# 2021 Annual Report to the Oregon Public Utility Commission & Energy Trust Board of Directors

**ENERGY TRUST OF OREGON**
**APRIL 15, 2022**

**UPDATED MAY 1, 2023**

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# From the executive director

If the theme for 2020 was grappling with the unprecedented disruptions to our daily lives from COVID-19, 2021 was about getting back to business through the ongoing pandemic. With the availability of vaccines and other public health changes, we saw glimmers of a new normal, but there were plenty of stops and starts that challenged our customers along the way.

Equipment and labor shortages related to the pandemic slowed down construction timelines while driving up prices. Market volatility made it difficult for business customers to take on or complete energy-saving projects. On the residential side, customers with low incomes and renters continued to struggle the most, while homeowners and others who could afford upgrades that made their homes more efficient and comfortable helped drive up demand for things like smart thermostats, HVAC and weatherization.

Thanks to the hard work of our staff and contractors, Energy Trust was able to navigate these hurdles and continue to serve customers with cost-effective energy efficiency and renewable energy, approaching our electric savings goal and exceeding our natural gas savings and generation goals well within our annual budget. This was thanks in part to our ability to adjust incentive offers and outreach in real time and manage our programs across the portfolio, a test of the adaptability and flexibility we've sought to ingrain in our organization in recent years.

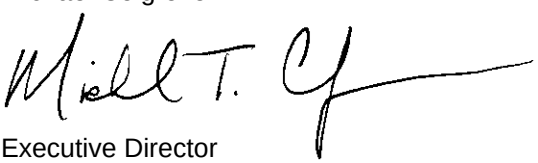
As the pandemic's effects dragged on, the summer of 2021 brought a stark reminder of other pressures on our energy system and public health in the form of a record-setting heat wave for the Northwest. Coupled with wildfires, heat events like these are driving up demand for technologies that help people manage and prepare for extreme weather—like air conditioners and HVAC systems that keep spaces cool and ventilated and solar systems with battery storage that can help keep the lights on during disaster events.

Providing these upgrades can have life-saving impacts. This was something we heard repeatedly from our partners in state and local government and from community-based organizations, along with the need for affordable housing, investment in infrastructure, and ways to help mitigate the effects of climate change and be resilient in the face of natural disasters. Energy-efficiency and renewable energy have a place in all these conversations. They help keep housing costs low, lower the cost to operate municipal facilities, reduce carbon emissions and—when solar systems are paired with batteries—keep the power on when disaster strikes.

At the state level, 2021 saw the passage of significant new laws aimed at promoting clean energy and energy equity. In particular, House Bill 3141 marked an exciting shift for Energy Trust, reaffirming the value of the public purpose charge while modernizing it to fit the needs of utility customers and today's energy system. The new law prioritizes investments that support grid reliability and resiliency and that serve low- and moderate-income customers, with equity metrics for all funds invested by Energy Trust to help ensure benefits for customers who have historically not benefited from our services. Much of this aligns with goals in our latest Diversity, Equity and Inclusion Plan, which launches in 2022 with a focus on community engagement and the goal of better serving communities who have the highest energy burden and are most affected by climate change—communities of color, communities in rural areas and customers with low incomes.

Thank you to all who helped us achieve our 2021 results, including our customers, the Oregon Public Utility Commission, Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas, Avista, Northwest Energy Efficiency Alliance, Oregon Department of Energy, Oregon Housing and Community Services, trade ally contractors, cities, counties and community organizations.

