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

ENERGY TRUST OF OREGON

AUGUST 14, 2015

This report covers activity between April 1 and June 30, 2015

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Energy Trust of Oregon

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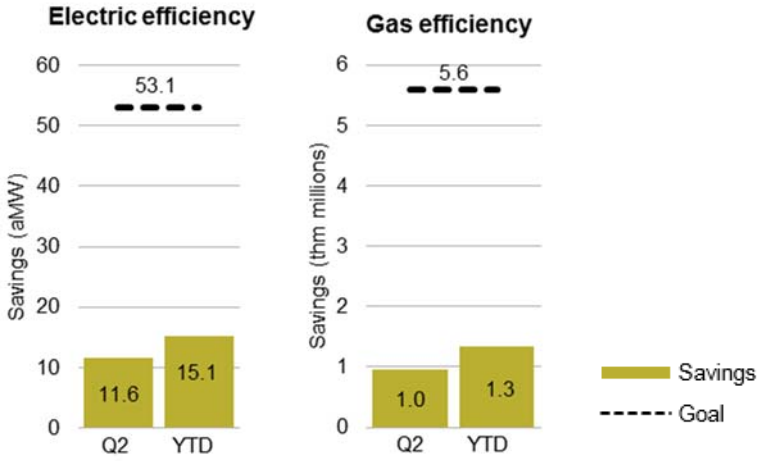
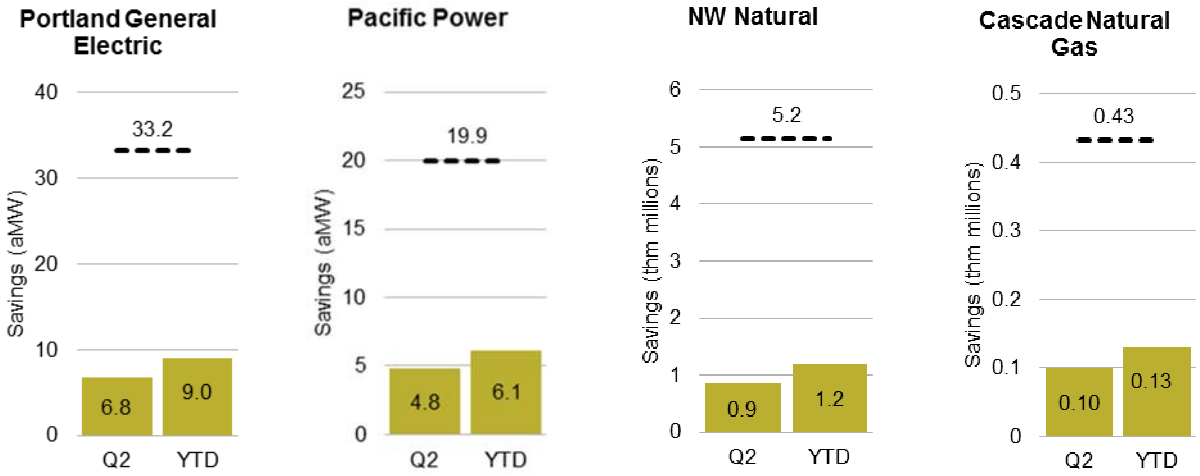
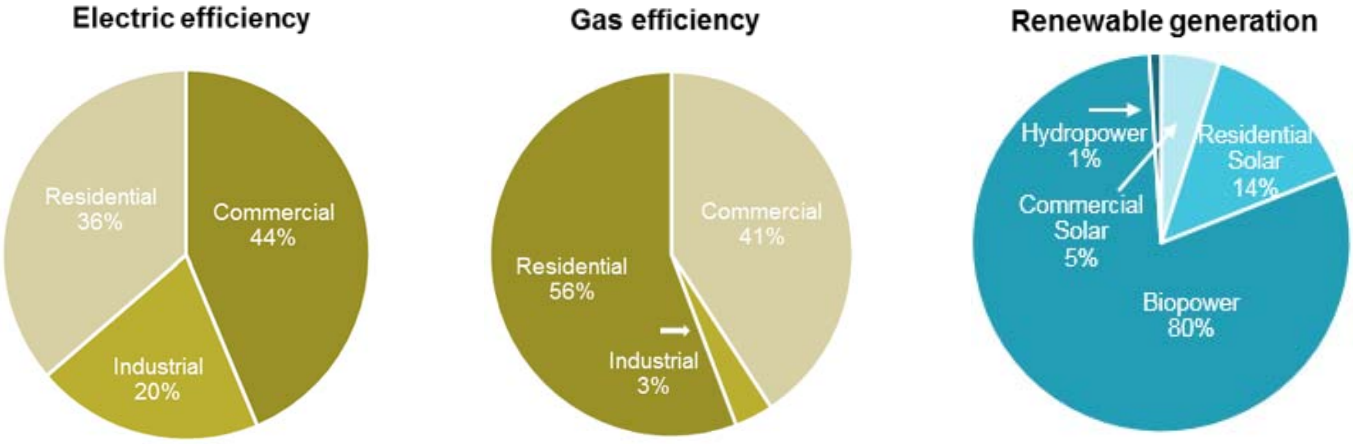
I Q2 ACTIVITY AT A GLANCE

Savings

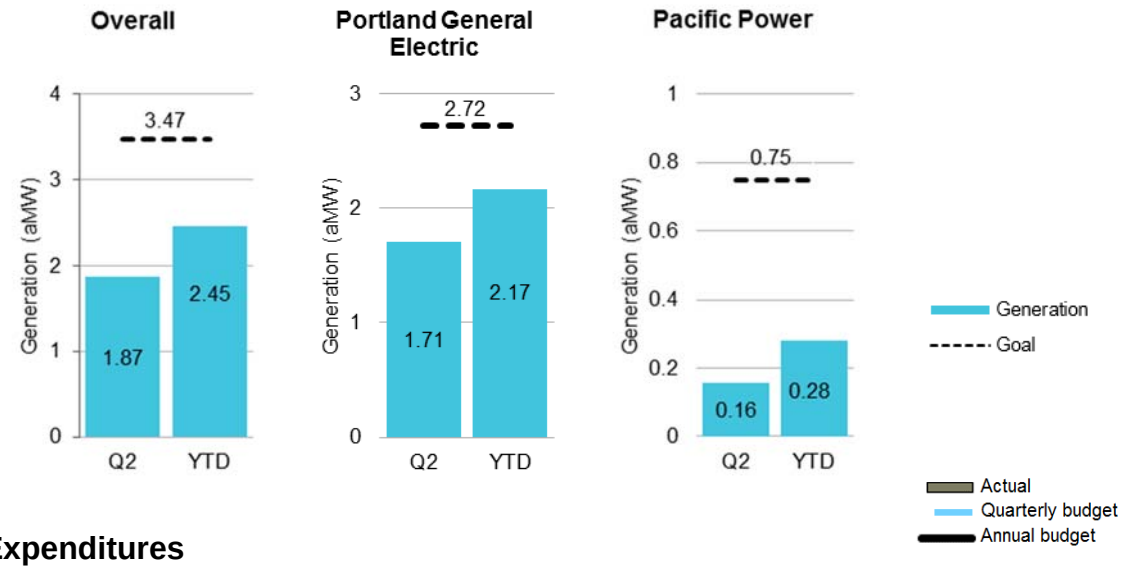




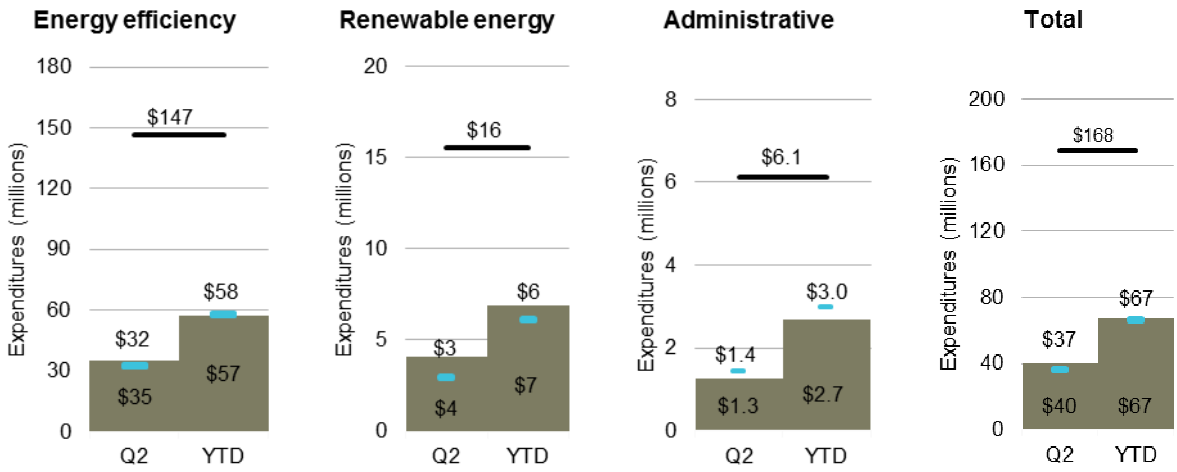
Percent of savings or generation by sector in Q2



Generation



Expenditures



Energy Trust sites served by region in Q2[1]

	Commercial	Industrial	Renewables	Residential	Total
Central Oregon	96	36	23	1,306	1,461
Eastern Oregon	26	13	6	316	361
North Coast	47	4	1	573	625
Portland Metro & Hood River	893	152	228	13,917	15,190
Southern Oregon	125	59	42	4,032	4,258
Willamette Valley	289	101	95	4,723	5,208
Total	**1,476**	**365**	**395**	**24,867**	**27,103**

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

II EXECUTIVE SUMMARY OF ACTIVITY

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

- **At the close of quarter two, Energy Trust is on track to meet or exceed savings and generation goals** in all utility territories in 2015.
- **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 projects close. This report focuses on the development of projects expected to save or generate energy and contribute to organizational goals by year-end.
- **Electric efficiency improvements completed during Q2 will save 11.6 aMW** of electricity, about 22 percent of the 2015 goal of 53.1 aMW.
- **Gas efficiency improvements completed during Q2 will save 953,632 annual therms** of natural gas[4], about 17 percent of the 2015 goal of 5.6 million annual therms.
- **Renewable energy systems installed during Q2** will generate 1.87 aMW of electricity, 54 percent of the 2015 goal of 3.47 aMW. Completion of a biopower project and a hydropower project plus strong standard solar demand contributed to these results. Renewable generation is influenced by completion of large projects and can fluctuate significantly by quarter.
- **Savings and generation achieved in Q2 2015 represent 62,000 tons of carbon dioxide** kept out of the atmosphere, the equivalent of removing 11,000 cars from Oregon roads for one year.

B. Market and program trends

- **Outreach resulted in strong residential savings** from ductless heat pumps, gas hearths and Energy Saver Kits, positioning the sector to meet goals by year-end. By conducting outreach and achieving savings earlier in the year, the residential sector is better positioned to respond to new opportunities and changing customer demand in the second half of the year.
- **Small commercial and industrial customer participation grew** as customers took advantage of targeted Energy Trust incentives, such as a new lighting offering for small businesses, packaged market solutions for new construction of buildings less than 70,000 square feet and lighting incentives for small industrial projects.
- **Energy Trust helped many New Buildings participants complete their projects quickly after enrollment and save more energy than expected** through new LED applications. The program continued to see high levels of activity as a result of economic recovery and mild weather.
- **Energy Trust expects to help 2,400 homes exceed building code by meeting EPS™** requirements in 2015, 200 more than planned, as the rating gains market recognition and the new construction industry continues its growth trend. Homes rated with the energy performance score save energy through energy-efficient windows, HVAC, appliances and weatherization.
- **With continued support from Energy Trust, LED demand remained high in all sectors**. LEDs were installed in homes, multifamily dwelling units, businesses, industrial facilities and municipal streetlights. In addition to Energy Trust promotions and cash incentives, LED retail

[2]This document reports net savings, which are adjusted gross savings based on results of current and past evaluations.
[2]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, 2014, may be different than previously reported as a result of applying updated evaluation factors to Energy Trust savings and generation in Oregon through the annual true up process. The full True Up 2014 Report is available online at www.energytrust.org/reports.
[4]Gas savings do not include NW Natural results in Washington. These results are reported in Appendix 4.

sales were further driven by dropping prices, technological advancements, marketplace competition and ENERGY STAR® certification for new LED products.

- **Strategies to consistently achieve savings through the remainder of the year include** gas incentive increases to make Existing Buildings projects more affordable compared to low natural gas prices, enhanced incentives for Existing Multifamily customers and increased coaching to maximize savings from no- and low-cost behavioral improvements for commercial and industrial Strategic Energy Management participants.
- **Generation from the standard solar program in Q2 was the strongest on record**, driven by decreasing equipment prices, Energy Trust incentives and statewide advertising, and the impending expiration of the federal Solar Investment Tax Credit at the end of 2016 prompting customers to complete projects earlier.
- **A 1.7-MW biogas project and a 30-kW hydropower project completed** and began generating renewable energy at Clean Water Services Durham Wastewater Treatment Plant in Tigard and at the City of Astoria's Bear Creek Reservoir, respectively.

