

# **Quarter Two 2017 Report to the Oregon Public Utility Commission & Energy Trust Board of Directors**

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**ENERGY TRUST OF OREGON  
AUGUST 15, 2017**

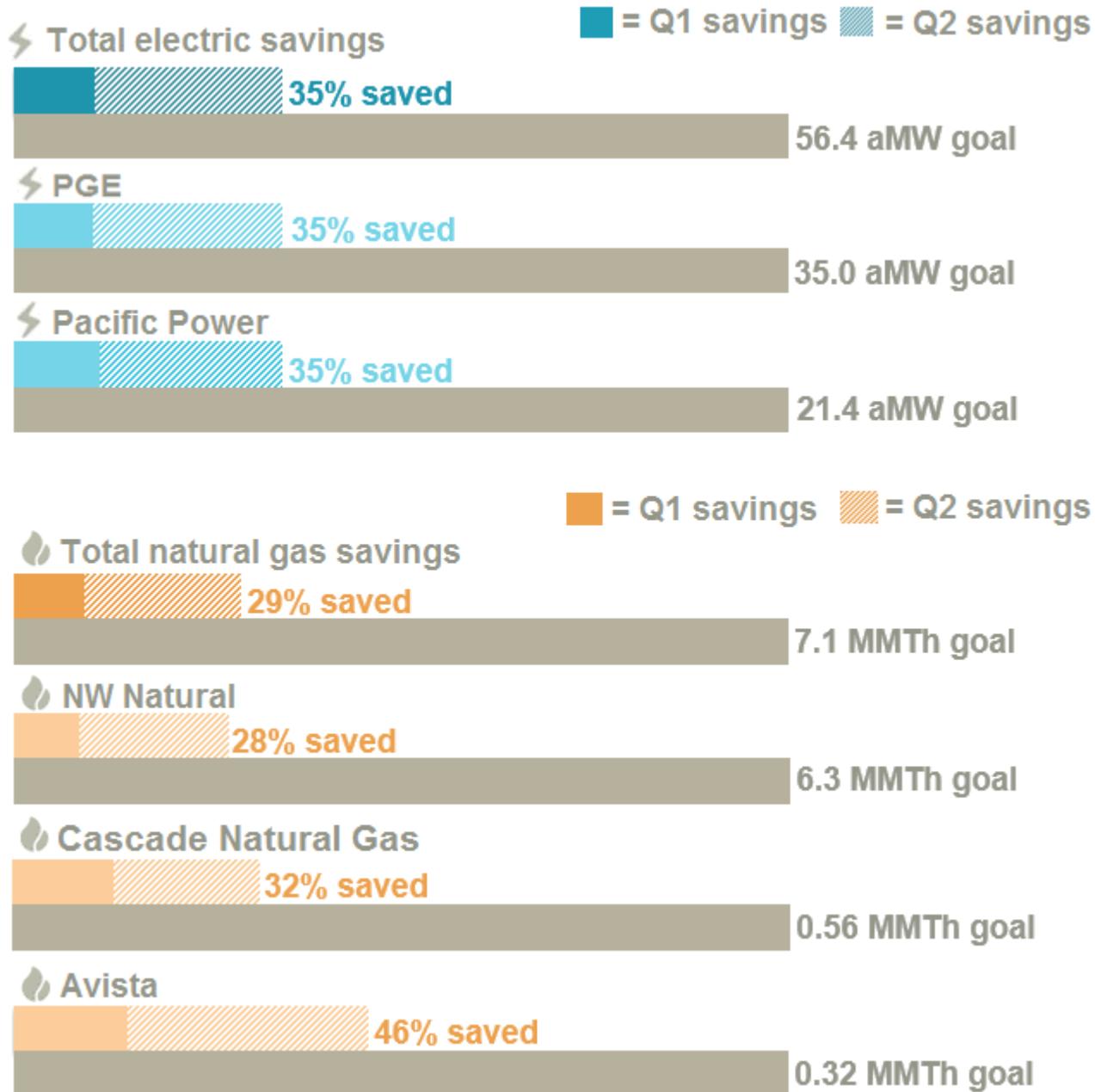
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A glossary of program descriptions and key terms is available online at [www.energytrust.org/reports](http://www.energytrust.org/reports)

# I Results at a glance<sup>1,2</sup>

## Savings

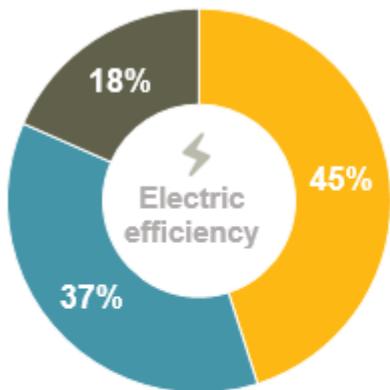


<sup>1</sup> This document reports net savings. Net savings are adjusted gross savings based on results of current and past evaluations.

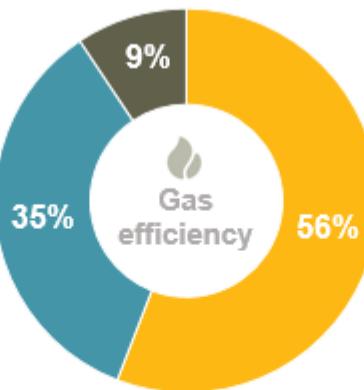
<sup>2</sup> Note that aMW indicates average megawatts, MMTh indicates million annual therms and M is million.

**Generation**

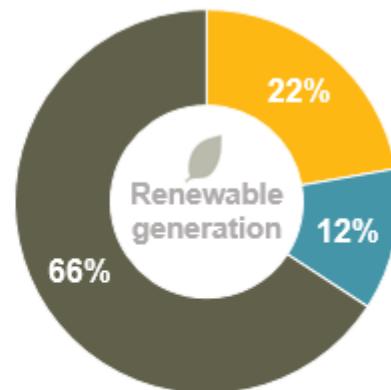
= Q1 generation     = Q2 generation

**Total renewable generation****PGE****Pacific Power****Percent of savings and generation by sector**

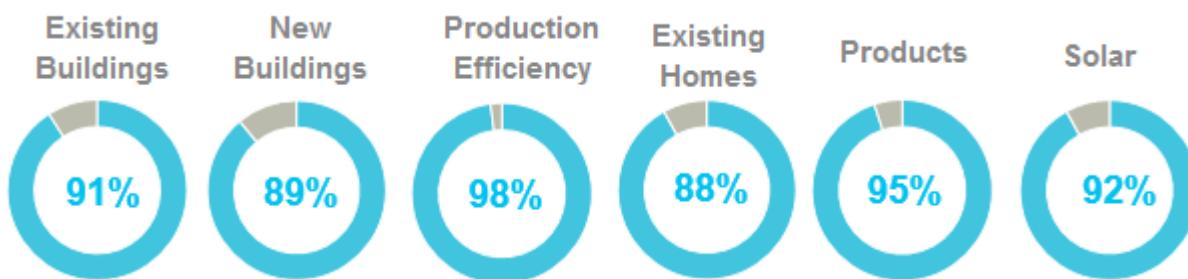
= Residential  
 = Commercial  
 = Industrial