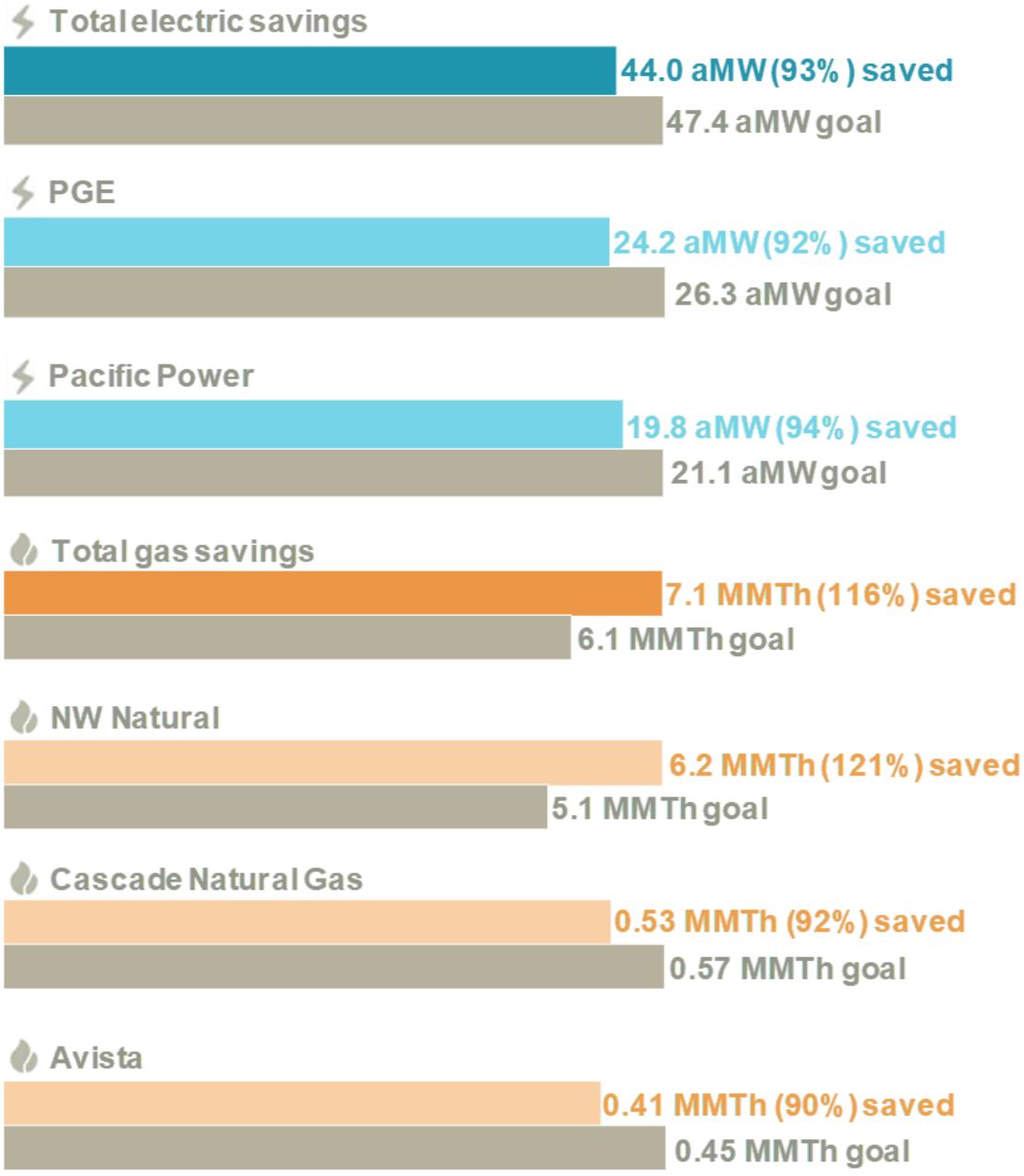
Michael Colgrove



Executive Director

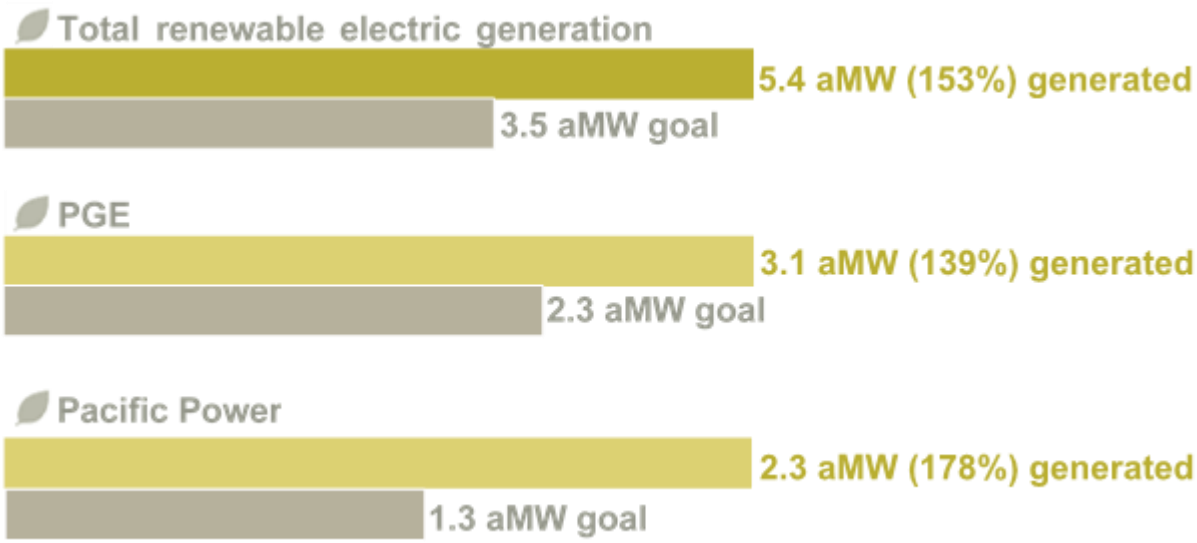
# I Results at a glance[1,2]