C. Notable achievements

- **Energy Trust launched its first comprehensive advertising campaign** to encourage all sizes and types of commercial and industrial businesses to invest in energy efficiency. To expand the campaign's impact, Energy Trust promoted cooperative marketing opportunities to trade allies, providing reimbursement for up to one-half the cost of trade ally-purchased ads with Energy Trust's content. Early results indicate broad engagement, with 10,000 website visits, including 7,000 from customers outside of the Portland Metro area.
- **Existing Buildings, Production Efficiency and Existing Multifamily staff collaborated to streamline Energy Trust's LED product review criteria**, saving staff time across programs and ensuring verifiable information about the efficiency and quality of LED products for customers.
- **Energy Trust received six proposals to deliver the Existing Multifamily program** in response to a request for proposals. A panel of staff and external experts reviewed the proposals and will make a recommendation to the board of directors in Q3. Energy Trust periodically rebids program management contracts to ensure effective service delivery and value for ratepayers.
- **For the first time, an annual report on Northwest Energy Efficiency Alliance activities is included as an appendix to Energy Trust's Q2 Report.** The annual report details initial progress to 2015 OPUC performance measures related to NEEA. Delivered in Q2 of each year, this annual report replaces quarterly reports previously appended to Energy Trust's quarterly reports. Additional information about NEEA activities, including a review of the new stakeholder engagement process, will be included in the NEEA 2015 Annual Report appendix in Q2 2016.

D. Revenues and expenditures

- **Overall revenue totaled $33.8 million for Q2 2015,** slightly less than what was budgeted. Revenue was significantly less than last year, reflecting planned efforts to reduce reserves.
- **Q2 expenditures totaled $40.4 million**, of which $23.1 million or 56 percent was for incentives.
- **Q2 electric efficiency expenditures** were 11 percent over budget.
- **Q2 gas efficiency expenditures** were 10 percent below budget.
- **Q2 renewable energy expenditures** were 37 percent over budget.
- **Incentive spending increased significantly compared to Q2 last year** due to a robust economy, a mild winter that allowed for an early start to the construction season and Energy Trust outreach efforts and targeted incentives to drive activity earlier in the year.

III PROGRAM AND OPERATIONS ACTIVITY AND DETAIL[5]

A. Commercial sector highlights

- **The commercial sector, comprising the Existing Buildings program, New Buildings program and Existing Multifamily initiative, performed in line with expectations**.
- **The sector completed 34 renovation projects, including one identified as a deep retrofit** with upgrades to at least two major building systems.
- **With the City of Portland, utilities and NEEA, staff developed strategies to help customers meet requirements of the city's Energy Performance Reporting Policy**, including help desk support, ENERGY STAR Portfolio Manager® training and potential enhanced program offerings.
- **Staff continued collaboration with Multnomah County and the Portland Development Commission to launch the county's Commercial Property Assessed Clean Energy** program in Q3. The two-year pilot will provide 100 percent of funding to commercial property owners who complete comprehensive energy-efficiency and renewable energy projects, with long-term loans repaid through energy savings or electricity production.
- **Energy Trust began receiving monthly energy information for the first office building to install energy upgrades through the Pay for Performance pilot**, located in downtown Portland. A second building originally selected to participate in the pilot no longer meets requirements and will not participate. The pilot will determine if paying incentives for capital, operations and maintenance improvements over a multiyear period will help customers overcome market barriers and achieve additional energy savings through comprehensive projects.
- **Savings from Energy Trust investment in NEEA activities comprised approximately 3 percent** of the sector's results in PGE and Pacific Power territories. 2015 savings are anticipated from Building Operator Certifications and building code improvements.

Existing Buildings

- **Lighting projects provided the majority of electric savings**, followed by custom and prescriptive projects.
- **Strong demand continued for a lighting installation offering and an LED buy-down initiative targeting small business customers**, following collaborative outreach with PGE and Pacific Power. The offering provides an incentive covering 80 percent of lighting installation costs, zero-interest financing and a 5 percent discount for customers who pay up front.
- **Custom projects provided the majority of gas savings**, with prescriptive projects also making a significant contribution**.** Common prescriptive projects include upgrades to insulation and foodservice, grocery and HVAC equipment.
- **Through Q2, fewer-than-budgeted gas and dual-fuel custom projects have been identified to complete by year-end**, potentially impacting savings in PGE and NW Natural territories.
- **To boost savings, Existing Buildings will increase incentives for gas and dual-fuel upgrades** to make projects more affordable compared to low natural gas prices. Enhanced outreach and project development efforts were planned for the latter half of the year.

[5]Tables summarizing Q2 activity by sector have been omitted due to reduced reporting resources resulting from recent staffing transitions. Tables will be added in future quarters when resources are expected to become available again.

- **Existing Buildings delivered more than 800 advanced power strips** to small business customers following audits and site visits through Q2, which is more than planned. Advanced power strips save energy by turning off computers, monitors and printers when not in use.
- **Streetlight LED upgrades contributed nearly one-quarter of savings in PGE territory** through Q2, including upgrades to 20,000 streetlights that are saving the City of Portland $100,000 in energy costs per month. The city plans to upgrade an additional 25,000 streetlights by the end of 2016.
- **The program launched a contest for distributors to promote energy-efficient foodservice** equipment sales. With seven participating distributors and 63 applications so far, the effort is expected to bring in gas savings by year-end.
- **To maximize savings from commercial SEM customers, the program released a bonus**, expanded existing customer participation to include additional buildings and recruited an additional customer. These efforts will compensate for an SEM cohort that was postponed to 2016 due to recruitment delays during transition to a new delivery contract structure.

Existing Multifamily

- **Through Q2, direct installation of energy-saving LEDs, showerheads and faucet aerators** in dwelling units contributed more than 80 percent of electric and gas savings. Heating and weatherization measures provided most of the remaining savings.
- **To drive savings through year-end, staff will promote prescriptive, lighting and custom** projects including gas furnaces and hearths. Gas hearth incentives were added, and incentive increases were planned for Q3 for gas furnaces and recirculation pumps.
- **A new development representative for Eastern, Central and Southern Oregon fostered local relationships** and developed project leads in Cascade Natural Gas territory that are expected to result in custom and prescriptive savings by year-end.
- **A pilot continued to determine energy savings from advanced power strips** installed in multifamily properties, which save energy by turning off auxiliary devices, such as a DVD player when a television is not in use.
- **Staff leveraged utility data and mapping software to identify and target outreach to properties** with high energy-saving potential.

New Buildings

- **Energy Trust helped many New Buildings projects complete quickly after enrollment and save more energy than expected**. Economic recovery drove project enrollments, and Energy Trust helped customers achieve more energy savings through new LED applications.
- **A large data center with energy-efficient design received Energy Trust incentives and contributed one-quarter of electric savings in Q2**. New multifamily construction remained a strong area of engagement and savings, in addition to warehouses, retail stores, parking garages and car dealerships.
- **Warehouse and distribution centers with energy-efficient features accounted for one-quarter of gas savings in Q2**, followed by new multifamily construction. The remainder of gas savings came from a large project at the Oregon Zoo, and projects at hospitals and hotels.
- **By engaging small commercial customers, New Buildings increased enrollment** by 10 percent compared to this time last year, with higher savings expected per project from increased LED lighting applications. Many customers took advantage of Energy Trust's market solutions offerings, which provide pre-packaged incentives to help achieve deeper energy savings in

construction of small restaurant, grocery, multifamily, office, school and retail buildings less than 70,000 square feet.

- **The program launched two energy-efficiency awards as part of the Daily Journal of Commerce's Top Projects awards**, increasing awareness of Energy Trust incentives and services to design, development and construction professionals. Energy Trust participants received both awards, with Oregon Health and Science University's Collaborative Life Sciences Building receiving the "new construction" award and Killian Pacific's Hawthorne Depot receiving the "major renovation" award.
- **Allies for Efficiency trainings continued to attract a high volume of attendees, and training locations expanded** to Pendleton and Boise to reach allies that serve Eastern Oregon. Interest in Allies for Efficiency has fostered regional activity and facilitated relationships with the University of Idaho Design Lab and Lane Community College, helping educate contractors and design professionals to incorporate energy efficiency and solar into future projects.

B. Industry and agriculture sector highlights

- **In Q2, the industry and agriculture sector performed in line with expectations**, with a record pipeline of natural gas projects and a typical pipeline of electric projects expected to complete in 2015.
- **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, prior work on motor rewinds—an economical and efficient approach to extending the life of a motor—and standards for efficient electric motors are expected to deliver limited savings in 2015.

Production Efficiency

- **Custom projects comprised nearly one-half of electric savings through Q2**, followed by lighting and streamlined industrial track projects. Custom variable-frequency drive and compressed air projects were the main drivers of custom and streamlined industrial electric savings.
- **LEDs continued to drive lighting savings, representing about 60 percent** of the total.
- **Custom projects provided nearly two-thirds of gas savings through Q2**, with the remainder from streamlined industrial track projects, primarily greenhouse projects. Prescriptive projects, such as insulation and radiant heating upgrades, also contributed savings.
- **Production Efficiency made progress on a large and potentially replicable regenerative thermal oxidizer and heat recovery project**, expected to complete in Q4 and save 1.4 million annual therms and 1.2 million kWh.
- **With 500 projects completed through Q2, the program increased the number of completed projects by 20 percent** compared to last year at this time. The number of small lighting projects increased dramatically compared to prior years, indicating a trend toward more, smaller lighting projects.
- **The program has a record pipeline of electric streamlined industrial projects**, with nearly 50 percent more projects than at this time last year. Streamlined projects are trade-ally delivered projects at small and large industrial sites, and can include prescriptive and calculated upgrades to irrigation, small compressed air and variable frequency drives.
- **Savings from industrial SEM projects are expected in Q4**, when customers complete participation in this annual offer. Two of the largest participants have made limited progress, and

staff will meet with executives to help them prioritize energy-saving efforts in Q3. Seven out of 32 SEM participants dropped out in early 2015, a typical rate of attrition as business priorities shift. Many of these dropouts are likely to complete SEM participation in future years.

- **To boost electric savings in the latter half of the year, staff will coach participants** to complete custom projects in 2015 and prevent these projects from shifting into 2016, as has occurred in past years.
- **In Q2, Production Efficiency created a standardized SEM curriculum**, materials and tools, documenting best practices learned over the past six years. In addition, staff conducted a request for qualifications to diversify the program's pool of SEM coaches to support customers around the state in making no- and low-cost behavioral improvements.

C. Residential sector highlights

- **Residential sector activities, comprising Existing Homes and New Homes and Products programs, were in line with expectations.**
- **Customers responded to Energy Trust incentives and marketing of ductless heat pumps, gas hearths, new home construction and Energy Saver Kits**—supporting residential savings in Q2. In addition, retail lighting sales and showerhead promotions are expected to drive savings for the remainder of the year.
- **To become a state-approved home energy score provider**, staff documented and submitted Energy Trust's approach to ensuring compliance with HB 2801 to the Oregon Department of Energy. HB 2801 requires that Energy Trust oversee compliance of contractors providing EPS, a home energy performance score.
- **Savings from NEEA activities comprised approximately 12 percent** of the sector's savings in PGE and Pacific Power territories. 2015 savings are expected from residential building code improvements, energy-efficient televisions, ductless heat pumps and heat pump water heaters.

Existing Homes

- **Existing Homes saved significantly more electricity and gas than this time last year**, with the majority of electric and gas savings from successful promotions of Energy Saver Kits and LivingWise Kits delivered to sixth-grade students through schools. All kits include energy-saving LEDs, faucet aerators and showerheads.
- **Marketing and utility promotions supported strong ductless heat pump and gas hearth sales in Q2**, which are expected to increase as a portion of savings by year-end.
- **Energy Trust completed 167 residential deep retrofits**[6], including Home Performance with ENERGY STAR and Clean Energy Works projects. Reduced demand for weatherization upgrades is attributed to mild weather and modified requirements to meet cost-effectiveness thresholds.
- **Gas furnace installations in single-family rentals were bolstered by Energy Trust and NW Natural promotions**, with 30 gas furnaces installed in single-family rentals Q2. This compares to four installed in Q1 when the incentive launched.
- **In response to UM 1622, Existing Homes worked with the OPUC to extend incentives** for floor and wall insulation in gas-heated homes through June 30, and revised measures to continue supporting these upgrades under an incentive cap scenario as of July 1.

