than-anticipated savings for New Homes.** The program has recognized 222 homes to date, compared to approximately 300 homes budgeted for the 2016 program year.
- **The program worked with the Building Industry Association of Clark County** to support development of the first ever Green Homes Street Fair in May 2016. The fair featured two completed EPS homes.
- **The program implemented database improvements to support market verifiers in reporting site information** and expedite program analysis and incentive processing.
- **The program is refining analysis to update the EPS incentive pathway** for the 2017 program year, due to a new Washington State Energy Code effective July 1, 2016.

### 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 total				
		YTD	Q1 Results	Q2 Results	Q3 Results	Q4 Results
Therms Saved	223,706 - 263,184	72,422	24,195	48,227		
Total Program Costs	\$1,441,218 - \$1,695,551	\$594,333	\$262,708	\$331,625		
Average Levelized Cost Per Measure	Less than \$0.65	\$0.58	\$0.73	\$0.49		
Dollars Spent Per Therm Saved	Less than \$6.50	\$8.21	\$10.86	\$6.88		
Utility Costs at Portfolio Level	Greater than 1.0	n/a	Reported annually	Reported annually	Reported annually	Reported annually

- **Dollars spent per therm saved are typically higher in the first half of the year** as Energy Trust invests in studies and outreach that result in completed projects by year-end.
- **This table does not include therm 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	0.9	1.8
<b>Total NW Natural Washington portfolio</b>	<b>1.1</b>	<b>1.5</b>

#### 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
<b>Total</b>	<b>1.1</b>	<b>1.4</b>

## II. QUARTERLY RESULTS

### A. Expenditures<sup>1</sup>

		Actual expenditures Q2	Budgeted expenditures Q2	Variance
Commercial programs	Existing Buildings	\$ 92,759	\$ 163,063	\$ 70,304
	NEEA commercial	\$ 3,750	\$ 6,739	\$ 2,989
	<b>Commercial total</b>	<b>\$ 96,509</b>	<b>\$ 169,802</b>	<b>\$ 73,294</b>
Residential programs	Existing Homes	\$ 96,564	\$ 109,376	\$ 12,811
	New Homes	\$ 131,315	\$ 94,829	\$ (36,485)
	NEEA residential	\$ 15,520	\$ 13,223	\$ (2,297)
	<b>Residential total</b>	<b>\$ 243,399</b>	<b>\$ 217,428</b>	<b>\$ (25,971)</b>
Administration	<b>Administration total</b>	<b>\$ 10,987</b>	<b>\$ 14,620</b>	<b>\$ 3,633</b>
	<b>Total expenditures</b>	<b>\$ 350,895</b>	<b>\$ 401,851</b>	<b>\$ 50,956</b>

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

### B. Incentives paid

		Q2 actual incentives
Commercial programs	Existing Buildings	\$ 24,789
	<b>Commercial total</b>	<b>\$ 24,789</b>
Residential programs	Existing Homes	\$ 44,042
	New Homes	\$ 71,053
	<b>Residential total</b>	<b>\$ 115,095</b>
	<b>Total incentives</b>	<b>\$ 139,884</b>

### C. Savings

		Therms saved Q2	Annual goal	Percent achieved YTD	\$/therm	Levelized cost/therm
Commercial programs	Existing Buildings	10,621	151,056	7%	\$ 8.73	\$ 0.95
	<b>Commercial total</b>	<b>10,621</b>	<b>151,056</b>	<b>7%</b>	<b>\$ 8.73</b>	<b>\$ 0.95</b>
Residential programs	Existing Homes	15,184	55,054	28%	\$ 6.36	\$ 0.45
	New Homes	22,421	57,074	39%	\$ 5.86	\$ 0.38
	<b>Residential total</b>	<b>37,606</b>	<b>112,128</b>	<b>34%</b>	<b>\$ 6.06</b>	<b>\$ 0.41</b>
	<b>Total savings</b>	<b>48,227</b>	<b>263,184</b>	<b>18%</b>	<b>\$ 6.88</b>	<b>\$ 0.49</b>

Energy Trust allocated budget to NEEA for gas market transformation activities in 2016. While there were no associated savings through Q2, savings are expected in subsequent quarters.