## Savings

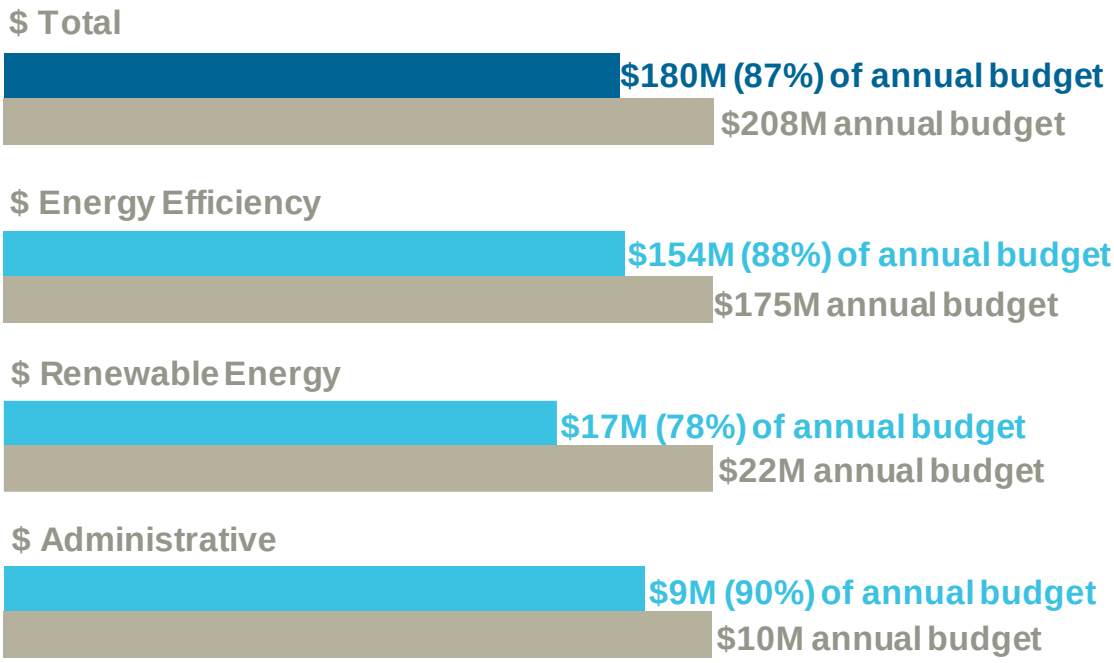



[1] Energy Trust reports gross savings as determined in consultation with OPUC and stakeholders in 2019. Reports prior to 2020 included net savings, which are adjusted gross savings based on results of current and past evaluations.
[2] Note that aMW indicates average megawatts, MMTh indicates million therms and MM is million.