[6]Energy Trust defines residential deep retrofits as achieving a 20 percent or greater reduction in heating load through two or more weatherization or heating improvements installed at the same time. Many additional customers achieve whole-home savings through installation of a series of single upgrades over a period of months or years.

- **The program promoted energy-efficient HVAC equipment as part of a regional wood stove replacement program to improve air quality in Klamath and Lake counties.** South Central Oregon Economic Development District, which manages the Clean Air Initiative in Klamath and Lake counties, also enrolled as an Energy Trust program ally to provide direct installation of LED bulbs and water-saving devices to Southern Oregon residents.
- **Existing Homes helped customers with homes primarily heated with oil, propane, butane or wood** learn about no-cost ways to save energy through a letter promoting Energy Saver Kits sent to participants of the Oregon Department of Energy's State Home Oil Weatherization program. Because of their heat source, these PGE and Pacific Power customers are not eligible for Energy Trust's weatherization incentives.
- **Staff promoted HVAC incentives for homes and multifamily buildings** at meetings of the Oregon Air Conditioning Contractors Association and the Salem Rental Property Management Association. Following successful presentations, the program will continue to attend Salem Rental Property Management Association events.
- **Existing Homes launched a pilot to measure savings from tier two advanced power strips**, which save energy by using occupancy sensing controls to turn off televisions and auxiliary devices when not in use.

New Homes

- **EPS new home construction contributed nearly all of the program's electric savings** in Q2, followed by individual equipment installations. Builders can receive cash incentives for new homes constructed to EPS requirements, indicating low energy consumption, utility costs and carbon footprint.
- **Market transformation efforts provided 60 percent of gas savings**, with 40 percent from EPS new home construction. Market transformation includes Energy Trust's impact on state building codes, influencing builders and benefiting customers who do not work directly with Energy Trust.
- **New Homes leveraged a thriving construction market to grow the number of EPS homes** built, with 2,400 EPS homes expected by year-end, 200 more than the program's goal.
- **To ensure consistent electric savings through year-end, staff will promote EPS** and individual equipment incentives to builders and increase support for verifiers. Trade ally verifiers provide technical guidance and inspection to builders, ensuring the energy efficiency of EPS homes.
- **Staff helped a high-volume builder increase the efficiency of hundreds of new homes** by raising average home savings from 10 to 35 percent above code. Greater efficiency was achieved through installation of energy-efficient ductless heat pumps, tankless water heaters, lighting and weatherization.
- **In Q2, 450 real estate agents, lenders and home inspectors attended 29 Energy Trust trainings** on the benefits of energy-efficient homes in Bend, Corvallis, Grants Pass, Portland, Salem and Talent.
- **New Homes cross-trained and leveraged regional Existing Homes outreach staff** to provide local support for contractors and verifiers outside of the Portland Metro area, leveraging existing resources to expand services for customers.

Products

- **Consumer lighting purchases contributed the majority of electric savings in Q2**, followed by refrigerator recycling, showerhead installations and giveaways at events, and appliance

purchases. Savings from appliance purchases and refrigerator recycling were lower than expected, following recent trends.

- **With continued support from Energy Trust, LED sales drove electric savings**, bolstered by Energy Trust incentives, dropping prices, technological advancements, marketplace competition and ENERGY STAR certification for new LED products. Given high demand, the program will reduce incentives for top-selling LED products in the remainder of 2015.
- **Gas savings were achieved primarily through efficient showerheads in kits and given away at events**, followed by showerheads and appliances purchased in stores.
- **Products began offering discounted lighting and showerheads at new stores targeting rural and moderate-income residents**, including at discount stores Dollar Tree, Goodwill and Habitat for Humanity ReStore.
- **To boost savings for Cascade Natural Gas customers,** Products approached 21 new food pantries about distributing showerheads to residents.
- **Staff conducted initial analysis for a potential new clothes washer recycling offering** to drive savings in future years. In addition, staff completed a clothes washer shelf survey at 12 retailers to inform efforts to increase the availability of energy-efficient appliances in retail showrooms.

D. Renewable energy sector highlights

- **The renewable energy sector, comprising Solar and Other Renewables programs**, exceeded expectations in Q2, with very strong demand for standard solar installations and completion of two Other Renewables projects.

Solar

- **Generation from the standard solar program in Q2 was the strongest on record**, driven by steadily decreasing solar equipment prices, statewide Energy Trust advertising and incentives, and the impending expiration of the federal Solar Investment Tax Credit at the end of 2016 prompting customers to complete projects earlier.
- **To provide incentives for more solar installations in Q2 than expected and to stay in line with market price reductions**, the program reduced incentives for residential and commercial Pacific Power customers and residential PGE customers. Staff will monitor the budget and implement periodic incentive decreases in response to demand, and will prepare for a larger pipeline of projects in 2016 and 2017.
- **The program received 16 applications through a competitive solicitation** for large solar projects in Pacific Power territory, with incentive requests far exceeding available funds. Applications will be reviewed in Q3, with incentive commitments expected by year-end.
- **Energy Trust provided funding to the Oregon Clean Power Cooperative**, which will provide legal, financial and technical support for developing community renewable energy projects in Oregon. Community projects enable Oregonians without suitable property to participate in and benefit from local renewable energy projects.
- **Staff attended ribbon-cutting events for Medford's Coyote Trails Nature Center solar pavilion** and a 208-kW solar array that helps power the Corvallis Fire Department's training facility. Both projects received funding from Energy Trust and Pacific Power's customer-supported Blue Sky℠ program.
- **Coordination increased with Pacific Power's Blue Sky program** to better align application processes, build awareness and celebrate jointly funded projects.

- **With Energy Trust support, the Oregon Solar Energy Conference** offered 30 continuing education classes to more than 250 installers, manufacturers, distributors, architects, designers, government agencies and nonprofits in attendance.
- **Staff helped the Portland IKEA store create and install an in-store educational display** promoting residential solar to customers and directing them to Energy Trust solar trade allies.

Other Renewables

- **Two Other Renewables projects completed in Q2**, both of which were previous recipients of Energy Trust project development assistance, including:
    - **A 1.7-MW biogas project at Clean Water Services** Durham Wastewater Treatment Plant in Tigard.
    - **A 30-kW hydropower project at the City of Astoria Bear Creek Reservoir** that will generate enough energy to offset the energy use of the city's water treatment plant.
- **A hydropower project to upgrade a turbine at Farmers Irrigation District in Hood River** is on track to complete in 2015. The turbine is expected to increase generation by more than 10 percent while reducing operations and maintenance costs.
- **Other Renewables committed $300,000 in project development assistance** to one wind, two biogas and five hydropower projects in Q2, for a total of 22 projects receiving project development assistance so far in 2015. Outreach efforts are expected to drive additional project development assistance requests in Q3.
- **In Q2, one geothermal project and two wind projects applied for installation incentives** through the second competitive solicitation for Other Renewables projects in 2015. As small projects can send unsolicited applications, the program also received an application for an 11-kW hydropower project at an Eastern Oregon ranch. All projects will be reviewed in Q3.
- **Staff supported a ribbon-cutting event for the City of Gresham Wastewater Treatment Plant's 400-kW biogas project** that completed in Q1. In addition to enabling the plant to achieve net-zero energy use, the project is a replicable model for other wastewater treatment plants.
- **Indicating early success, project development assistance was committed for two hydropower projects** following outreach for a two-year strategy to support renewable energy, water conservation and energy efficiency in irrigation districts. These two projects are included in the above-mentioned five hydropower projects receiving project development assistance. Located in Hood River and Wallowa counties, the projects have potential to generate energy, save billions of gallons of water in drought-sensitive communities, stimulate economic activity in rural areas and protect fish and wildlife habitats.

E. Highlights of internal operations

Communications

- **Received 197,203 website visits in Q2 2015**, on par with the 196,831 visits in Q2 2014. Marketing for Energy Saver Kits was the biggest driver of web traffic, accounting for 15 percent of all visitors.
- **Distributed three press releases in Q2**, featuring net-zero new construction, the City of Gresham Wastewater Treatment Plant and a new Energy Trust board member.
- **Garnered 141 news stories about Energy Trust programs and services** with a media value of $85,000—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

- **Received 6,176 calls to the customer hotline, 5 percent more** than the 5,889 received in Q2 2014. The majority of calls were about residential and solar offerings.
- **Received 421 email inquiries to info@energytrust.org, 12 percent more** than the 375 emails received in Q2 2014, reflecting increased customer engagement through online channels.
- **Received and addressed 11 complaints, compared to seven received in Q2 2014**. Five of these complaints were resolved in Q2, and the majority were regarding experiences with trade allies, not Energy Trust representatives. Energy Trust coordinated with NEEA and contractors to address two complaints related to AirGenerate heat pump water heater equipment failures.
- **Began development of a staff and Program Management Contractor intranet resource for handling complaints**, which features communications templates, talking points, business rules and standard procedures.
- **Implemented a two-week development cycle to manage a high volume of updates to incentive applications** resulting from Energy Trust's continuously adjusting program strategies.

Trade and program allies

- **Added 75 new allies to the network**, including 69 trade allies, four design allies and two real estate allies.
- **Provided 106 trade allies with business development funds** to support marketing and training.
- **Developed relationships with minority and women business owners** at the annual Oregon Association of Minority Entrepreneurs Trade Show.
- **Streamlined processes and roles for monthly trade ally newsletter production**, expediting development and saving staff approximately 15 hours of work per month.

Organizational outreach

- **Met with and provided information about Energy Trust to leaders** in state and local government, business groups and trade allies.
- **Developed stakeholder and customer relationships by attending conferences** and meetings of South Willamette Valley Small Cities, Oregon Solar Energy Industries Association, Bonneville Power Administration and Portland Business Journal.
- **Coordinated with stakeholders to ensure Energy Trust's presence** at Lewis & Clark College's Earth Day event and Sustainable Northwest's Rural Outreach Road Show.
- **Testified at a hearing of the Oregon House Committee on Energy and Environment** and worked with the Governor's staff to provide information about energy conservation, water savings and air quality benefits.
- **Served on the Washington County Wood Smoke Air Quality Advisory Committee**.
- **Acknowledged projects receiving Energy Trust support at events** for Clatsop Community College in Astoria, Chinook Winds Casino in Lincoln City, Darigold and Columbia Boulevard Wastewater Treatment Plant in Portland, and the City of Corvallis.

IT

- **Continued investments in foundational IT system improvements** to help anticipate program needs and reduce future costs, including:
    - **Launched three out of five releases of Project Tracking, a new web-based system** for tracking customer projects and payment information. With the fifth and final release

expected in Q3, the new system will allow Energy Trust and PMC users to easily access more information and will offer greater flexibility to meet changing business needs. Once Project Tracking is released, the former FastTrack system will be retired.
    - **Launched a new project to facilitate secure import of utility data** in accordance with utility data sharing agreements, helping staff access customer data to inform program design and marketing strategies while protecting customer information.
    - **Upgraded the email server to Microsoft Exchange 2013**, keeping critical systems up to date to support staff efficiency.
    - **Installed software to update the organization's intranet application**, Microsoft SharePoint, to facilitate efficient program management and operational collaboration.
- **Processed 29,559 customer projects in Energy Trust systems**, including 21,527 submitted through web applications and data imports.

Planning and evaluation

- **Created 99 new energy-efficiency measures and revised 290 measures**.
- **Completed and posted six evaluations and market studies** on the Energy Trust website:
    - New Homes program billing analysis—comparison of modeled to actual energy usage
    - True Up 2014: Tracking estimate corrections and True Up of 2002-2013 savings and generation
    - Windows Delphi panel study
    - Commercial qualitative market research
    - 2012 Existing Buildings program impact evaluation
    - 2012 rooftop unit tune-up initiative impact evaluation
- **Completed annual revision to gas avoided costs**, which will be used to determine gas measure cost-effectiveness in 2016.
- **Supported utilities with development of Integrated Resource Plans**, including providing savings projections to PGE.
- **Developed benefit/cost ratio tools** to give staff more detail about program and contractor performance.
- **Produced and submitted information for the biennial Public Purpose Charge report** submitted to the Oregon Legislature by the OPUC and the Oregon Department of Energy.
- **Added measures to Energy Trust's resource assessment tool** that resulted in 13 percent and 12 percent increases to 20-year electric and gas savings potential estimates, respectively.
- **Helped develop a 10-year strategic plan to coordinate commercial and industrial lighting efficiency efforts** between Energy Trust, NEEA, utilities and others, to be reviewed by NEEA's Regional Portfolio Advisory Committee in Q3. The plan focuses on how to adapt energy-efficiency programs to address rapid changes in business lighting and lighting controls equipment and markets, and how to focus on new opportunities as current efficiency measures become common practice.
- **Provided data and analysis to Lawrence Berkeley National Labs for a national study benchmarking the total resource cost of energy-efficiency programs** from multiple states. Compared to other programs, Energy Trust was categorized as having high energy savings as a percent of electric utility load and average costs.