= Residential  
 = Commercial  
 = Industrial



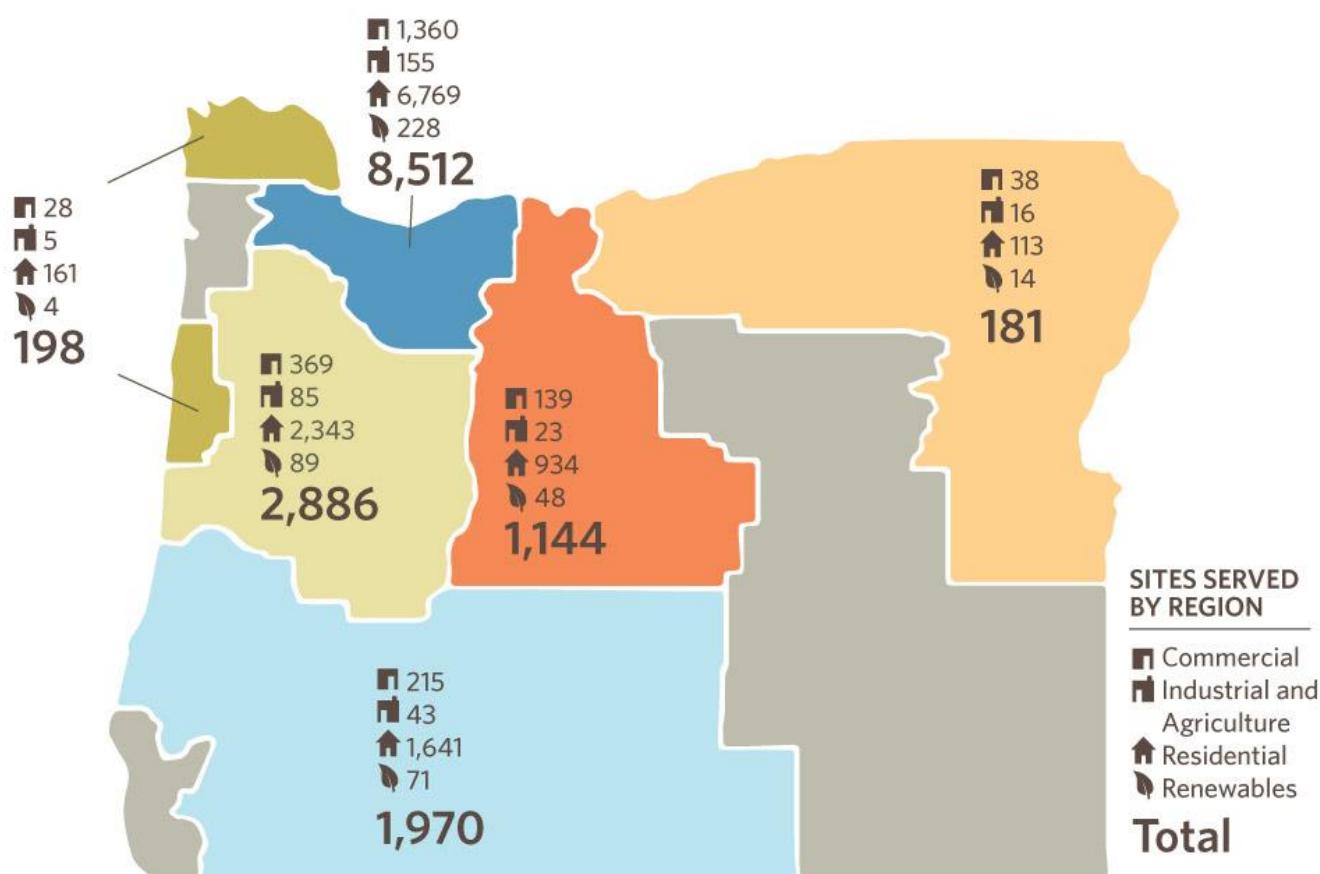
= Residential solar  
 = Commercial solar  
 = Custom solar  
 = Other renewables

**Customer satisfaction<sup>3</sup>**

<sup>3</sup> From March through May 2017, Energy Trust delivered a short telephone survey to 590 randomly selected participants in Existing Buildings, Production Efficiency, Existing Homes, Products and Solar programs who completed projects between January and March 2017 and received an incentive or discount from Energy Trust. Results indicate satisfaction with overall program experience. New Buildings participants are surveyed annually, with the most recent survey in Q4 2016.

**Expenditures**

= Q1 expenditures     = Q2 expenditures

**\$ Energy efficiency****\$ Renewable energy****\$ Administrative****\$ Total****Sites served by region**

Energy Trust serves Oregon customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista. Areas in gray are not served by these utilities.

## II Executive summary

### A. Progress to energy efficiency and renewable energy goals<sup>4,5</sup>

- At the close of quarter two, Energy Trust was on track to meet or exceed goals in most utility territories in 2017.** Savings were behind expectations in NW Natural territory due to a large Existing Buildings project that was postponed to 2018, delayed completion for some New Buildings projects and smaller than anticipated savings opportunities at other New Buildings projects. Outreach is planned to boost the pipeline of New Buildings projects and help achieve Energy Trust's annual NW Natural goal.
- 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 in Q2 saved 13.6 average megawatts** of electricity, about 24 percent of the 2017 goal of 56.4 aMW. Q2 2017 electric savings were approximately 5 percent greater than savings in Q2 2016.
- Gas efficiency improvements completed during Q2 saved approximately 1.4 million annual therms** of natural gas<sup>6</sup>, about 20 percent of the 2017 goal of 7.1 million annual therms. Q2 2017 gas savings were about the same as the savings in Q2 2016.
- Renewable energy systems installed during Q2 will generate 1.9 aMW of electricity**, 67 percent of the 2017 goal of 2.86 aMW. Completion of a large custom solar project contributed to strong generation this quarter.
- Savings and generation achieved in Q2 represent about 73,000 tons of carbon dioxide** kept out of the atmosphere, the equivalent of removing 12,800 cars from Oregon roads.

### B. Market and program trends

- Energy Trust completed Q2 with a strong foundation of expected and completed projects** to help meet annual energy-efficiency and renewable generation goals, with strong new construction markets, continued demand for LEDs, high demand for solar incentives and the continuing benefits of a strong economy.
- Energy Trust engaged a robust new construction market**, influencing customers to incorporate electric efficiency and natural gas efficiency improvements into fast-paced projects. New Homes supported 658

**13.6**  
AVERAGE  
MEGAWATTS SAVED

**1.4**  
MILLION ANNUAL  
THERMS SAVED

**1.9**  
AMW GENERATED

**73,000**  
TONS OF CARBON  
DIOXIDE AVOIDED

<sup>4</sup> This document reports net savings, which are adjusted gross savings based on results of current and past evaluations.