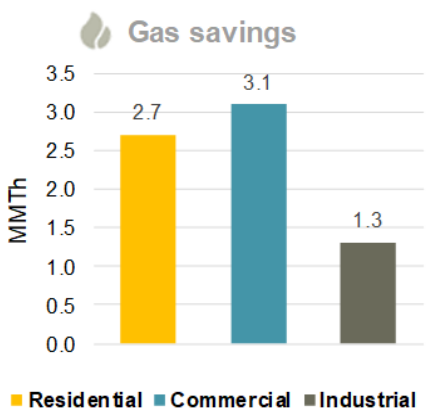
## Generation

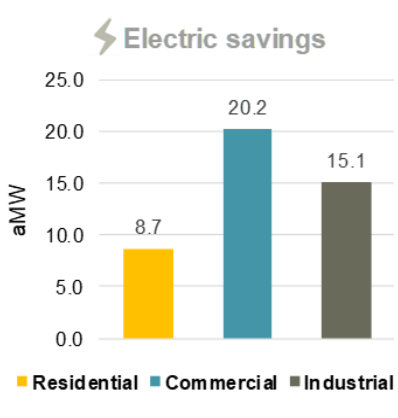


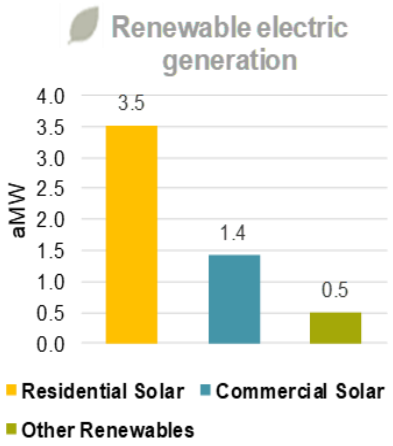

## Oregon public purpose charge expenditures



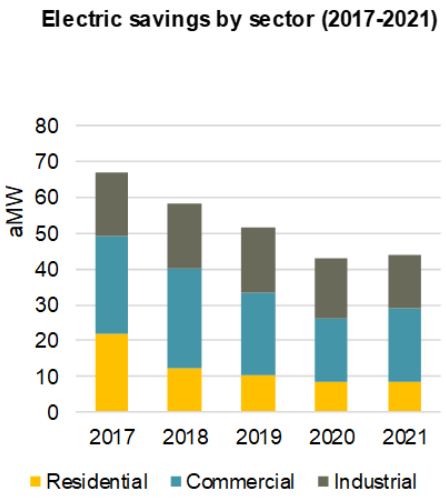
## 2021 savings and generation by sector