IV REVENUE AND EXPENDITURE TABLES[7]

A. Revenues

Source	Q2 actual revenues received	Q2 budgeted revenues
Portland General Electric	$ 8,609,576	$ 8,810,386
PGE incremental	$ 9,564,894	$ 9,605,190
Pacific Power	$ 6,267,216	$ 6,552,503
Pacific Power incremental	$ 4,662,323	$ 4,755,100
Cascade Natural Gas	$ 289,108	$ 267,919
NW Natural	$ 3,341,971	$ 3,679,649
NW Natural Industrial DSM	$ 1,026,144	$ 999,140
Total	**$ 33,761,232**	**$ 34,669,886**

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

B. Expenditures

Type	Q2 actual expenditures	Q2 budgeted expenditures
Energy efficiency programs	$ 35,074,861	$ 32,128,027
Renewable energy programs	$ 4,081,042	$ 2,948,759
Administration	$ 1,256,104	$ 1,428,734
Total	**$ 40,412,006**	**$ 36,505,519**

Source	Q2 actual expenditures	Q2 budgeted expenditures
Portland General Electric	$ 21,658,603	$ 19,407,080
Pacific Power	$ 14,581,276	$ 12,479,312
Cascade Natural Gas	$ 304,649	$ 385,791
NW Natural	$ 3,436,912	$ 3,720,798
NW Natural Industrial DSM	$ 430,567	$ 512,538
Total	**$ 40,412,006**	**$ 36,505,519**

C. Incentives paid

	Energy efficiency				Renewable energy		Total
Quarter	PGE	Pacific Power	NW Natural	Cascade Natural Gas	PGE	Pacific Power	
Q1	$ 3,622,453	$ 2,051,460	$ 991,270	$ 97,245	$ 1,596,961	$ 649,081	$ 9,008,469
Q2	$10,041,800	$ 7,269,604	$ 2,257,203	$ 188,473	$ 2,477,706	$ 911,363	$23,146,150
Total	**$13,664,254**	**$ 9,321,064**	**$ 3,248,473**	**$ 285,718**	**$ 4,074,667**	**$ 1,560,445**	**$32,154,620**

[7]Columns may not total due to rounding.

V SAVINGS AND GENERATION TABLES[8, 9, 10, 11]

A. Progress toward annual efficiency and generation goals

	YTD expenditures	YTD savings/ generation	Energy Trust annual goal	Percent achieved
Electric savings	$ 51,701,468	15.1 aMW	53.1 aMW	28%
Natural gas savings	$ 8,023,995	1.3 million therms	5.6 million therms	24%
Electric generation	$ 7,166,816	2.45 aMW	3.47 aMW	71%

B. Progress toward annual efficiency goals by utility

	YTD expenditures	YTD savings	Energy Trust annual goal	Percent achieved	Annual IRP target	Percent achieved
Portland General Electric	$ 30,613,074	9.0 aMW	33.2 aMW	27%	33.8 aMW	27%
Pacific Power	$ 21,088,394	6.1 aMW	19.9 aMW	31%	19.1 aMW*	32%
NW Natural	$ 7,309,789	1.2 million therms	5.2 million therms	23%	4.6 million therms	26%
Cascade Natural Gas	$ 714,206	130,233 therms	433,020 therms	30%	514,597 therms	25%

*Pending approval from OPUC

C. Electric efficiency savings and expenditures

Q2 electric efficiency savings	PGE (aMW)	Pacific Power (aMW)	Total savings (aMW)	Expenses
Commercial	3.1	2.0	5.1	$ 15,316,448
Industrial	1.3	1.0	2.3	$ 6,477,456
Residential	2.4	1.8	4.2	$ 10,236,860
Total electric efficiency programs	**6.8**	**4.8**	**11.6**	**$ 32,030,764**

D. Gas efficiency savings and expenditures

Q2 gas efficiency savings	NW Natural (thm)	Cascade Natural Gas (thm)	Total savings (thm)	Expenses
Commercial	332,788	61,849	394,637	$ 1,146,910
Industrial	33,726	115	33,841	$ 336,167
Residential	487,654	37,500	525,154	$ 2,689,050
Total gas efficiency programs	**854,168**	**99,464**	**953,632**	**$ 4,172,128**

[8]Columns may not total due to rounding.
[9]Electric savings also include transmission and distribution savings.
[10]The gas savings do not include results for NW Natural in Washington. These results are reported in Appendix 4.
[11]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.

E. Renewable energy generation and expenditures

Q2 renewable energy generation	PGE (aMW)	Pacific Power (aMW)	Total generation (aMW)	Expenses
Other Renewables program	1.50	0.02	1.51	$ 1,385,094
Solar Electric program	0.21	0.14	0.35	$ 2,824,020
Total renewable energy programs	**1.71**	**0.16**	**1.87**	**$ 4,209,115**

F. Energy efficiency savings and expenditures by program[12]

1. Total energy efficiency savings and expenditures

	Q2 Savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	11.6 aMW	15.1 aMW	53.1 aMW	28%
Gas	953,632 therms	1.3 million therms	5.6 million therms	24%

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 32,030,764	$ (3,213,338)	-11.2%	$ 51,701,468	$ 208,764	0.4%
Gas	$ 4,172,128	$ 447,000	9.7%	$ 8,023,995	$ 334,865	4.0%
Total	**$ 36,202,892**	**$ (2,766,339)**	**-8.3%**	**$ 59,725,463**	**$ 543,629**	**0.9%**

2. Existing Buildings savings and expenditures

	Q2 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	3.3 aMW	4.0 aMW	15.2 aMW	26%
Gas	237,959 therms	299,853 therms	2.2 million therms	14%

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 10,938,852	$ (2,695,418)	-32.7%	$ 16,470,571	$ (1,600,446)	-10.8%
Gas	$ 886,153	$ 400,067	31.1%	$ 1,708,788	$ 710,801	29.4%
Total	**$ 11,825,006**	**$ (2,295,351)**	**-24.1%**	**$ 18,179,358**	**$ (889,645)**	**-5.1%**

- Electric spending was impacted by high electric savings in Q2, largely due to increased demand for lighting upgrades, and is expected to align with budget by year-end.
- Q2 gas savings were achieved at a lower cost than anticipated, impacting gas spending. The program expects spending to align with budget by year-end.

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

3. New Buildings savings and expenditures

	Q2 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	1.7 aMW	1.8 aMW	4.1 aMW	44%
Gas	156,678 therms	172,828 therms	396,086 therms	44%

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 3,892,367	$ (1,546,968)	-66.0%	$ 5,387,468	$ (849,246)	-18.7%
Gas	$ 269,587	$ (1,736)	-0.6%	$ 493,957	$ 22,009	4.3%
Total	**$ 4,161,954**	**$ (1,548,704)**	**-59.3%**	**$ 5,881,425**	**$ (827,238)**	**-16.4%**

- Two factors impacted New Buildings electric spending in Q2: projects completing quickly after enrollment and projects saving more energy than expected. New construction activity in warehouse and distribution centers, retail stores and restaurants exceeded expectations, returning significant savings. In addition, a large project completed in Q2 that enrolled after the budget was approved in December 2014.

4. Production Efficiency savings and expenditures

	Q2 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	2.3 aMW	2.9 aMW	15.3 aMW	19%
Gas	33,841 therms	58,372 therms	1.1 million therms	5%

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 6,351,332	$ (453,919)	-7.7%	$ 10,890,913	$ (805,117)	-8.0%
Gas	$ 336,167	$ 216,853	39.2%	$ 721,956	$ 249,896	25.7%
Total	**$ 6,687,499**	**$ (237,066)**	**-3.7%**	**$ 11,612,870**	**$ (555,221)**	**-5.0%**

- Savings from gas custom and streamlined industrial projects lagged expectations, impacting gas spending in Q2. With a record pipeline of streamlined industrial projects, gas spending is expected to align with budget by year-end.

5. Existing Homes savings and expenditures

	Q2 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	1.5 aMW	2.0 aMW	4.7 aMW	42%
Gas	279,769 therms	379,707 therms	878,334 therms	43%

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 4,452,749	$ 467,101	9.5%	$ 7,239,693	$ 975,257	11.9%
Gas	$ 1,326,177	$ (155,571)	-13.3%	$ 2,658,832	$ (506,495)	-23.5%
Total	**$ 5,778,926**	**$ 311,530**	**5.1%**	**$ 9,898,525**	**$ 468,762**	**4.5%**

6. New Homes and Products savings and expenditures

	Q2 savings	YTD savings	Energy Trust annual goal	Percent achieved YTD
Electric	2.3 aMW	3.4 aMW	8.9 aMW	38%
Gas	245,385 therms	420,259 therms	1.1 million therms	40%

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

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 4,782,824	$ 1,082,927	18.5%	$ 8,415,926	$ 2,750,345	24.6%
Gas	$ 1,335,377	$ (114,168)	-9.3%	$ 2,268,680	$ (226,007)	-11.1%
Total	**$ 6,118,201**	**$ 968,759**	**13.7%**	**$ 10,684,606**	**$ 2,524,339**	**19.1%**

7. Northwest Energy Efficiency Alliance savings and expenditures[13]

	Q2 savings	YTD savings	Annual energy target
Commercial	0.1 aMW	0.2 aMW	1.0 aMW
Industrial	0.0 aMW	0.0 aMW	0.1 aMW
Residential	0.4 aMW	0.7 aMW	3.7 aMW
Total	**0.5 aMW**	**1.0 aMW**	**4.8 aMW**

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Commercial	$ 476,398	$ 194,261	29.0%	$ 1,155,701	$ 198,204	14.6%
Industrial	$ 126,124	$ (90,427)	-253.3%	$ 281,560	$ (206,485)	-275.0%
Residential	$ 1,028,783	$ (69,340)	-7.2%	$ 2,031,417	$ (169,086)	-9.1%
Total	**$ 1,631,305**	**$ 34,494**	**2.1%**	**$ 3,468,679**	**$ (177,367)**	**-5.4%**

- Energy Trust works with NEEA to estimate quarterly and total annual spending by sector. Expenditures may vary from budget in any given quarter, and are expected to balance out by the end of the year. In Q2, industrial sector costs were significantly higher than forecasted, and are expected to diminish throughout the remainder of the year. NEEA's 2015-2019 Business Plan was used as the basis for allocating savings by sector, and industrial costs are higher while NEEA transitions to the areas of focus identified in its business plan.

G. Renewable energy generation and expenditures by program[14]

1. Total renewable energy generation and expenditures

	Q2 generation	YTD generation	Energy Trust annual goal	Percent achieved YTD
Electric	1.9 aMW	2.4 aMW	3.5 aMW	71%

[13]Energy Trust allocated budget to NEEA for gas market transformation activities. While there were no associated savings in Q2, savings are expected in subsequent quarters.
[14]Variance is expressed in total dollars *below* budget or (total dollars) *above* budget.

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 4,209,115	$ (1,140,148)	-37.2%	$ 7,166,816	$ (713,814)	-11.1%

2. Solar generation and expenditures

	Q2 generation	YTD generation	Energy Trust annual goal	Percent achieved YTD
Electric	0.4 aMW	0.7 aMW	1.5 aMW	46%

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 2,824,020	$ (604,847)	-27.3%	$ 5,258,820	$ (1,194,447)	-29.4%

- The Solar program spent more than budgeted in Q2 due to high demand for residential and commercial solar incentives. To support strong demand and maximize renewable generation, the program implemented phased incentive reductions and reallocated some funds from Other Renewables.

3. Other Renewables generation and expenditures

	Q2 generation	YTD generation	Energy Trust annual goal	Percent achieved YTD
Electric	1.5 aMW	1.8 aMW	2.0 aMW	89%

	Q2 expenditures	Variance from Q2 budget		YTD expenditures	Variance from YTD budget	
Electric	$ 1,385,094	$ (535,301)	-63.0%	$ 1,907,996	$ 480,633	20.1%

- Other Renewables spent more than budgeted due to the Clean Water Services Durham Wastewater Treatment Plant biogas project shifting completion from Q1 to Q2.

H. Incremental utility SB 838 expenditures[15]

Utility	Q2 SB 838 Expenditures	YTD SB 838 Expenditures
Portland General Electric	$ 170,188	$ 373,724
Pacific Power	$ 361,904	$ 477,990
Total	**$ 532,092**	**$ 851,714**

In Q1, expenditures were reported incorrectly. Correct Q1 expenditures were $203,536 for PGE and $116,087 for Pacific Power.