<sup>5</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 2016 Report is available online at [www.energytrust.org/reports](http://www.energytrust.org/reports).

<sup>6</sup> The gas savings do not include results for NW Natural in Washington. These results are available at [www.energytrust.org/reports](http://www.energytrust.org/reports).

- energy-efficient new homes in Q2, the majority of which were built 20 to 29 percent above code. The Oregon Office of Economic Analysis expects 2017 housing starts to increase 12 percent over 2016. **New Buildings enrolled 414 projects through Q2**, 100 more than last year at this time.
- **Energy Trust's education efforts and incentives influenced residential, commercial, industrial and agricultural customers to upgrade to LEDs.** **Retail LED sales were up 40 percent** compared to Q2 2016, as prices continued to decline, and two new online lighting promotions launched with [www.1000bulbs.com](http://www.1000bulbs.com) and [www.HomeDepot.com](http://www.HomeDepot.com). Along with investing in energy-efficient lighting, some commercial and industrial customers saved even more energy by incorporating lighting controls. In the industrial sector, LED upgrades at cannabis facilities grew and represented 18 percent of the sector's lighting saving through Q2.
- **Energy Trust's success engaging the solar, hydropower and biopower markets resulted in high demand for incentives.** The expiration of Oregon's Residential Energy Tax Credit is expected to further increase demand in the remainder of the year as customers take advantage of the tax credit before it expires. Staff will monitor trends and adjust incentive levels to support as many systems as possible with a limited budget.
- **Energy Trust prioritized outreach to moderate-income households,** including developing strategies to increase access to solar for low- to moderate-income communities and delivering Carry Home Savings kits through new collaborations with community action agencies in Eastern Oregon, the Columbia River Gorge and the Willamette Valley.
- **To reach more diverse customers and allies,** Energy Trust engaged with organizations representing underserved groups and communities, enhanced regional outreach and education, and supported new small and independent retailers with higher lighting incentives.



ENROLLED 414  
NEW BUILDINGS  
PROJECTS



RETAIL LED SALES  
INCREASED 40  
PERCENT



PRIORITIZED  
OUTREACH TO  
MODERATE-  
INCOME AND  
DIVERSE  
CUSTOMERS

## C. Notable activities

- **The expiration of Oregon's Residential Energy Tax Credit at the end of 2017 is expected to impact both energy-efficiency and solar offerings.** Staff conducted analyses to understand the impacts of the tax credit's expiration on cost-effectiveness of certain residential energy-efficiency offerings and changes to above-market costs for residential solar systems. Upon request by the state legislature, staff provided testimony on the results. Analysis will continue in Q3 and Q4, informing incentive levels and the 2018 Budget and 2018-2019 Budget and Action Plan.
- **Energy Trust collaborated with utilities on demand-side management efforts.** In Q2, Energy Trust and Pacific Power continued planning for a pilot project to reduce peak demand in an identified community through targeted energy-efficiency and renewable energy offerings, expected to launch in Q3. In addition, Existing Homes promoted PGE's Rush Hour Rewards pilot, which uses Nest thermostats to shift or reduce electricity consumption while adding stability to the electric system during periods of high energy use.
- **Staff continued both an organizational review project and a budget review project.** Findings from the organizational review project will be presented to the board at the annual board strategic planning workshop in May 2018. Any changes resulting from the budget review project are expected to be implemented in 2018 for the 2019 budget.

- **Staff explored customer needs for energy education in K-12 schools and potential services for moderate-income customers.** Staff conducted research and customer interviews based on the Lean Startup methodology, including surveying 650 K-12 teachers who participated in the LivingWise kit offering and contracting with a third party to review best practices in education through K-12 schools, community efforts and website resources. Results will inform test offerings that can be evaluated in 2018 for potential implementation in 2019.
- **Staff provided information to Energy Trust's board of directors at an annual strategic planning workshop,** including progress to 2015-2019 Strategic Plan goals and strategies and potential topics to learn more about in anticipation of developing the 2020-2024 Strategic Plan.
- **Energy Trust hosted local diversity leaders to speak with staff and spark discussions** about how Energy Trust can better incorporate diversity considerations into all areas of operations, from outreach to hiring to contracting.
- **Results from an annual third-party analysis of large customer incentive spending indicated the threshold for PGE was marginally exceeded in 2016.** The analysis is conducted every year for PGE and Pacific Power commercial and industrial sites using more than 1 aMW. If incentive spending exceeds the threshold set at pre-SB 838 levels, Energy Trust takes action to reduce expenditures to this customer class. Staff engaged stakeholders in Q2 and will conduct additional analysis and explore actions to implement in late 2017 and beyond.
- **Staff responded to initial information requests from Oregon Public Utility Commission staff and Oregon Secretary of State Audit Division staff as part of a performance audit.** The Secretary of State conducts periodic performance audits to evaluate how state agencies and programs are achieving their desired results. In conducting these audits, auditors typically review agency documents and conduct interviews with staff and stakeholders. More information about the audit is expected in Q3.

## III Program and operations activity

### A. Commercial sector highlights

- The commercial sector performed in line with expectations for most utility territories**, with a robust pipeline of projects expected to complete by year-end.
- The sector may fall short of goal in NW Natural territory** due to a large Existing Buildings project that was postponed to 2018.
- Savings from NEEA activities comprised approximately 5 percent and 6 percent of the sector's results** in PGE and Pacific Power territories, respectively. Savings in 2017 are expected from building code and equipment standards improvements, working with distributors and manufacturers to encourage stocking of efficient commercial lighting, and from technical trainings to improve the energy-efficient operation and maintenance of commercial buildings.

**5%**  
OF COMMERCIAL  
SECTOR SAVINGS IN  
PGE TERRITORY  
FROM NEEA  
ACTIVITIES

**6%**  
OF COMMERCIAL  
SECTOR SAVINGS IN  
PACIFIC POWER  
TERRITORY FROM  
NEEA ACTIVITIES

### 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, operations and maintenance improvements, standard upgrades, lighting upgrades, and energy management offerings such as Strategic Energy Management, with incentives, tools, training and technical assistance to help customers reduce energy use through behavioral and operations improvements.*

- Energy-efficient lighting comprised the majority of electric savings in Q2**, with additional savings from foodservice equipment and grocery upgrades. Gas savings were led by foodservice equipment, grocery upgrades and boilers.
- To manage expected ongoing high demand for lighting and grocery upgrades**, Existing Buildings will reduce incentives on some offerings beginning in Q3.
- Existing Buildings paid incentives to distributors to encourage stocking of high-efficiency, qualifying LEDs** and pass on savings to customers.
- In coordination with utility marketing and outreach, the program engaged customers to install LEDs through the Small Business Energy Savings offer**, which includes financing with no upfront costs to small businesses that upgrade to LEDs and lighting controls.
- To engage more diverse customers, allies and organizations**, staff met with and attended events hosted by the National Association of Minority Contractors in Oregon, Metropolitan Contractors Improvement Partnership, Oregon Association of Minority Entrepreneurs and Business Diversity Institute.