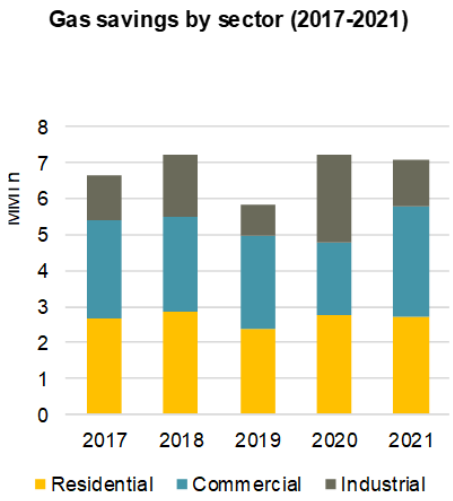


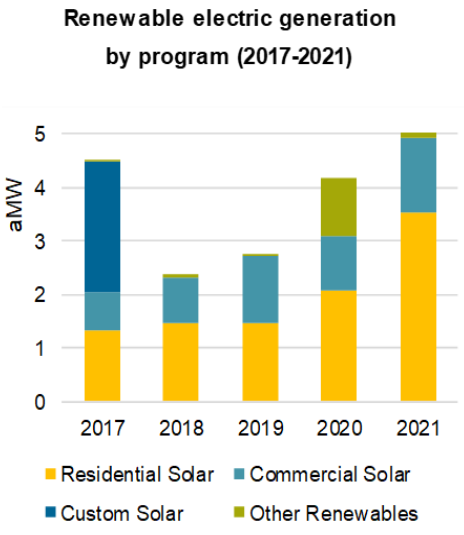



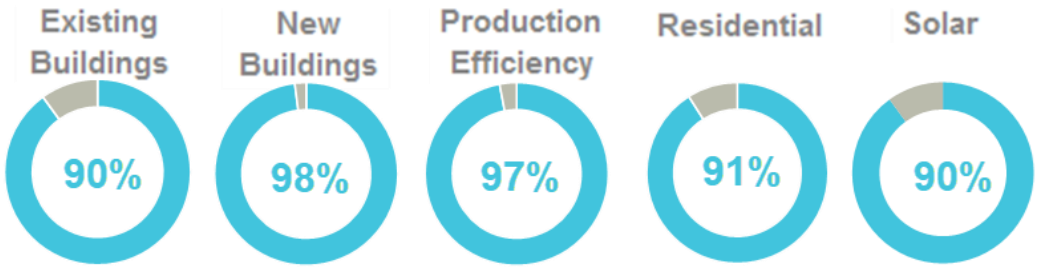

## Savings and generation by sector over time



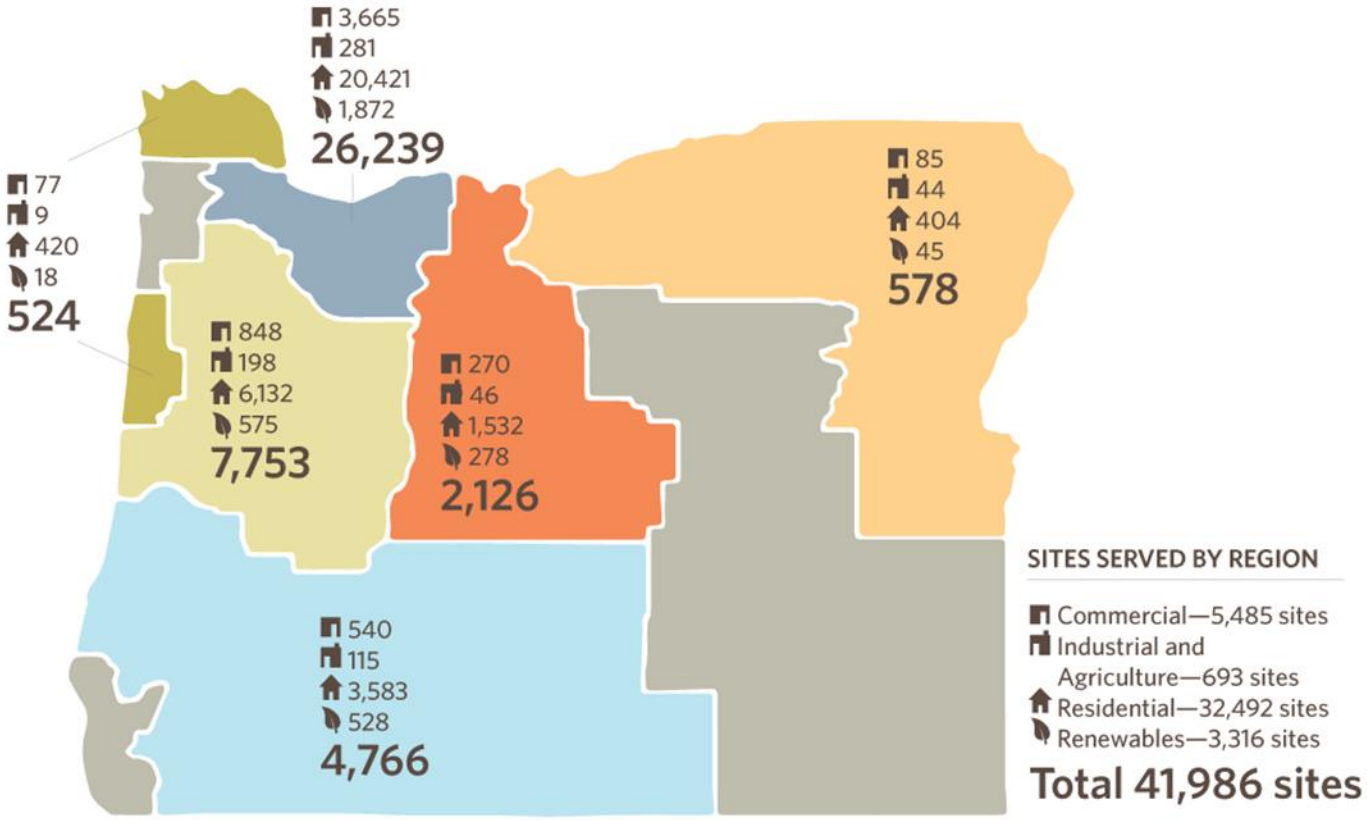



## Customer satisfaction[3]




## Sites served by region[4,5]




[3] Energy Trust surveyed 896 residential customers and 653 non-residential customers in Oregon who received an incentive or discount from Energy Trust in 2021. New Buildings satisfaction data is from 2018. See Appendix 3 for more information.
[4] Residential sites served decreased by about 22,000 from 2020 to 2021, mostly due to discontinuation of Energy Saver Kits and reduction in distribution of smart thermostats.
[5] This document reports on Energy Trust services to Oregon customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista. Areas in gray are not served by these utilities.