[15]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

From the end of March 2015 through the beginning of June 2015, Energy Trust delivered a short telephone survey to 700 randomly selected participants in five programs who completed projects between January and March 2015. The survey asked participants about overall satisfaction with Energy Trust. Satisfaction rates for Q1 2015 remained consistent with past quarters. Participants in the Existing Buildings, Production Efficiency and Solar programs were also asked about satisfaction with program representatives.[16]

Q1 2015 customer satisfaction results

Program	Respondent count	Percent satisfied overall	Percent satisfied with program representative
Existing Buildings, including Existing Multifamily	62	94%	98%
Production Efficiency	35	97%	97%
New Homes and Products[17]	196	92%	N/A
Existing Homes	353	85%	N/A
Solar	54	93%	N/A[18]

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

[16]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, residential customers were not questioned on this topic.
[17]Only Products customers were surveyed. Energy Trust does not track purchasers of new homes.
[18]Only commercial solar customers were surveyed about satisfaction with program representatives. In Q1 2015, one commercial solar customer was surveyed and was satisfied with the interaction with program representatives.

Appendix 2: OPUC 2015 PERFORMANCE MEASURES AND 2014 BENEFIT/COST RATIOS

1. 2015 OPUC performance measures

Following are the 2015 performance measures established by the OPUC for Energy Trust. Comparison of 2015 performance against these measures will be reported in the 2015 Annual Report.

Category	Measures
Electric efficiency	PGE: • Obtain at least 28.2 aMW • Levelized cost not to exceed 3.6 cents/kWh Pacific Power: • Obtain at least 16.9 aMW • Levelized cost not to exceed 3.6 cents/kWh
Natural gas efficiency	NW Natural: • Obtain at least 4.4 million annual therm savings • Levelized cost not to exceed 37 cents/therm Cascade Natural Gas: • Obtain at least 0.41 million annual therm savings • Levelized cost not to exceed 41 cents/therm
Renewable energy	• For project and market development assistance report annual results, including number of projects supported, milestones met and documentation of results from market and technology perspective • Obtain at least 1.1 aMW of installed generation of net-metered standard projects including solar and small wind • For non-solar custom projects, the three-year rolling average incentive is not to exceed $25/allocated MWh • For innovative and custom solar projects, report sources of funding for projects and the selection criteria
Financial integrity	• Receive an unmodified financial opinion from an independent auditor on annual financial statements
Administrative/ program support costs	• Keep below 8 percent of annual revenues
Staffing	• Total staffing expenditures will not exceed 7.75 percent of total organization expenditures calculated on a three-year rolling average for public purpose funded activities in Oregon
Customer satisfaction	Demonstrate greater than 85 percent satisfaction rates for: • Interaction with program representatives • Overall satisfaction
Benefit/cost ratios	• Report both utility system and total resource perspective • Report significant mid-year changes as necessary in quarterly reports
NEEA and market transformation	Report annually: • New opportunities that have surfaced in last 12 months and what was the response • Ideas rejected by NEEA Regional Portfolio Advisory Committee in last 12 months • Results of the take-stock analysis of the budget and opt-in programs • Mid-course corrections that occur in programs

2. 2014 benefit cost ratios

The following benefit/cost ratios were calculated for and published in Energy Trust's 2014 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.

Program	Combined Utility Cost Test benefit cost ratio	Combined Total Resource Cost Test benefit cost ratio
New Homes and Products	2.0	1.7
Existing Homes	2.0	2.5
Existing Buildings, including Existing Multifamily	2.5	1.7
New Buildings	3.0	1.9
Production Efficiency	3.3	2.0

Appendix 3: PROGRESS TO 2015-2019 STRATEGIC PLAN GOALS; CUMULATIVE AND TOTAL ANNUAL RESULTS

Progress to 2015-2019 Strategic Plan goals

- **Energy Trust saved 6 percent of the Strategic Plan electric goal of 240 aMW** since the start of Energy Trust's 2015-2019 Strategic Plan.
- **Energy Trust saved 6 percent of the Strategic Plan gas goal of 24 million annual therms** since the start of Energy Trust's 2015-2019 Strategic Plan.
- **Energy Trust generated 24 percent of the Strategic Plan renewable generation goal of 10 aMW** since the start of Energy Trust's 2015-2019 Strategic Plan.

Cumulative and total annual results

- **Total annual savings of 508 aMW** have been realized since electric efficiency programs began in 2002, equivalent to the annual electric consumption of approximately 390,000 Oregon homes. This total includes 22 aMW of savings from self-direct customers.
- **Total annual savings of 40.4 million annual therms** have been realized since gas efficiency programs began in 2003, equivalent to providing gas heat to approximately 80,000 Oregon homes for a year.
- **Total annual renewable energy generation of 117 aMW** has been installed since 2002, equivalent to powering approximately 90,000 Oregon homes for a year.
- **Through 2014, air quality improvements stemming from Energy Trust investments have kept more than 14.6 million tons of carbon dioxide out of the atmosphere**, the equivalent of removing more than 2.5 million cars from Oregon roads for one year.

Appendix 4: Q2 2015 REPORT ON ACTIVITIES FOR NW NATURAL IN WASHINGTON

April 1 through June 30, 2015

This quarterly report covers the period April 1 through June 30, 2015. This report addresses progress toward 2015 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

- **Energy Trust saved 28,816 annual therms in Q2 2015**—including 13,489 annual therms in Existing Homes, 9,520 annual therms in New Homes and Products and 5,807 annual therms in Existing Buildings. Savings in Q2 2015 were 9 percent lower than savings in Q2 2014.
- **Year-to-date savings were approximately 21 percent of Energy Trust's annual goal** of 257,063 therms, which roughly aligns with NW Natural's stretch performance measure of 259,895 therms.
- **Energy Trust expects to meet 2015 goals** with a strong pipeline of projects anticipated to complete by year-end.
- **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 projects close. This report focuses on the development of potential projects expected to save or generate energy and contribute to organizational goals by year-end.
- **Energy Trust hosted a networking event for all commercial and residential trade allies working in Washington**, in collaboration with Clark Public Utilities. The event provided information about Energy Trust offerings and allowed trade allies to meet others in the network.

B. Commercial sector highlights

Existing Buildings

- **Existing Buildings saved 5,807 annual therms in Q2***,* primarily through a foodservice equipment contest, an insulation bonus and outreach promoting efficient showerheads to assisted living facilities.
- **The program launched a contest for distributors to promote energy-efficient foodservice** equipment sales, which will offer incentives for top-selling foodservice vendors.
- **The program launched and promoted an insulation bonus in Q2**.
- **To help meeting annual goals, Existing Buildings identified additional projects** expected to complete in late 2015 and 2016.

C. Residential sector highlights

Existing Homes

- **Existing Homes saved 13,489 annual therms in Q2**, primarily through installation of efficient gas hearths, furnaces, water heaters and windows.

- **Trade allies and customers provided positive feedback about instant incentives**. Paid directly to contractors for water heating and HVAC equipment, instant incentives enable customers to receive discounted equipment at time of purchase and reduce up-front costs.
- **Existing Homes introduced incentives for sales staff at GENSCO, a southwest Washington distributor of HVAC and water heating equipment**. Sales performance incentives are an innovative strategy to drive market activity for energy-efficient products.
- **A new web portal gave Existing Homes trade allies access** to real-time information about participant projects, allowing trade allies self-service options that reduce reliance on Energy Trust and Program Management Contractor staff to provide information about project status and incentive payments.
- **The program updated NW Natural's 2015 Energy Efficiency Plan** to the Washington Utilities and Transportation Commission to better define qualifying criteria for Energy Trust's on-bill financing repayment offering. On-bill financing allows customers to repay a loan through a monthly utility bill, and savings from energy-efficiency upgrades may offset much of the loan cost.

New Homes and Products

- **New Homes and Products saved 9,520 annual therms in Q2**, primarily through ENERGY STAR® certified new homes, clothes washer sales, Energy Saver Kits and efficient showerheads.
- **The program completed transition to a new modeled performance path methodology for achieving ENERGY STAR Home Certification** using REM/Rate™ modeling software. This replaced the prescriptive Builder Option Package path.
- **A high-volume trade ally builder, Lennar, completed construction of several energy-efficient new homes** in Q2, with more expected in subsequent quarters.

D. Washington Utilities and Transportation Commission performance metrics

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

Metrics	Goal	2015 total YTD	Q1 results	Q2 results	Q3 results	Q4 results
Therms saved	220,991 – 259,895	53,285	24,469	28,816		
Total program costs	$1,342,559 – $1,570,292	$520,797	$241,732	$279,065		
Average levelized cost per measure	Less than $0.65	$0.75	$0.89	$0.68		
Dollars spent per therm saved	Less than $6.50	$9.77	$9.88	$9.68		
Total resource cost and 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.

II QUARTERLY RESULTS

A. Expenditures[19]

		Actual expenditures Q2	Budgeted expenditures Q2	Variance
Commercial programs	Existing Buildings	$ 65,530	$ 160,438	$ 94,907
	NEEA commercial	$ (1,368)	$ 5,328	$ 6,696
	Subtotal	$ 64,162	$ 165,766	$ 101,604
Residential programs	Existing Homes	$ 124,365	$ 103,918	$ (20,447)
	New Homes	$ 80,474	$ 74,888	$ (5,586)
	NEEA residential	$ 2,203	$ 6,012	$ 3,809
	Subtotal	$ 207,042	$ 184,818	$ (22,224)
Administration		$ 7,861	$ 14,287	$ 6,426
Total		$ 279,065	$ 364,871	$ 85,806

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

B. Incentives paid

		Actual incentives Q2
Commercial programs	Existing Buildings	$ 13,499
	Subtotal	$ 13,499
Residential programs	Existing Homes	$ 62,280
	New Homes	$ 28,559
	Subtotal	$ 90,839
Total		$ 104,338

C. Savings

		Therms saved Q2	$/therm	Levelized cost/therm
Commercial programs	Existing Buildings	5,807	$ 11.93	$ 0.91
	Subtotal	5,807	$ 11.67	$ 0.91
Residential programs	Existing Homes	13,489	$ 9.36	$ 0.62
	New Homes	9,520	$ 8.71	$ 0.64
	Subtotal	23,009	$ 9.18	$ 0.63
TOTAL		28,816	$ 9.68	$ 0.68

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

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

III YEAR-TO-DATE RESULTS

A. Activity—sites served

	Q1	Q2	Q3	Q4	Total
Existing Buildings					
School/college retrofits	0	1			**1**
Other commercial retrofits	2	2			**4**
Studies	1	1			**2**
Existing Homes					
Weatherization (insulation, air and duct sealing and windows)	6	36			**42**
Gas hearths	11	36			**47**
Energy Saver Kits	19	5			**24**
Smart thermostats	20	1			**21**
Gas furnaces	39	95			**134**
Water heaters	2	12			**14**
Home Energy Reviews	31	28			**59**
New Homes					
ENERGY STAR Home Certification	22	43			**65**
Clothes washers	303	124			**427**

Smart thermostats were offered through a pilot that completed early in Q2, with results expected by year-end.
New homes are now certified through ENERGY STAR Home Certification, which replaced the Builder Option Package path.

B. Revenue

Source	Actual revenue YTD	Budgeted revenue YTD
NW Natural	$ 678,392	$ 705,676

C. Expenditures[20]

		Actual expenditures YTD	Budgeted expenditures YTD	Variance
Commercial programs	Existing Buildings	$ 153,809	$ 326,309	$ 172,501
	NEEA Commercial	$ 4,018	$ 10,607	$ 6,589
	Subtotal	$ 157,827	$ 336,916	$ 179,089
Residential programs	Existing Homes	$ 189,592	$ 206,562	$ 16,970
	New Homes	$ 143,419	$ 142,974	$ (446)
	NEEA Residential	$ 9,059	$ 11,505	$ 2,446
	Subtotal	$ 342,071	$ 361,040	$ 18,970
Administration		$ 20,899	$ 33,175	$ 12,276
Total		$ 520,797	$ 731,132	$ 210,335

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

D. Incentives paid

		Actual incentives YTD
Commercial programs	Existing Buildings	$ 44,046
	Subtotal	$ 44,046
Residential programs	Existing Homes	$ 87,137
	New Homes	$ 50,490
	Subtotal	$ 137,627
Total		$ 181,672

- **Incentives paid account for approximately 41 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	19,376	150,000	13%	$ 8.49	$ 0.84
	Subtotal	19,376	150,000	13%	$ 8.70	$ 0.86
Residential programs	Existing Homes	19,417	51,148	38%	$ 9.96	$ 0.67
	New Homes	14,492	55,915	26%	$ 10.31	$ 0.76
	Subtotal	33,909	107,063	32%	$ 10.39	$ 0.73
Total		53,285	257,063	21%	$ 9.77	$ 0.75

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

Energy Trust's budgeted annual savings goal roughly aligns with NW Natural's stretch performance measure of 259,895 therms.

F. Program evaluations

- **In Q2, Energy Trust completed and posted three evaluations and market studies, including:**
  - True Up 2014: Tracking estimate corrections and True Up of 2002-2013 savings and generation
  - Windows Delphi panel study
  - 2012 Existing Buildings program impact evaluation
- **Research continued to evaluate savings potential of gas hearths in new construction homes**, and results will inform a potential strategy to install gas hearths in new homes.