LIGHTING  
COMPRISED THE  
MAJORITY OF  
EXISTING  
BUILDINGS  
ELECTRIC SAVINGS



ENGAGED SMALL  
BUSINESSES WITH  
SMALL BUSINESS  
ENERGY SAVINGS  
OFFER

- The program assisted Multnomah County and Prosper Portland's (formerly the Portland Development Commission) PropertyFit Commercial Property Assessed Clean Energy initiative with technical services, contractor outreach, marketing and training content. In Q2, the offering expanded from the county's urban renewal area to all of Multnomah County. PropertyFit leverages Energy Trust incentives and loans to provide 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 Prosper Portland repaid through energy savings or electricity production.**
- Existing Buildings awarded eight commercial Strategic Energy Management customers an incentive to hire paid interns** to increase customer capacity for energy management. This addresses staffing constraints identified as a barrier to commercial SEM participants implementing recommendations.
- Energy Management Certification, launched in Q1, was cancelled** due to insufficient enrollment. Existing Buildings will market this offering in the remainder of 2017 to build enrollment for a 2018 offering. Energy Management Certification training helps customers implement and analyze energy-efficiency improvements.
- Staff supported the City of Portland on its Energy Performance Reporting Policy** for commercial buildings. Energy Trust offered training to help building owners and managers prepare and submit ENERGY STAR® Portfolio Manager scores to the city by the April deadline, and then offered resources to help them improve their scores.

## Existing Multifamily

*The Existing Multifamily program serves existing multifamily buildings with two or more dwelling units, including market-rate housing, affordable housing, homeowners associations, individual unit owners, 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; incentives for lighting upgrades in common areas; and incentives paid to distributors to reduce costs of efficient lighting and equipment for customers.*

- Free in-unit installation of LEDs, showerheads and faucet aerators, as well as equipment and common-area lighting** drove the majority of energy savings across all market segments. While participation in the direct installation offering increased since Q1 due to more outreach, savings remained lower than expected through Q2.
- More customers installed standard upgrades**, especially for boilers, water heating and steam traps.
- Ductless heat pumps drove savings for condominium owners**, as customers were motivated to take advantage of state tax credits prior to expiration at the end of 2017.

8

COMMERCIAL SEM CUSTOMERS RECEIVED INCENTIVES TO HIRE PAID INTERNS



SUPPORT CITY OF PORTLAND ENERGY PERFORMANCE REPORTING POLICY



INSTALLATION OF LEDS, SHOWERHEADS AND AERATORS DROVE MULTIFAMILY SAVINGS

- **Lighting projects increased 45 percent compared to Q2 2016**, but the average savings per project decreased following the trend of declining multifamily project sizes as the program works with more small properties.
- **The program launched an incentive for smart thermostats** in multifamily buildings at the end of Q2, with 16 thermostats installed in June.
- **Few customers purchased equipment with midstream incentives paid to distributors**, despite continued positive feedback and participation from distributors. Staff are working to better understand the underlying causes and identify a path forward that either optimizes this offering or reallocates resources to other higher-performing offerings.
- **The program conducted site visits for a water submetering pilot** with the Portland Water Bureau, launched in Q1 to study the potential savings from shifting participants from master-metered to individually metered water billing. Staff identified configurations at several large properties that would require expensive re-plumbing to install submetering equipment, which has deterred property managers. Existing Multifamily will focus on identifying and reaching out to sites with more optimal building characteristics.

**45%**  
INCREASE IN  
EXISTING  
MULTIFAMILY  
LIGHTING  
PROJECTS  
COMPARED TO  
Q2 2016



CONDUCTED SITE  
VISITS FOR  
WATER  
SUBMETERING  
PILOT

## 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 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.*

- **New Buildings enrolled 414 projects** through Q2 2017, 100 more than last year at this time. Enrollments increased in all regions of the state, with the biggest increase in enrollments from the Portland Metro area.
- **Construction is expected to continue at a fast pace in 2017**, providing both opportunities for energy-efficient construction and challenges to engaging customers moving quickly and making decisions in short time frames.
- **Multifamily projects comprised more than one-third of electric and gas savings**, followed by schools, retail buildings and lodging.
- **The program expects to complete 60 school projects in 2017** resulting from state bonds passed in recent years, roughly three times more than in 2016.
- **As of Q2, 49 projects were enrolled in Path to Net Zero, 10 more than this time last year**. The Path to Net Zero offering provides increased incentives and support to new commercial construction projects that aim to exceed energy code by 40 percent through a combination of energy-efficiency and renewable energy features.
- **New Buildings continued to establish a wider presence in remote and smaller communities**, educating new audiences on the advantages of



ENROLLED 414  
NEW BUILDINGS  
PROJECTS

**49**  
PROJECTS  
ENROLLED IN  
PATH TO NET  
ZERO

energy efficiency and the role Energy Trust plays. Regional outreach included a presentation at the Oregon Green Schools Summit in Corvallis, and engagement with NeighborWorks Umpqua, Southwestern Oregon Community College, the Port of Coos Bay and the Sustainable Business Network of Central Oregon.

- In coordination with NEEA, the program launched a Luminaire Level Lighting Controls Pilot to gather information regarding incremental costs and savings potential. Ten projects will be recruited and assessed over an eight-month period.



LAUNCHED  
LUMINAIRE  
LEVEL LIGHTING  
CONTROLS  
PILOT

## B. Industry and agriculture sector highlights

- The industry and agriculture sector performed in line with expectations for most utility territories, with a strong pipeline of electric and gas projects expected to complete in 2017.
- To help reach the goal in Avista territory, the sector reached out to new vendors, including in Klamath Falls and Medford.
- Savings from NEEA activities comprised approximately 1 percent of the sector's results in both PGE and Pacific Power territories. Savings in 2017 are expected to come from NEEA's reduced wattage lamp replacement initiative as well as from a previously funded initiative to improve awareness of and establish standards for efficient motors.

**1%**  
OF INDUSTRY  
AND  
AGRICULTURE  
SECTOR  
ELECTRIC  
SAVINGS FROM  
NEEA ACTIVITIES

## 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 delivered by trade allies, and an industrial Strategic Energy Management offering to help customers achieve persistent energy savings through behavioral and operations and maintenance improvements.