### III YEAR-TO-DATE RESULTS

#### A. Activity highlights—sites served

	Q1	Q2	Q3	Q4	Total
<b>Existing Commercial</b>					
School/college retrofits	4	3			7
Other commercial retrofits	-	12			12
Studies	2	1			3
<b>Existing Homes</b>					
Weatherization (insulation, air and duct sealing and windows)	29	36			65
Gas hearths	22	18			40
Energy Saver Kits	8	23			31
LivingWise Kits distributed through schools	-	360			360
Smart thermostats	19	29			48
Gas furnaces	61	74			135
Water heaters	5	3			8
Online Home Energy Reviews	22	19			41
<b>New Homes</b>					
ENERGY STAR home certification	97	58			155
Clothes washers	-	10			10
New EPS homes	-	67			67

#### B. Revenue

Source	Actual revenue YTD	Budgeted revenue YTD
NW Natural \$	768,840 \$	870,618

#### C. Expenditures

		Actual expenditures YTD	Budgeted expenditures YTD	Variance
Commercial programs	Existing Buildings	\$ 160,378	\$ 298,881	\$ 138,503
	NEEA commercial	\$ 11,241	\$ 11,821	\$ 581
	<b>Commercial total</b>	<b>\$ 171,619</b>	<b>\$ 310,702</b>	<b>\$ 139,083</b>
Residential programs	Existing Homes	\$ 178,912	\$ 206,992	\$ 28,080
	New Homes	\$ 230,168	\$ 178,927	\$ (51,241)
	NEEA residential	\$ 33,859	\$ 27,794	\$ (6,065)
	<b>Residential total</b>	<b>\$ 442,939</b>	<b>\$ 413,713</b>	<b>\$ (29,226)</b>
Administration	<b>Administration total</b>	<b>\$ 24,875</b>	<b>\$ 30,264</b>	<b>\$ 5,389</b>
	<b>Total expenditures</b>	<b>\$ 639,433</b>	<b>\$ 754,679</b>	<b>\$ 115,246</b>

Energy Trust allocated budget to NEEA for gas market transformation activities in 2016. While there were no associated savings through Q2, savings are expected in subsequent years.

## D. Incentives paid

		Annual actual incentives	
Commercial programs	Existing Buildings	\$	34,879
	<b>Commercial total</b>	<b>\$</b>	<b>34,879</b>
Residential programs	Existing Homes	\$	82,779
	New Homes	\$	120,136
	<b>Residential total</b>	<b>\$</b>	<b>202,915</b>
	<b>Total incentives</b>	<b>\$</b>	<b>237,794</b>

- **Incentives paid account for approximately 44 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	13,477	151,056	9%	\$ 11.90	\$ 1.30
	<b>Commercial total</b>	<b>13,477</b>	<b>151,056</b>	<b>9%</b>	<b>\$ 11.90</b>	<b>\$ 1.30</b>
Residential programs	Existing Homes	24,815	55,054	45%	\$ 7.21	\$ 0.50
	New Homes	34,129	57,074	60%	\$ 6.74	\$ 0.44
	<b>Residential total</b>	<b>58,945</b>	<b>112,128</b>	<b>53%</b>	<b>\$ 6.94</b>	<b>\$ 0.46</b>
	<b>Total savings</b>	<b>72,422</b>	<b>263,184</b>	<b>28%</b>	<b>\$ 8.21</b>	<b>\$ 0.58</b>

Energy Trust allocated budget to NEEA for gas market transformation activities in 2016. While there were no associated savings through Q2, savings are expected in subsequent quarters.

## F. Program evaluations

- **In Q2 Energy Trust worked with Illume Advising on a process evaluation** expected to complete in 2016. The evaluation will focus on Energy Trust's Existing Homes program in Oregon, and will also feature residential programs in Washington, including installation rates of energy-saving showerheads and faucet aerators and the associated customer experience.