Appendix 5: NORTHWEST ENERGY EFFICIENCY ALLIANCE 2014 ANNUAL REPORT FOR ENERGY TRUST OF OREGON

January 1 through December 31, 2014

INTRODUCTION

About NEEA

The Northwest Energy Efficiency Alliance (NEEA) is a voluntarily funded non-profit organization working in partnership with Energy Trust of Oregon, the Bonneville Power Administration, and more than 140 public and private Northwest utilities to accelerate energy efficiency in the Northwest.

Regional stakeholders created NEEA in 1996 to achieve sustained energy efficiency benefits through a coordinated, market-based approach to efficiency programs, known as market transformation. Market transformation, as practiced in the Northwest, is a commitment by utilities, energy efficiency program administrators, and other energy efficiency stakeholders to unite efforts to move energy efficiency markets far beyond what any organization could do individually. NEEA's role in this process is to look to the future to find emerging opportunities and to create a path forward to make those opportunities a reality in the region.

How NEEA Works

NEEA has a robust program development process that provides a framework for the essential components of market transformation work and ensures that NEEA appropriately analyzes and vets emerging energy efficiency opportunities. The Initiative Lifecycle (ILC) guides investment decisions based on ongoing assessments of market conditions and progress - ensuring that NEEA continues only those investments that are delivering value to the region.

Figure 1: NEEA's Initiative Lifecycle

Phases of the Initiative Lifecycle (ILC) are:

- **Market Scanning + Concept Identification:** This first phase of the ILC includes screening, secondary research, feasibility studies and maintaining strategic alliances.

- **Concept Opportunity Assessment:** This phase includes developing a logic model (i.e. theory of market change), establishing preliminary savings estimates, implementing a data management plan, identifying roles for NEEA and utilities, and beginning stakeholder engagement and initiative planning.
- **Market + Product Assessment:** This phase includes conducting in-field demonstrations, testing and validating market assumptions, analyzing field data, and establishing a baseline for the initiative.
- **Market Transformation Strategy Testing + Finalization:** This phase focuses on developing market intervention plans, conducting market research and limited market tests, developing a cost-effectiveness model and incorporating key findings for the next phase.
- **Full-scale Market Development/Strategic Market Intervention:** This ramp-up phase includes a variety of activities such as: developing product standards and certifications, product availability programs, financial incentives, retail training programs, and research-based marketing strategies; collecting/analyzing market data; and providing technical assistance to professionals who influence energy efficiency choices.
- **Long-Term Monitoring + Tracking:** This final phase is where NEEA's market development work ends; the focus shifts to evaluating market progress and revising the data management plan to validate data for market progress and energy savings results.

NEEA Stakeholder Engagement Process

NEEA is a regional alliance working on behalf of its funders. NEEA's work complements and support utilities' local programs and Energy Trust; and these local programs support NEEA's regional work. As such, stakeholder engagement and coordination are critical to NEEA's success. This collaboration is coordinated through regional advisory committees and program work groups.

NEEA's Regional Portfolio Advisory Committee (RPAC) is the body responsible for overseeing NEEA's market transformation portfolio. A management advisory committee, RPAC provides support to NEEA managers and other staff in program development and implementation responsibilities. As such, RPAC ultimately reports to NEEA's Executive Director. Members include representatives from each of NEEA's electric funders plus additional voting members as needed to support or enhance the effectiveness of the Committee.

To address concerns from stakeholders about lack of coordination and overlap with their local programs, NEEA's 2015-2019 Business Plan outlines key improvements to NEEA's stakeholder coordination process, including new requirements and processes for advancing market transformation initiatives through NEEA's portfolio:

- **Earlier, Deeper Stakeholder Engagement:** In accordance with the 2015-2019 Business Plan, NEEA staff will engage with experts from funding organizations earlier and at a deeper level to collaboratively design and plan market transformation strategies, implementation and coordination activities before they are initiated in the field. This collaboration will be coordinated through sector advisory committees and work groups.
- **Revamped Initiative Advancement Process:** In addition to collaborating with the appropriate sector advisory committee and work group, NEEA staff will formally solicit RPAC input at two key milestones in NEEA's Initiative Lifecycle (see figure 1): 1) prior to initiative start; and 2) prior to scale-up. In order for a NEEA program to advance through these key milestones all voting members must reach full consent.

- **Clarification of Work Group and Advisory Committee Roles:** The 2015-2019 Business Plan calls for NEEA staff to work with stakeholders to further clarify and modify the roles, responsibilities and authority of work groups and advisory committees.
- **Standard Rules of Engagement**: Finally, the 2015-2019 Business Plan requires NEEA staff to adhere to a pre-determined set of rules of engagement for coordinating market transformation with funders.

Note: NEEA staff will provide a review of these new stakeholder engagement processes, including key results and outcomes, as part of its 2015 Annual Report to Energy Trust. The document will be appended to the Q2 2016 Report Energy Trust submits to the Oregon Public Utility Commission.

PROGRESS TO ENERGY TRUST OF OREGON'S 2014 OPUC PERFORMANCE MEASURES ON NEEA ACTIVITIES

A. New opportunities that surfaced in 2014 and NEEA's response to those opportunities

NEEA staff scan the market for emerging energy-efficient technologies (or services or practices) and review unsolicited proposals. New opportunities are screened against four criteria: energy savings, commercial availability, market potential, and potential for market transformation. Opportunities that meet these criteria enter into the first phase of NEEA's Initiative Lifecycle (ILC), Scanning and Concept Identification, for further investigation. Of the new technologies that NEEA reviewed in 2014, 21% (4 of 19) met the criteria to warrant further investigation.

Table 1.0 (below) lists the 19 new opportunities that NEEA staff reviewed in 2014, and subsequent actions and decisions. Table 2.0 lists the emerging technologies that were in the early phases of NEEA's lifecycle process (Scanning and Concept Identification and Concept Opportunity Assessment) in 2014 and NEEA's activities.

Table 1.0 – New Energy Efficiency Opportunities Reviewed and Assessed by NEEA staff in 2014

Title	Description	Decision
Industrial Energy Management Information Systems Business Case and Pilot	Develop a document that describes the benefits of energy management information systems in a format useful for utilities and factory owners.	Researched first phase, which included development of a business case document (see Table 1).
Network Power Management	Region-wide computer power management implementation for large, multi-location commercial organization.	Not Accepted. Proposal was a program design and not an emerging technology. Program design did not support a market transformation program.
Cooling Tower	Induced-draft, modular cooling tower that can be used in power generation plants.	Not Accepted. No clear market transformation opportunity. Forwarded to Bonneville Power Administration for consideration.

Title	Description	Decision
Warehouse Fan	Fan designed to mix air in large open warehouses or warehouse stores.	Not Accepted. Information from ESource and similar products suggests that savings were not as big as claimed and often were gas savings instead of electric. Not designated as a high priority for emerging technology development by the NEEA gas collaborative.
Commercial Lighting Business Management System.	Project management software system for commercial lighting installers. Manages quotes and incorporates utility rebates.	Not Accepted. Product was not complete and not commercially available. Will evaluate when it is available.
LED Streetlights Unit Energy Savings (UES)	Program recommendation for LED streetlights. Focused on establishing a standard UES (unit energy savings).	Not Accepted. NEEA has already closely examined LED streetlights with controls and the market is quickly transforming on its own.
Power Condition Systems	Power conditioning system.	Not Accepted. Technology is a black box product that cannot be proven to save energy.
Water System for Electric Generation	System for using generating electricity from tanks of water.	Not Accepted. Electric generation, not commercialized and does not appear viable.
Produce Electricity from Plasma State of Matter	System for generating electric power from any fuel type.	Not Accepted. Electric generation and not commercialized.
Preliminary Energy Score for homes	Proposal to develop a preliminary energy score for existing homes using public information (i.e. similar to walk score). The energy “walk score” is generated from publicly available information (size of home, age of home, number of stories, etc.). Although less accurate then an Energy Performance Score, it will provide a starting point for homeowners and buyers to understand the energy use of any given home.	Accepted and first phase of project is started. We expect completion by the end of 2015.
Ultrasonic Technology	Ultrasonic agitation used for cleaning of industrial hoppers, etc.	Not Accepted. No installations in the Northwest, and not clearly commercialized in the U.S. Shared with Industrial Advisory Committee.
Energy Management Program	Develop online training for energy service professionals.	Not Accepted. Not clear that this is a market transformation opportunity.

Title	Description	Decision
Power Conditioning	Industrial power conditioning system.	Not Accepted. Small energy savings potential per NEEA research from 2011.
Compressed Air Training Certification Service	Certification of compressed air system operators.	Not Accepted. NEEA has already been exploring certifications for other similar industrial applications.
Industrial Power Supplies	Use 80 Plus approach to transforming DIM rail mounted power supplies which are commonly fractionally loaded.	Accepted. NEEA investigated this and found that industrial power supplies are commonly loaded at 20% of full capacity. A market transformation opportunity exists, but the total savings are small for the investment.
Low Cost Energy Metering	Sensor technology is evolving to the point where whole- building and sub-building energy monitoring can be done cheaply compared to older solutions. This solution stores high frequency and low frequency energy data to the cloud for deeper analysis.	Not accepted as defined. A measurement system without direct control does not save energy. NEEA staff asked the company to resubmit a proposal once they partner with a control solution.
Quantum Dots	Quantum dots are emerging as a low cost and efficient solution to TV picture improvements and better LED Lighting.	Not Accepted. This technology is worth watching, but there are limited commercial products to investigate at this time.
Engine Block Heaters	BPA researched efficient alternatives to standard block heaters for diesel engines used for back-up power. Research showed savings potential of 5 aMW for the region, and it showed a clear market transformation opportunity.	Not Accepted. Savings opportunity is small for the investment, but the savings have good regional equity. NEEA will consider this opportunity in the future once several larger opportunities have been evaluated.
Commercial Grade, High Efficiency, Heat Recovery Ventilation System.	Possible replacement for existing roof top units (RTU) in small commercial applications. An efficient heat recovery ventilation (HRV) system coupled with a ductless heat pump (DHP) could cost effectively replace inefficient RTUs.	Accepted with changes. NEEA will consider this opportunity again once the product is available in our region (likely in 2015).

Table 2.0 - Emerging Energy Efficiency Opportunities in the early phases of NEEA's Initiative Lifecycle - Scanning and Concept Identification or Concept Opportunity Assessment

Technologies	Description	Sector/ Business Plan Strategic Market [21]	Technical Potential[22] aMW	2014 Activities and Progress
Advanced Roof Top Units	Efficient unitary roof top HVAC replacement unit. May include evaporative rooftop units, advanced controls, or Heat Recovery Ventilators.	Commercial/ N/A	35	Report published. No current opportunity for evaporative systems. Started exploring high-efficiency heat recovery ventilation systems for small commercial applications.
Business IT	Equipment, services and tools that may reduce the energy consumption of server closets.	Commercial/ N/A	203	Conducted a focus group market study with Pacific Gas and Electric and in the Puget Sound area. No clear market transformation strategy.
New Construction	Investigate integrated design practices and the challenges and opportunities they offer for helping new construction meet net zero capable goals.	Commercial/ Commercial New Construction	57	Published SRG Partnership Inc. case study and completed market strategy draft for business plan. NEEA is developing concept for new initiative, which NEEA staff will present to RPAC for a vote in 2016[23].
Commercial Window Interior Secondary Glazing	Interior window attachments that significantly improve the performance of single pane windows for half the cost of primary replacement.	Commercial/ N/A	112	Feasibility testing is complete and product looks promising for a market transformation initiative. Lab testing with Lawrence Berkley National Labs was also successful. NEEA is developing concept for new initiative, which NEEA staff will present to RPAC for a vote in 2016[3].

[21]NEEA's 2015-2019 Business Plan identifies four strategic markets where NEEA will concentrate market transformation investment to deliver the highest value to the region at the lowest cost: Commercial New Construction, Residential New Construction, Consumer Products, and Commercial Lighting. However, NEEA does not restrict evaluation of new opportunities to these markets and will continue to investigate all market transformation opportunities that meet our screening criteria.