- Production Efficiency helped more customers upgrade to energy-efficient lighting, with 25 percent more projects completed through Q2 than in the first half of 2016.
- On par with prior years, nine projects are enrolled in Performance Plus, a comprehensive lighting offering that helps industrial customers save more energy by going beyond replacing bulbs and addressing the whole building, updating fixtures and incorporating lighting controls.
- Production Efficiency completed 19 energy-efficient lighting upgrades at cannabis facilities, saving more energy than from all cannabis projects completed in 2016. An additional 28 cannabis projects are expected to complete by year-end, including six custom HVAC projects and one custom project to control odor in an energy-efficient manner.
- Phase 1 of a megaproject is now expected to complete by the end of 2017, a quarter earlier than originally scheduled. This project will contribute nearly 2.4 aMW in savings when complete. Megaprojects are large commercial or industrial projects receiving more than \$500,000 in Energy

**25%**  
MORE  
CUSTOMERS  
UPGRADED TO  
ENERGY-  
EFFICIENT  
LIGHTING  
COMPARED TO  
LAST YEAR

**9**  
PROJECTS  
ENROLLED IN  
PERFORMANCE  
PLUS

Trust incentives for energy-efficiency upgrades. These projects are reviewed and approved by Energy Trust's board of directors and provide savings at a very low levelized cost.

- **Energy Trust sponsored the 2017 NW Industrial Energy Efficiency Summit**, sharing energy-efficiency best practices and technologies with 185 end-use customers.
- **Through Q2, 27 customers were enrolled in Continuous Strategic Energy Management**, including customers in Klamath Falls, Pendleton, Redmond and the Medford area. The multiyear Continuous SEM offering provides ongoing one-on-one engagement, support and performance-based incentives to help graduates of first-year SEM offerings further reduce energy waste.
- **A first-year industrial SEM cohort is scheduled to launch in Q3** in the Willamette Valley.



27 CUSTOMERS  
WERE  
ENROLLED IN  
CONTINUOUS  
SEM

## C. Residential sector highlights

- **The residential sector activities were in line with expectations in most utility territories**, with strong savings driven by a continuing robust new construction market and retail lighting.
- **Promotion of Energy Saver Kits in Q3 is expected to help bring Avista savings closer to goal.**
- **Savings from NEEA activities comprised approximately 13 percent of the sector's results** in both PGE and Pacific Power territories. Savings in 2017 are primarily expected from previously funded efforts to improve battery charger standards, as well as from residential building code improvements. Ductless heat pump, heat pump water heater and super-efficient dryer initiatives are also expected to deliver savings in 2017.

**13%**  
OF  
RESIDENTIAL  
SECTOR  
ELECTRIC  
SAVINGS FROM  
NEEA  
ACTIVITIES

## 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, windows, and LEDs, showerheads and faucet aerators delivered through kits. Enhanced Savings Within Reach incentives are available for moderate-income residents.*

- **Heat pumps and Energy Saver Kits drove the majority of electric savings in Q2.**
- **Ductless heat pumps were bolstered by promotions** with PGE, Daikin and local distributor Mar-Hy, and a \$100 bonus for select Central Oregon contractors provided by the Bend Environmental Center in support of its climate change action plan.
- **Gas hearths, furnaces and window upgrades** contributed the majority of gas savings.
- **In Q2, 300 furnaces were installed in moderate-income households or rental homes**, up 20 percent compared to Q2 2016.

**300**  
FURNACES  
INSTALLED IN  
MODERATE-  
INCOME OR  
RENTAL HOMES

- Existing Homes began providing midstream water heating incentives to seven new distributors, including two large regional distributors and several smaller distributors and specialized installers. Midstream incentives are provided to distributors and retailers to encourage stocking of energy-efficient equipment and reduce costs for customers.
- The program worked with Nest to plan an email promotion and instant incentive in Q3, allowing a pre-qualified list of customers to receive the Energy Trust \$50 incentive instantly as part of online checkout.
- To reach and serve more moderate-income participants, staff participated in the Bonneville Power Association's Low Income Workgroup, continued sponsorship of Community Energy Project's Portland-area do-it-yourself attic insulation workshops, and helped Neighbor Impact of Central Oregon recruit Energy Trust trade allies to participate in a new low-income weatherization and heating equipment upgrade offering.
- Launch of a new Energy Saver Kit ordering process was delayed to the second half of the year. The new online order form will enable customers to select a kit with lighting, water-saving devices or both, ensuring customers only receive products they intend to install. The new order form will include questions to help determine the value of potential new products and help the program target recipients for future marketing activities.



PLANNED NEST  
PROMOTION  
AND INSTANT  
INCENTIVES

## 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.

- New Homes engaged builders to complete 658 energy-efficient homes in Q2, for a total of 922 homes year to date—up slightly compared to this time last year. The Oregon Office of Economic Analysis expects 2017 housing starts to increase 12 percent over 2016.
- The majority of homes were built 20 to 29 percent above code. Energy Trust offers tiered EPS incentives based on improvement over code ranging from 10 percent to 40 percent.
- To support increased construction and builder participation in Roseburg and Salem, staff worked with Existing Homes to identify nine trade allies that could serve as verifiers in these areas for future recruitment. Trade ally verifiers provide technical guidance and inspection to homebuilders, ensuring that homes rated with EPS save energy through energy-efficient windows, HVAC, appliances and weatherization.
- The program supported the Oregon Home Builders Association statewide education and outreach efforts. So far in 2017, the association provided 251 energy-efficiency related online courses on topics from building science fundamentals to energy code.
- The Oregon Building Codes Division released proposed changes to the Oregon Residential Specialty Code, which will take effect in January 2018. The program developed an updated baseline reference home, conducted a trend analysis and reviewed cost-effectiveness of offerings based on the new

658  
NEW ENERGY-  
EFFICIENT  
HOMES BUILT



MAJORITY OF  
NEW HOMES  
BUILT 20 TO 29  
PERCENT  
ABOVE CODE

code reference. In Q3, staff will adjust the incentive structure and communicate changes to verifiers and other stakeholders.

- **To engage more moderate-income customers,** New Homes presented at the Oregon Habitat for Humanity Construction Managers Training and provided information to the Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians regarding potential new residential development.

## Products

*The Products program offers incentives for qualified front-loading clothes washers, smart thermostats, heat pump water heaters and qualified gas water heaters. The program also offers instant discounts at time of purchase through select retailers for qualified front-loading clothes washers, LED bulbs and fixtures, showerheads, advanced power strips, heat pump water heaters and gas water heaters. In addition, the program encourages the sale of energy-efficient new manufactured homes by offering retailers sales performance incentives. Lastly, the program delivers energy-saving products to customers through water bureaus and districts, food pantries and utility community offices.*