[22]Technical potential is the maximum possible savings over 20 years

[23]Estimated date; Subject to change based on resource-availability and portfolio prioritization decisions

Technologies	Description	Sector/ Business Plan Strategic Market [21]	Technical Potential[22] aMW	2014 Activities and Progress
Occupancy Based Building Management System	Using zonal occupancy sensors to control lighting, plug loads and HVAC.	Commercial/ N/A	350	Developed concept presentation and delivered it to the Oregon Department of Energy Lighting summit. NEEA staff is evaluating any overlap with the Luminaire-level Lighting Control program before continuing.
Commercial and Industrial Strategic Energy Management	Provide a holistic and integrated set of tools to support utilities and the market in building market capability, awareness and demand for Strategic Energy Management (SEM)	Commercial and Industrial/ N/A	300-400	Moved from Scanning and Concept Identification to Concept Opportunity Assessment in November 2014. At that time, NEEA staff formed a team to further define and document the program in preparation for an Initiative Start vote by the Regional Portfolio Advisory Committee (RPAC). (RPAC voted to advance the program past 'Initiative Start' in Q2 2015).
Industrial Efficient Power Supplies	Industrial DIN-mounted[24] power supplies with good low load efficiency.	Industrial/ N/A	25	Completed technical and market potential studies and determined that the program opportunity is not large enough to pursue.
Extended Products for Motor Driven Systems	Integrated motor systems with optimized performance to a system curve. Includes motor, controller, and fan / pump / compressor combinations.	Industrial/ N/A	30	Participating in a national effort with Bonneville Power Administration and Energy Trust. Considering market transformation concept for system labeling effort.

[24]DIN stands for German Industrial Standard (Reference European Standard EN 50022 and IEC International Standard 60715) for low voltage switch and control gear for industrial use. Mounted on 35mm wide rail.

Technologies	Description	Sector/ Business Plan Strategic Market [21]	Technical Potential[22] aMW	2014 Activities and Progress
Electric Combo Hot Water & Space Heating	Leverage inverter-driven heat pump technology for space conditioning and domestic hot water.	Residential/ Consumer Products	194	Second round of prototype lab tests was successful. NEEA started a one-year, 3-unit field feasibility study and is currently developing the concept for a new initiative, which NEEA staff will present to RPAC for a vote in 2016[3].
Manufactured Homes – New Construction	Improved shell and HVAC systems leading to improved federal code change.	Residential / Residential New Construction	29	Collaborating with Bonneville Power Administration on 8 demonstration homes. NEEA staff prepared data for the Regional Technical Forum and contracted with Washington State University to successfully advance new Department of Energy Housing and Urban Development Code. NEEA staff is engaging manufacturers and utilities around the market transformation opportunity and developing concept for a new initiative, which NEEA staff will present to RPAC for a vote in 2016[3].
Manufactured Homes – Existing	Early retirement of old manufactured homes.	Residential / Residential New Construction	98 (assuming 40% market share)	Investigating early retirement program and its potential for influencing manufacturers to adopt and sell higher performance models. Based on this research, NEEA decided that, what would be a very complicated market transformation approach was not worth pursuing at this time.

Technologies	Description	Sector/ Business Plan Strategic Market [21]	Technical Potential[22] aMW	2014 Activities and Progress
Home Energy Management	Investigation of data collection, analysis tools, displays, etc. associated with home energy management as a way to encourage lower energy consumption.	Residential / Consumer Products	106	Reviewed proposal with Regional Emerging Technology Advisory Committee, and completed and published a field study on non-invasive load monitoring. Still no clear market transformation opportunity.
Advanced Water Heater systems	Water heaters that do not fit the integral product covered by the federal standard. Includes split systems.	Residential / Consumer Products	354	One manufacturer submitted product for UL (safety) testing in late 2014, and expects to receive ETL[25] approval in early 2016. At that point, the product will be ready for commercialization in the region. NEEA is conducting lab testing of advanced refrigerant and split system products and completed integrated CO_2 heat pump water heater lab test with promising results. NEEA staff will continue to investigate this opportunity.
Low Cost Whole Building Energy Metering	Exploring technologies for metering and analyzing whole building data to simplify measurement and verification of savings at a building level.	Commercial / N/A	Enabling [26]	Started three-year field test at Bullitt Foundation building in Seattle with EnergyRM. Completed and published Energy Management Information Systems study. NEEA staff is considering a broader concept that covers residential and commercial buildings.

[25]ETL seal of approval is an internationally-recognized seal of quality, safety, and professional manufacturing

[26]Enabling technology is technology that could enable other technologies in the market. Typically, these technologies do not present savings benefits on their own.

Technologies	Description	Sector/ Business Plan Strategic Market [21]	Technical Potential[22] aMW	2014 Activities and Progress
New Construction - Low Cost Building Ratings	Beyond ENERGY STAR® portfolio manager, are there simplified tools to generate a building rating using building data and analytics alone. Focused on small buildings.	Commercial / Commercial New Construction	Enabling	Earth Advanced Buildings program assessment report published first quarter 2014. No additional actions needed at this time.
Advanced Building Modeling Tools	Examination of advanced building modeling tools that support new construction integrated design and energy modeling.	Commercial/ Commercial New Construction	Enabling	Simergy product development, assessment through Bullitt Foundation study, and deployment strategies - natural ventilation enhancements, integration of Radiance, and automated calibration are complete.
Industrial Advanced Energy Management Information Systems (EMIS)	Examination of advanced energy management information systems with the capabilities needed to support strategic energy management.	Industrial/ N/A	Enabling	Inventory of advanced Energy Management Information Systems products completed and published.
Advanced Strategic Energy Management (SEM) Tools	Examination of ways to better understand engagement and capabilities of factories adopting strategic energy management.	Industrial and Commercial / N/A	Enabling	White paper for SEM capability maturity model complete; online SEM tool development; tool template, and training regional inventory completed and ready for infrastructure program in 2015.

B. Voting by NEEA's Regional Portfolio Advisory Committee

In 2014, NEEA staff submitted three initiatives to the Regional Portfolio Advisory Committee (RPAC) for a formal vote. In each case, RPAC voted in favor of advancing the initiative in NEEA's Initiative Lifecycle.

- March 18 – Retail Product Portfolio, Initiative Start[27] milestone – full consent achieved (14 yes, no abstains, 2 not present))
- May 15 – Top Tier Trade Ally Advanced Training, Initiative Start milestone – full consent achieved (13 yes, no abstain, 2 not present)

[27]**Initiative Start Approval Milestone:** Prior to a program's adoption into the NEEA market transformation portfolio, it must pass the Initiative Start milestone; including a formal vote of RPAC (see also Figure 1).

- September 23 – Super Efficient Dryers, Initiative Start milestone – full consent achieved (15 yes, no abstain, 2 not present)

C. Uptake on Identified Emerging, Promising Technologies

Programs in the Market and Product Assessment or Strategy Testing and Finalization phases of the Initiative Lifecycle (Pre-Market Development)

NEEA's programs that are pre-market development have passed the Initiative Start milestone, which means they have a proven concept, but are not yet full-blown market transformation initiatives. At this point in the initiative lifecycle, NEEA staff work to validate product performance and market assumptions, establish baselines, and develop/test market intervention plans. Programs that are in pre-market development do not yet have market progress indicators associated with them. Savings estimates are based on total regional technical potential, or the maximum possible savings achievable.

a) **Retail Product Portfolio:** *Using mid-stream incentives[28] to influence retail stocking practices, ultimately driving manufacturing and standards for a portfolio of energy-efficient products sold through the retail channel.*

Sector/ Business Plan Strategic Market: Residential/ Consumer Products

20-year Technical Potential: 25-50 aMW

In January 2014, launched a pilot to test how effectively the existing program infrastructure (retailer relationships, data processes, etc.), from NEEA's former Televisions initiative, could be applied to other products. The pilot had five main objectives:

- Maintain retailer participation with existing TV Initiative partners;
- Build a compelling enough business case to secure participation from two additional big box retailers (The Home Depot and Lowe's);
- Expand the product mix beyond TVs to support additional product categories;
- Continue existing partnership with California partners to maintain leverage with major national retailers; and,
- Explore scalability opportunities, including product category buying seasons, retailer data collection, retailer interest, and in-store merchandizing.

Throughout the year, the pilot succeeded in executing partnership agreements with all retailers from the TV initiative, enrolling The Home Depot as a program participant, expanding the product mix beyond TVs to air purifiers, home-theaters-in-a-box/soundbars, and dishwashers, and continuing collaboration with California partners.

b) **Super-Efficient Dryers:** *Influence the enactment of more stringent federal efficiency standards for clothes dryers.*

Sector/ Business Plan Strategic Market: Residential/ Consumer Products

20-year Technical Potential: 182 aMW

[28] **Mid-stream Incentive:** Distributor or retailer incentives for the purpose of influencing buying decisions, stocking practices, or price

NEEA is working with manufacturers to support the development, testing and introduction of super-efficient heat pump dryers to the Northwest. In 2014, NEEA conducted lab testing of both standard dryers and heat pump hybrid units. NEEA used the data from this lab testing to create a performance baseline and determine the efficiency levels of new products coming to market above that baseline. NEEA is continuing to work with manufacturer partners to determine where they might need product support and where product efficiency specifications could be improved.

c) **Luminaire-Level Lighting Controls (LLLC):** *Develop best practice specifications for luminaire level lighting controls, aiming to have the technology adopted as standard industry practice.*

Sector/ Business Plan Strategic Market: Commercial/ Commercial Lighting

20-year Technical Potential Savings: 40-80 aMW

The Initiative strategy focuses on a creating and driving towards a unified set of performance specifications that is in parallel with DesignLight Consortium's Qualified Products List for Advanced Lighting controls, the foundation for manufacturer engagement. In 2014, NEEA published a Luminaire-level Lighting Control market research report. Based on the learnings from the report, NEEA staff shifted the Initiative's focus from the retrofit market to the new construction market, and specified space types such as open office and warehouse.

d) **Certified Refrigeration Energy Specialist (CRES) Certification:** *Increase industrial facility energy efficiency through the implementation of a certification program for refrigeration system operators.*

Sector/ Business Plan Strategic Market: Industrial/ N/A

NEEA 20-year Total Regional Savings[29] estimate: 10-17 aMW

In 2014, the Refrigerating Engineers and Technicians Association (RETA) certification committee awarded the first Certified Refrigeration Energy Specialist (CRES) certifications ever (four in total) - a major program milestone. Across the region, 75 refrigeration specialists completed NEEA and utility-sponsored demonstration trainings in preparation for the CRES credential. At the same time, NEEA staff launched a market assessment to learn whether the CRES certification has sufficient appeal within the market to ramp-up the program across the region.

e) **Irrigation:** *Increase regional market availability of emerging technologies by developing and proving energy savings with irrigation management through integrated decision support systems and common data standards.*

Sector/ Business Plan Strategic Market: Irrigation/ N/A

NEEA 20-year Total Regional Savings estimate: N/A

From 2011-2014, NEEA worked with irrigation manufacturers, consultants and growers around the region to accelerate agricultural energy efficiency savings by integrating advanced data with improved irrigation techniques. In 2014, NEEA staff completed demonstrations of precision irrigation techniques in 44 fields on 20 different farms. In addition, NEEA advanced the data standards for precision irrigation through the Precision Ag Irrigation Leadership project, in collaboration with Ag Gateway, a national consortium for technology in agriculture.

NEEA ended this initiative in 2014, based on the 2015-2019 Business Plan. However, NEEA continues to scan for new opportunities in the rural market and small farm irrigation. In January 2015,

[29]Based on NEEA's estimate of the target market size

NEEA published detailed reports documenting the lessons learned from the initiative, along with related recommendations for the region that are available at neea.org.

Programs in Market Development

Before a program can enter the market development phase of NEEA's initiative lifecycle, it must have a proven concept, an established baseline, a validated product, a cost-effectiveness model and a solid market intervention strategy. If the program meets all of these criteria, NEEA staff will present it to RPAC for a Scale-Up approval vote. Savings estimates are based on the size of the target market NEEA is addressing.

f) **Ductless Heat Pumps (DHP):** *Accelerating the adoption of inverter-driven DHPs in electrically heated homes by building distribution channels, market capacity and consumer demand.*

Sector/ Business Plan Strategic Market: Residential/ Consumer Products

NEEA 20-year Total Regional Savings estimate: 150 aMW

In 2014, NEEA staff worked with Energy Trust to accelerate the adoption of ductless technology by providing training and education to the market and supporting supply chain promotions. Across the region, over 24,000 homeowners installed ductless heat pumps in 2014, a 39 percent increase over 2013.

2014 Market Progress Indicators:

- More than 8,700 utility-rebated installations, a 13 percent increase over 2013 (Over 36,170 across the region since 2008)
- More than 24,000 total installations in 2014, a 39 percent increase over 2013 (Over 96,000 across the region since 2008)
- Consumer awareness grew from 34 percent in 2013 to 48 percent in 2014
- Number of participating utilities increased from 99 in 2013 to 102 in 2014

g) **Heat Pump Water Heaters (HPWH):** *Influence passage of a federal standard for all electric storage tanks greater than 45 gallons by 2025.*

Sector/ Business Plan Strategic Market: Residential/ Consumer Products

NEEA 20-year Total Regional Savings estimate: 300 aMW

In 2014, NEEA staff promoted the adoption of energy-efficient heat pump water heaters by offering training and education for local contractors, conducting quality assurance inspections, and coordinating promotions with retailers and manufacturers. Across the region, approximately 3,300 heat pump water heaters were sold in 2014, a 45 percent increase from the year before, driven mostly by Tier 1 Northern Climate Specification-qualified tanks. To engage the supply chain and overcome cost barriers for Tier 2 (a higher efficiency tier) products, NEEA provided 105 rebates to consumers in Energy Trust territory.

2014 Market Progress Indicators:

- Number of utilities offering HPWH incentives grew from 25 to 39 in 2014 (a 50 percent increase over 2013)
- Number of incented units sold grew from about 2,300 in 2013, to more than 3,300 in 2014 (an increase of approximately 45 percent)

h) **Next Step Homes/ Efficient Homes:** *Develop and increase market adoption of energy-efficient advanced building practices & accelerate advancement of building codes over next three to four code cycles.*[30]

Sector/ Business Plan Strategic Market: Residential/ Residential New Construction

NEEA 20-year Total Regional Savings estimate: 215 aMW
Through its Next Step Homes pilot, NEEA is exploring the next energy efficiency frontier in new residential construction. Working with participating Northwest builders, NEEA is identifying the most cost-effective methods for achieving the greatest amount of energy savings, while paving a pathway for future code adoption. In 2014, NEEA completed phase I of the pilot (12 homes), including data collection and cost analysis, and recruited and provided technical support for 27 phase II projects, including nine in Energy Trust territory.

2014 Market Progress Indicators:

- Recruited 27 Phase II pilot homes
- Recruited 15 new multifamily builders for participation, 10 of which completed certified projects in 2014, totaling 460 units.
- Certified 1,722 Northwest ENERGY STAR Homes
- Trained 152 appraisers on appropriate valuation of energy-efficient measures and practices.
- Enrolled 44 HVAC contractors—eight of whom are zonal-only—to install systems in Northwest ENERGY STAR homes, enlisting a previously disengaged market sector that is crucial to high performance home adoption.

i) **Healthcare:** *Embed energy efficient practices throughout the healthcare industry.*
Sector/ Business Plan Strategic Market: Commercial/ NA

NEEA 20-year Total Regional Savings estimate: N/A

In collaboration with the Healthcare Utility Work Group, including Energy Trust, NEEA transitioned out of its Hospital Strategic Energy Management program in 2014, having exceeded all program goals. As part of the initiative transition plan, NEEA staff completed a lessons learned paper and presented it at the Energy Management Congress in Seattle. Staff will repurpose the Strategic Energy Management tools and resources created through this initiative and make them available to the region through its BetterBricks.com website.

2014 Market Progress Indicators:

- Adoption of Strategic Energy Management practices in the medium and large market segment increased from 40 to 55 percent and adoption at facilities engaged in the program increased from approximately 50 to 76 percent.
- Forty-one percent of small and non-participant facilities have adopted Strategic Energy Management practices (close to 50 percent of the total market in the Northwest).
- Adoption of energy efficiency practices increased among non-participating hospitals from 20 percent in 2010 to 41 percent in 2014. This result suggests diffusion of NEEA's Initiative principles from participants to the wider market.

j) **Reduced Wattage Lamp Replacement**: *Transform the linear T8 fluorescent lamp replacement market from a dominant 32-watt lamp to low wattage lamps (28-watt and 25- watt) in the commercial lighting lamp maintenance market.*

[30] 3 or 6 years depending on the sector/ state

Sector/ Business Plan Strategic Market: Commercial/ Commercial Lighting

NEEA 20-year Total Regional Savings estimate: 76 aMW

NEEA is testing a strategy to increase the market share of low-wattage lamps for the commercial lighting maintenance market by providing sales incentives to electrical distributors. Based on lessons learned about the stocking and sales practices of the five electrical distributors participating in the market test, NEEA adjusted its incentive structure and marketing bonus and is continuing to assess the potential for a future upstream platform for the entire region. The market test will continue through 2015.

2014 Market Progress Indicators:

- Completed market test with five electrical distributors who sell over two million T8 lamps in the Northwest, representing an estimated 22 percent of Northwest T8 lamp sales
- During the market test, one electrical distributor went from selling only nine percent low wattage lamps to over 70 percent low wattage lamps.

k) **Building Operator Certification (BOC) Expansion:** *Accelerate market adoption of energy-efficient operation and maintenance practices in commercial buildings by creating market demand and increasing supply of BOC-certified building operators*

Sector/ Business Plan Strategic Market: Commercial/ NA

NEEA 20-year Total Regional Savings estimate: 15 aMW

Through its Building Operator Certification (BOC) Expansion initiative, NEEA provides skill enhancement training to improve building energy performance through operation and maintenance best practices for HVAC, lighting, and controls systems. In 2014, the BOC Utility Work group, which includes Energy Trust, developed a plan to increase market demand and adoption through increased coordination between certification providers and utility programs. In addition, the program increased market capacity for BOC by expanding training offerings to Idaho and Montana, aligning BOC with ANSI (American National Standards Institute) Standard 17024, and developing an online curriculum to address time and travel barriers for program participants.

2014 Market Progress Indicators:

- BOC provider NEEC (Northwest Energy Efficiency Council) became a U.S. General Services Administration-approved training provider resulting in increased opportunities for government sector building operators to earn the BOC credential, leading to increased market penetration across the region;
- International Union of Operating Engineers became a BOC-approved provider expanding the program to Idaho and Montana;
- NEEC and the Utility Work Group members completed and are implementing a BOC Utility Engagement Plan; and
- NEEC satisfied a key requirement to operate in alignment with International Organization for Standardization (ISO) 17024 standards, which places it in good position for accreditation under the 17024 standard.

Infrastructure Programs

In addition to market transformation programs, NEEA also invests in developing energy efficiency infrastructure to support utilities and the market in building market capability, awareness and demand for energy-efficient products and practices. This infrastructure provides resources that utilities and market

partners can leverage to address market barriers and support long-term market transformation within strategic markets. Infrastructure programs do not directly generate aMW savings for the region.

l) **Commercial Real Estate:** *Leverage strategic, partnerships to deliver a broad range of energy efficiency best practices for commercial real estate and utility partners.*

Sector/ Business Plan Strategic Market: Commercial/ NA

NEEA 20-year Total Regional Savings estimate: N/A

Through its Commercial Real Estate program, NEEA engages the region's commercial building owners and operators to adopt energy efficiency best practices. In 2014, NEEA staff collaborated with Energy Trust, Clark Public Utilities, City of Portland and BOMA (Building Owners and Managers Association) Oregon to recognize 64 property teams completing the Kilowatt Crackdown (http://www.kilowatt-crackdown.com/) office efficiency competition - engaging 15 million square feet of Portland office space. Staff also supported a utility data-benchmarking forum with the City of Portland to advance information sharing among regional utilities on automated benchmarking services.

In NEEA's 2015-2019 Business Plan, Commercial Real Estate will become an optional program for funding organizations focused on delivering strategic energy management tools to utilities and market partners (see Section D for more information about NEEA's optional programs).

m) **Existing Building Renewal (EBR)**: *Create a market attractive pathway and market capabilities to energy efficient renewal of existing buildings.*

Sector/ Business Plan Strategic Market: Commercial/ NA

NEEA 20-year Total Regional Savings estimate: N/A

NEEA's Existing Building Renewal program addressed the barriers and opportunities for the commercial office building market in the Northwest to conduct whole-building deep energy retrofits of existing buildings. Through its four demonstration projects, one in each Northwest state, NEEA offered proof of technical and market viability, and provided case studies for deep energy retrofits in the Northwest. In 2014, NEEA continued to support one demonstration project in Energy Trust territory. Beginning in 2015, NEEA integrated this initiative into NEEA's Commercial Real Estate infrastructure program (see above).

n) **Commercial Lighting Regional Resources:** *Provide resources and tools that support utilities and the market in building market awareness, demand and capability for designing and installing energy-efficient commercial lighting.*

Sector/ Business Plan Strategic Market: Commercial/ Commercial Lighting

NEEA 20-year Total Regional Savings estimate: N/A

NEEA held the annual Lighting Summer Summit event in June 2014. This annual conference brings together LED industry professionals and utility personnel with the aim of broadening communication and encouraging information exchange between the two parties The summit featured presentations on regional energy policy, trends in controls and LEDs and updates on utility incentive offerings across the region. In the latter half of 2014, NEEA staff developed a comprehensive online Lighting Basics training and conducted a survey of trade allies to assist in the redesign of the Northwest Lighting Network website. Finally, NEEA continued support for the region through its membership and participation in the Design Lights Consortium.

o) **Top Tier Trade Ally (TTTA) Advanced Training:** *Accelerate market adoption of commercial and industrial advanced lighting retrofit practices by building connectivity between contractors, training resources, and utility programs throughout the Northwest.*

Sector/ Business Plan Strategic Market: Commercial/ Commercial Lighting

NEEA 20-year Total Regional Savings estimate: N/A

NEEA staff drafted learning topics and objectives for Top Tier Trade Ally Advanced Training and worked with stakeholders, including Energy Trust, to gather feedback for refinement. The learning objectives will be the cornerstone of the Top Tier Trade Ally program and used to create the performance standards by which top tier allies can be qualified.

p) **Industrial Regional Technical Training:** *Coordinated program of technical trainings to meet the needs of utility customers and utilities*

Sector/ Business Plan Strategic Market: Commercial/ NA

NEEA 20-year Total Regional Savings estimate: N/A

NEEA delivered 23 in-class trainings (eight in Energy Trust territory) and two webinars to a diverse audience of Industrial end-users in 2014. The courses drew over 455 attendees, a six percent increase from 2013, and participants received 168 continuing education credits. In addition, NEEA piloted "enhanced training curriculum," which included pre- and post-training surveys that will allow NEEA to track energy-saving projects implemented by attendees as a direct result of training.

D. Results of the take-stock analysis of the budget and the opt-in programs

NEEA's 2015-2019 Business Plan allows funders to conduct some market transformation activities themselves and/or opt out of three infrastructure programs - Commercial Real Estate/Existing Building Renewal, Top-Tier Trade Ally Advanced Training, and Industrial Technical Training. Energy Trust has elected to participate in the first two. The Business Plan also includes budget for an independent review of this new optional approach, which will occur in 2016.

Note: NEEA staff will provide key results and outcomes of this review as part of its 2015 Annual Report to Energy Trust. The document will be appended to the Q2 2016 Report Energy Trust submits to the Oregon Public Utility Commission.

E. Mid-Course Corrections that have Occurred in NEEA Programs

This section of the report details all major, high-level changes, including significant adjustments to the fundamental market transformation theory or key strategic intervention changes, that NEEA undertook in 2014.

a. **Ductless Heat Pumps**: In June 2014, NEEA completed a number of foundational updates to the ductless heat pump initiative, including:
   - Clarified the target market by adding both single-family existing homes with electric forced air furnaces and existing manufactured homes with electric forced air furnaces (in addition to single-family homes with zonal electric heating)
   - Updated and revamped the Logic Model (i.e. theory of market change):
     - Added manufacturer engagement as an activity;
     - Identified two new barriers (concerns with aesthetics and poor in-field performance); and
     - Identified new long-term outcome: ductless heat pumps displace majority of electric resistance heating load in target markets.
   - Revised Market Progress Indicators

- Revised Transition Complete strategies and criteria (i.e. how NEEA will determine when to exit this initiative)

b. **Heat Pump Water Heaters:** Manufacturer AirGenerate issued a recall on a batch of Tier 2 AirTap units affecting up to 163 units in Energy Trust territory. Shortly thereafter, NEEA removed the product from the Northern Climate Specification Qualified Product List. As the only Tier 2 product available in the market in 2014, this hindered higher tiered product adoption and has the potential to raise supply chain product objections. As a result, NEEA developed 2015 strategies to encourage higher tier product development and mass supply chain adoption of heat pump water heater technology.

c. **Luminaire-level Lighting Controls**: In 2014, NEEA shifted the focus of this initiative from the retrofit market to the new construction market, and to specific space types such as open office and warehouse. This change was the result of new market research indicating that the cost of these products are still a high barrier for the retrofit market, but significantly less so for major renovation or new construction.

d. **Reduced Wattage Lamp Replacement:** Initially, the program's incentive model paid electrical distributors for sales of low wattage lamps above a historical baseline. In 2014, the program made a mid-course correction with one of the distributors to pay for all sales of low wattage lamps and coupled this incentive model with a strong sales staff promotion. This resulted in a significant change in sales and stocking practices of low wattage lamps and affirmed the course correction for the rest of the program.

For additional information about NEEA, including quarterly and annual reports, visit our Resource Center: neea.org/resource-center.

Contact Virginia Mersereau, Communications Manager, at vmersereau@neea.org, with any questions or comments about this report.