- **LED sales continued to grow** with support from Energy Trust incentives to reduce bulb prices at retail. **Customers purchased 40 percent more LEDs** this quarter than in Q2 2016.
- **The program engaged new small and independent retailers with higher incentives** to help them compete with low pricing at big box stores and reach new customers in smaller and rural areas. In Q2, two new Goodwill stores, one Habitat Restore, three Dollar Tree stores and one Ace Hardware store began offering Energy Trust incentives.
- **Customers purchased 36 percent more showerheads** than this time last year, with sales bolstered by Energy Trust incentives, marketing and retailer engagement. A Costco shower wand promotion accounted for approximately 25 percent of showerheads purchased so far in 2017.
- **The program provided midstream retailer incentives to encourage stocking of efficient water heaters** at three Grover's Plumbing and Electric Supply stores and 13 Lowe's stores. Incentives are passed on to consumers as instant discounts, reducing barriers to participation. Stocking practices have already improved at these participating stores.
- **Products delivered Carry Home Savings kits to moderate-income customers through new collaborations with Community Action Agencies,** including the Community Action Partnership of East Central Oregon, Housing and Community Services Agency of Lane County, Mid-Columbia Community Action Council and Mid-Willamette Valley Community Action Agency.
- **The program launched two new online lighting promotions** with www.1000bulbs.com and www.HomeDepot.com, and engaged new manufacturers to expand product availability.
- **Staff explored potential new products,** and found that LED string lights are not cost-effective and efficient clothes dryers do not have incremental

**40%**  
MORE LEDS PURCHASED

**36%**  
MORE SHOWERHEADS PURCHASED



LAUNCHED TWO NEW ONLINE LIGHTING PROMOTIONS

costs above standard clothes dryers. The program will explore potential incentives for Tier 2 advanced power strips in 2018.

## D. Renewable energy sector highlights

- **The renewable energy sector exceeded expectations in Q2, with completion of a large custom solar project**, continued growth in solar demand and a strong pipeline of Other Renewables projects.
- **Energy Trust's success engaging the solar, hydropower and biopower markets resulted in high demand for incentives.** The expiration of Oregon's Residential Energy Tax Credit is expected to further increase demand in the remainder of the year as customers take advantage of the tax credit before it expires. Staff will monitor trends and adjust incentive levels to support as many systems as possible with a limited budget.



COMPLETED A  
LARGE CUSTOM  
SOLAR  
PROJECT

### 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, respond to decreases in solar costs and support as many systems as possible. The Solar program supports installation of standard solar systems on residential and commercial properties, and also large custom projects when funding is available.*

- **The 1.4-aMW custom Old Mill solar project completed** in Bly, a community in eastern Klamath County.
- **The program supported continued strong demand for solar incentives, with 1,066 applications** received through Q2—9 percent more than in the first half of 2016.
- **Solar expects applications to increase in the remainder of 2017** as customers prepare for the expiration of Oregon's Residential Energy Tax Credit. Staff plan to implement gradual incentive reductions based on market demand and support as many projects as possible with a limited budget.
- **Solar launched a trade ally rating system** to provide feedback on trade ally performance and help customers select a contractor. Trade allies receive a quarterly report with performance metrics and opportunities for improvement. Ratings are updated quarterly and are based on the most recent 12 months of trade ally performance.
- **To increase access to solar energy for low- to moderate-income communities**, the program solicited input from stakeholders on strategies for expanding the diversity of the solar workforce and community engagement tools for reaching low- to moderate-income communities and communities of color. The effort was supported by a U.S. Department of Energy grant.



RECEIVED 1,066  
SOLAR  
INCENTIVE  
APPLICATIONS



LAUNCHED  
TRADE ALLY  
RATING  
SYSTEM

- **Staff attended the Rocky Mountain Institute's Electricity Innovation Lab Accelerator**, an invitation-only event that brings together energy innovators from around North America. Along with representatives from Portland General Electric, Pacific Power and Multnomah County, staff are exploring ways to deploy solar and storage to increase emergency preparedness in the City of Portland.
- **The program hosted a Contractor Day, providing business and technical training for 30 solar trade allies** from Klamath Falls, Newport and Bend to help reduce the non-equipment soft costs of solar installations.
- **Staff continued to monitor OPUC dockets** related to the resource value of solar, community solar programs and storage, and provided information upon request.

## Other Renewables

*The Other Renewables program provides project development assistance and installation 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. Qualified projects may access project development assistance incentives multiple times, up to the limits of funding caps, enabling applicants to move through consecutive development activities. In 2017, 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.*

- **Other Renewables made four new project development assistance incentive commitments**, bringing the **total number of current recipients to 52**, including 41 hydropower, 8 biopower, two geothermal and one community wind project.
- **One recipient of project development assistance is a large Oregon brewery testing two types of biopower technology** for treating brewery waste and generating energy. Results will inform the design of a full-scale wastewater treatment and energy generation project.
- **The program received three hydropower project applications for installation incentives** following a competitive solicitation, including two irrigation district projects participating in the irrigation modernization offering and one water district. Funding recommendations are expected in Q3 following technical and financial reviews.
- **The program continued assessments to help 16 irrigation districts** identify renewable energy and energy-efficiency opportunities, including two new districts enrolled in Q2. In collaboration with Farmers Conservation Alliance, Energy Trust's irrigation modernization initiative leverages the wide range of benefits irrigation modernization projects can provide, including energy generation, energy and water savings, and investment in rural communities. Several of these districts are candidates for new federal funding for watershed enhancement projects.

**30**  
SOLAR TRADE  
ALLIES ATTENDED  
CONTRACTOR  
DAY TRAINING

**52**  
PROJECTS  
RECEIVING  
PROJECT  
DEVELOPMENT  
ASSISTANCE

**16**  
IRRIGATION  
DISTRICTS  
RECEIVING  
ASSESSMENTS

- **Third-party evaluators reviewed operations of two municipally owned custom projects**, including a hydropower project at an irrigation district and a biopower project at a water resource recovery facility. The assessments compared projected versus actual costs and generation performance, and provided recommendations for improving operations for these and future projects. Staff are documenting best practices and opportunities to improve project development support.

## E. Internal operations highlights

### Communications

- **Received 232,000 website visits in Q2 2017**, an 8 percent decrease from Q2 2016. A small decrease in web traffic is typical following launch of a new website and reflects a drop in search traffic referrals, as search engines re-evaluate and update their scores for the new site. Web traffic is expected to increase in the remainder of 2017 in response to planned digital and email promotion of Energy Saver Kits.
- **Garnered 51 news stories about Energy Trust** programs and services with a media value of \$25,700—the cost of purchasing the equivalent advertising space and air time—as a result of media outreach and responses to reporter inquiries.
- **Prompted by digital advertising, more than 77,000 visitors accessed the interactive lighting wheel** web page, a tool that helps residential customers select the appropriate energy-efficient light bulb for a fixture and find a retailer. This is a significant increase compared to the typical 1,000 visitors per quarter.
- **Distributed five press releases in Q2 2017**, including announcement of Energy Trust's first Net Zero Fellowship Award, a tour of the Confederated Tribes of the Umatilla's in-progress Yellowhawk Tribal Health Center, and an event celebrating the Coos Head Food Co-op's new energy-efficient store in Coos Bay.

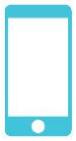
**232,000**  
WEBSITE VISITS

**51**  
NEWS STORIES  
ABOUT ENERGY  
TRUST

### Customer service

- **Received 4,900 calls in Q2 2017, roughly the same as in Q2 2016.**
- **Responded to 439 email inquiries in Q2 2017**, a decrease of 10 percent from 484 received in Q2 2016. Energy Trust is in the process of implementing improved email tracking to better understand email volume and types of inquiries.
- **Received one complaint in Q2 2017 that could not be easily resolved** by a call center representative. This compares to one complaint in Q2 2016.
- **Updated Energy Trust's Interactive Voice Response System**, the automatic greeting and navigation instructions that customers hear when they call Energy Trust's main phone number.

**4,900**  
CUSTOMER CALLS

  
UPDATED  
INTERACTIVE VOICE  
RESPONSE SYSTEM

## Trade and program allies

- **Provided education and networking opportunities for 280 trade allies** at Trade Ally Forums in Bend, Klamath Falls, Medford and Portland. Presentations covered market trends, program updates and opportunities for increased trade ally engagement.
- **To diversify and expand the Trade Ally Network, met with 50 customers and contractors at the Oregon Association of Minority Entrepreneurs trade show** and another 60 potential trade allies at the Governor's Marketplace.

**280**  
TRADE ALLIES  
ATTENDED  
FORUMS



ATTENDED  
OREGON  
ASSOCIATION OF  
MINORITY  
ENTREPRENEURS  
TRADE SHOW

## General outreach

- **Expanded awareness about Energy Trust services through presentations and events**, including Governor Brown's Clean Energy Leaders reception, the Conectate! gathering of Eastern Oregon Latino service providers, Umatilla County Economic Development Summit, Umpqua Basin Economic Alliance Summit, Douglas County Optimist Club, Consulado Moviles event in Medford, Energize Rogue Workshop in Central Point, Douglas County Energy and Earth Day Fair, Ashland ScienceWorks Tap House talks series and monthly Hispanic Interagency Committee meetings in Jackson County.
- **Provided information about Energy Trust programs through meetings** with legislators, Salem City Council, the Energy Committee of Affiliated Tribes of Northwest Indians, City of Chiloquin, Rogue Rotary, Albany Millersburg Economic Development Council and the Coos-Curry-Douglas Business Development Corporation.
- **Planned and attended commemoration of solar and energy-efficiency upgrades at the Montgomery Park building**, headlined by Congresswoman Suzanne Bonamici and Portland Mayor Ted Wheeler.
- **Recognized and promoted projects through events** at the Confederated Tribes of the Umatilla Indian Reservation's Yellowhawk Tribal Health Center in Eastern Oregon, Milton-Freewater school district and the Coos Head Food Co-op in Coos Bay.

## IT

- **Processed 16,500 customer projects in Energy Trust systems**, including 10,500 submitted through web applications.
- **Interviewed Energy Trust and PMC staff to better understand and meet the organization's data needs**, with resulting recommendations and improvements expected in Q3 and beyond.
- **Migrated database servers to the 2016 version of Microsoft SQL Server**, which features improved data warehousing, analysis and reporting tools.
- **Improved the trade ally enrollment web application** by upgrading to a newer version of programming software.
- **Set up new server and software for secure transfer of utility customer information** between utilities and Energy Trust.

**16,500**  
CUSTOMER  
PROJECTS  
PROCESSED

## Planning and evaluation

- **Created 112 new energy-efficiency measures** and revised 32 measures.
- **Completed and posted one evaluation** on the Energy Trust website: 2016 Annual Fast Feedback Customer Satisfaction Results.
- **Supported OPUC and the Oregon Department of Energy** in completing the agencies' 24-month Report to Legislative Assembly on Public Purpose Expenditures.
- **Updated electric and gas avoided costs for 2018** measure planning and development, and hosted stakeholder workshops to solicit input on avoided cost methodology changes.

**112**  
NEW ENERGY-  
EFFICIENCY  
MEASURES  
CREATED

## IV Revenues and expenditures tables<sup>7,8</sup>

### A. Revenues and expenditures summary

- Overall revenues totaled \$46.2 million for Q2 2017, 12 percent over what was budgeted. Increased revenues were due to an unusually cold winter and strong economy.
- Q2 expenditures totaled \$47.7 million**, of which \$27.6 million or 58 percent was for incentives. Typically, actual expenditures vary from budgeted expenditures by a few percentage points.
- Q2 electric efficiency expenditures** were 5 percent over budget.
- Q2 gas efficiency expenditures** were 3 percent over budget.
- Q2 renewable energy expenditures** were 14 percent below budget.

### B. 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
<b>Portland General Electric</b>	\$ 9,090,784	\$ 8,692,018
<b>PGE Incremental</b>	\$ 16,008,219	\$ 14,634,019
<b>Pacific Power</b>	\$ 6,788,949	\$ 6,149,313
<b>Pacific Power Incremental</b>	\$ 8,204,162	\$ 6,466,209
<b>NW Natural</b>	\$ 5,324,012	\$ 4,714,190
<b>NW Natural Industrial DSM</b>	\$ -	\$ -
<b>Cascade Natural Gas</b>	\$ 613,199	\$ 562,748
<b>Avista</b>	\$ 166,527	\$ 201,205
<b>Total</b>	<b>\$ 46,195,852</b>	<b>\$ 41,419,701</b>

- NW Natural Industrial DSM revenues were received in Q3, as planned.

### C. Expenditures by utility

Source	Q2 actual expenditures	Q2 budgeted expenditures
<b>Portland General Electric</b>	\$ 27,180,197	\$ 25,338,095
<b>Pacific Power</b>	\$ 14,780,155	\$ 15,706,367
<b>NW Natural</b>	\$ 4,118,017	\$ 4,182,613
<b>NW Natural Industrial DSM</b>	\$ 1,112,936	\$ 735,865
<b>Cascade Natural Gas</b>	\$ 241,808	\$ 464,463
<b>Avista</b>	\$ 295,155	\$ 205,654
<b>Total</b>	<b>\$ 47,728,268</b>	<b>\$ 46,633,056</b>

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

<sup>8</sup> The gas savings do not include results for NW Natural in Washington. These results are available at [www.energytrust.org/reports](http://www.energytrust.org/reports).

## D. Expenditures by sector and program

			Q2 actual expenditures	Q2 budgeted expenditures
Commercial	Existing Buildings and Multifamily	\$ 13,127,532	\$ 11,007,896	
	New Buildings	\$ 5,375,763	\$ 4,075,024	
	NEEA Commercial	\$ 565,215	\$ 699,567	
	<b>Commercial total</b>	<b>\$ 19,068,510</b>	<b>\$ 15,782,488</b>	
Industrial	Production Efficiency	\$ 8,195,623	\$ 8,469,286	
	NEEA Industrial	\$ 255,716	\$ 41,442	
	<b>Industrial total</b>	<b>\$ 8,451,339</b>	<b>\$ 8,510,728</b>	
Residential	Existing Homes	\$ 4,556,648	\$ 5,635,057	
	New Homes and Products	\$ 7,424,000	\$ 7,387,790	
	NEEA Residential	\$ 1,240,986	\$ 1,104,853	
	<b>Residential total</b>	<b>\$ 13,221,633</b>	<b>\$ 14,127,700</b>	
<b>Energy efficiency total</b>		<b>\$ 40,741,482</b>	<b>\$ 38,420,916</b>	
Renewables	Solar	\$ 3,072,579	\$ 3,433,824	
	Other Renewables	\$ 2,216,327	\$ 2,728,361	
<b>Renewable generation total</b>		<b>\$ 5,288,906</b>	<b>\$ 6,162,185</b>	
Administration	<b>Administration</b>	<b>\$ 1,697,879</b>	<b>\$ 2,049,956</b>	
	<b>Total expenditures</b>	<b>\$ 47,728,268</b>	<b>\$ 46,633,056</b>	

## E. Incentives paid

Quarter	PGE	Pacific Power	NW	Cascade	PGE	Pacific Power	Total	
	efficiency	efficiency	efficiency	Natural Gas efficiency	Avista efficiency	generation		
Q1	\$4,552,627	\$3,086,395	\$1,139,036	\$167,746	\$39,665	\$1,967,134	\$1,103,469	\$12,056,072
Q2	\$13,194,287	\$6,836,569	\$2,788,465	\$173,489	\$147,525	\$2,354,040	\$2,095,317	\$27,589,691
<b>Total</b>	<b>\$17,746,914</b>	<b>\$9,922,964</b>	<b>\$3,927,501</b>	<b>\$341,235</b>	<b>\$187,190</b>	<b>\$4,321,174</b>	<b>\$3,198,786</b>	<b>\$39,645,763</b>

# V Savings and generation tables<sup>9,10,11,12,13</sup>

## A. Savings and generation by fuel

	Q2 savings/generation	YTD savings/generation	Annual goal	Percent achieved YTD
<b>Electric savings</b>	13.6 aMW	19.5 aMW	56.4 aMW	35%
<b>Natural gas savings</b>	1,431,441 therms	2,076,557 therms	7,130,306 therms	29%
<b>Electric generation</b>	1.90 aMW	2.30 aMW	2.86 aMW	80%

## A. Progress toward annual efficiency goals by utility

	Q2 savings	YTD savings	Annual goal	Percent achieved YTD	Annual IRP target	Percent achieved YTD
<b>Portland General Electric</b>	8.5 aMW	12.1 aMW	35.0 aMW	35%	32.7 aMW*	37%
<b>Pacific Power</b>	5.1 aMW	7.4 aMW	21.4 aMW	35%	19.1 aMW*	39%
<b>NW Natural</b>	1.2 million therms	1.8 million therms	6.2 million therms	28%	4.7 million therms	37%
<b>Cascade Natural Gas</b>	104,863 therms	178,081 therms	563,862 therms	32%	563,862 therms*	32%
<b>Avista</b>	99,610 therms	146,689 therms	318,332 therms	46%	318,332 therms**	46%

\* Integrated Resource Plans for PGE, Pacific Power and Cascade Natural Gas are pending acknowledgement by the OPUC.

\*\* Energy Trust and Avista have not yet determined an IRP target for 2017. Energy Trust's program goal is used in lieu of a target 2017 IRP.

## B. Electric savings by sector and program

		Q2 savings aMW	YTD savings aMW	Annual goal aMW	Percent achieved YTD
Commercial	Existing Buildings and Multifamily	3.6	4.7	14.7	32%
	New Buildings	1.8	2.0	6.3	32%
	NEEA Commercial	0.2	0.4	1.5	26%
	<b>Commercial total</b>	<b>5.6</b>	<b>7.1</b>	<b>22.5</b>	<b>32%</b>
Industrial	Production Efficiency	2.7	3.6	13.6	26%
	NEEA Industrial	0.008	0.015	0.077	20%
	<b>Industrial total</b>	<b>2.8</b>	<b>3.6</b>	<b>13.7</b>	<b>26%</b>
Residential	Existing Homes	0.7	1.2	3.9	31%
	New Homes and Products	4.0	6.4	10.9	59%
	NEEA Residential	0.6	1.2	5.4	21%
	<b>Residential total</b>	<b>5.3</b>	<b>8.8</b>	<b>20.2</b>	<b>44%</b>
<b>Total electric savings</b>		<b>13.6</b>	<b>19.5</b>	<b>56.4</b>	<b>35%</b>

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

<sup>10</sup> This document reports net savings. Net savings are adjusted gross savings based on results of current and past evaluations

<sup>11</sup> Electric savings also include transmission and distribution savings.

<sup>12</sup> The gas savings do not include results for NW Natural in Washington. These results are available at [www.energytrust.org/reports](http://www.energytrust.org/reports).

<sup>13</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.

## C. Natural gas savings by sector and program

		Q2 savings thm	YTD savings thm	Annual goal thm	Percent achieved YTD
Commercial	Existing Buildings and Multifamily	258,578	352,452	2,200,792	16%
	New Buildings	345,066	369,453	946,372	39%
	<b>Commercial total</b>	<b>603,644</b>	<b>721,905</b>	<b>3,147,164</b>	<b>23%</b>
Industrial	Production Efficiency	141,314	194,533	1,071,174	18%
	<b>Industrial total</b>	<b>141,314</b>	<b>194,533</b>	<b>1,071,174</b>	<b>18%</b>
Residential	Existing Homes	235,171	360,871	1,112,252	32%
	New Homes and Products	451,312	799,248	1,799,715	44%
	<b>Residential total</b>	<b>686,483</b>	<b>1,160,119</b>	<b>2,911,967</b>	<b>40%</b>
<b>Total natural gas savings</b>		<b>1,431,441</b>	<b>2,076,557</b>	<b>7,130,306</b>	<b>29%</b>

Energy Trust allocated budget to NEEA for gas market transformation activities. While there were no associated savings in 2017, savings are expected in subsequent years.

## D. Renewable energy generation by utility

	Q2 generation aMW	YTD generation aMW	Annual goal aMW	Percent achieved YTD
Portland General Electric	0.20	0.45	1.23	37%
Pacific Power	1.71	1.85	1.63	114%
<b>Total</b>	<b>1.90</b>	<b>2.30</b>	<b>2.86</b>	<b>80%</b>

## B. Renewable energy generation by program

	Q2 generation aMW	YTD generation aMW	Annual goal aMW	Percent achieved YTD
Other Renewables program	0.00	0.00118	0.00120	99%
Solar program	1.90	2.30	2.86	80%
<b>Total generation</b>	<b>1.90</b>	<b>2.30</b>	<b>2.86</b>	<b>80%</b>

## C. Incremental utility SB 838 expenditures<sup>14</sup>

Utility	2017 Q2 SB 838 Expenditures		YTD SB 838 Expenditures	
Portland General Electric	\$	210,980	\$	392,754
Pacific Power	\$	169,734	\$	315,162
<b>Total</b>	<b>\$</b>	<b>380,714</b>	<b>\$</b>	<b>707,916</b>

<sup>14</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.