## Progress to annual organization goals

This table provides an at-a-glance update on Energy Trust's 2021 organization goals, which were set as part of Energy Trust's 2021 Budget and 2021-2022 Action Plan and approved by the board of directors. These goals reflect the organization's priorities for the year and guided staff decision-making regarding allocation of resources. For more detail on activities related to 2021 goals, see Section VII.

| Goal | Status |
|---|---|
| Meet savings and generation targets with offers and services designed to support customers during the economic and social recovery related to the COVID-19 pandemic. | Partially met goal |
| Invest in relationships and collaborations with other entities to meet common needs and future objectives. | Met goal |
| Enhance operating processes and internal culture to efficiently respond to change. | Met goal |

# II Executive summary

The body of this report includes only activity funded by Oregon electric utility customers of Portland General Electric (PGE) and Pacific Power under state law and by Oregon natural gas customers of NW Natural, Cascade Natural Gas and Avista through regulatory agreements between the Oregon Public Utility Commission (OPUC) and each natural gas utility. The total organization results appendix reports energy savings, generation, expenditures and revenue for all Energy Trust activity, including activity in NW Natural service area in Southwest Washington, Energy Trust's subcontract to deliver the Oregon Community Solar Program and other activity.

## A. Annual results[6,7,8]

- **Energy Trust fell short of its annual electric savings goal and exceeded its natural gas savings goal while sustaining low costs**. We achieved steady energy results despite the unpredictable impacts of multiple waves of COVID-19 on our customers and the market. Electric savings, particularly from commercial and industrial lighting projects, were impacted by pandemic-related disruptions, including construction delays, shipping delays, labor shortages, cost increases and economic uncertainty that made it difficult for customers to complete efficiency projects as planned in 2021. Many of these delayed projects are expected to complete and deliver energy savings in 2022.
    - Electric efficiency improvements completed in 2021 **saved 44.0 average megawatts** of electricity, about 7% less than the 2021 goal of 47.4 aMW, at a levelized cost[9] of 3.4 cents per kilowatt hour, a decrease from 2020.
    - Natural gas efficiency improvements completed in 2021 **saved 7.1 million therms** of natural gas, about 16% more than the 2021 goal of 6.1 million therms, at a levelized cost of 37.5 cents per therm, an increase from 2020.
    - Energy Trust exceeded goal in NW Natural service area and fell short of goals in PGE, Pacific Power, Cascade Natural Gas and Avista service areas.
    - Market transformation through Northwest Energy Efficiency Alliance (NEEA) resulted in 9% of Energy Trust's electric savings, achieving 103% of Energy Trust's 2021 NEEA goal.
- The renewable energy sector exceeded its annual renewable electric generation goals for both PGE and Pacific Power service areas. Results were driven by strong residential solar market demand and completion of a large biopower project.
    - Total renewable energy systems installed in 2021 will **generate 5.43 aMW** of electricity, 53% more than the 2021 goal.
- Savings and generation achieved in 2021 **represent 162,000 metric tons[10] of carbon dioxide kept out of the atmosphere**, the equivalent of removing 37,900 cars from Oregon roads for a year.

**44**
**AVERAGE MEGAWATTS SAVED**

**7.1**
**MILLION ANNUAL THERMS SAVED**

**5.43**
**AVERAGE MEGAWATTS GENERATED**

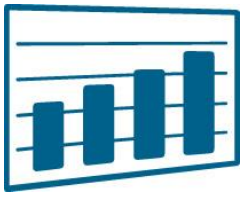
**162,000**
**TONS OF $CO_2$ AVOIDED**

[6] Energy Trust reports gross savings as determined in consultation with OPUC and stakeholders in 2019. Reports prior to 2020 included net savings, which are adjusted gross savings based on results of current and past evaluations.
[7] 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, 2021, 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. Previous true up reports are available online at www.energytrust.org/reports.
[8] Successful attainment of goals is defined as achieving at least 95% of the annual goal, per agreement with OPUC staff.
[9] Levelized cost is Energy Trust's total cost to save or generate each unit of energy over the life of the measure (which ranges from one to 20 years or more).
[10] Carbon dioxide avoided is reported in metric tons in this report. In prior annual reports and 2021 quarterly reports, carbon was reported in short tons.

- Energy Trust achieved most of its 2021 OPUC performance measures.
    - It maintained low administrative and program support costs at 6.5% of annual revenues, well below the 8% cap.
    - It received consistently high customer satisfaction ratings of 93% overall and 93% for interactions with program representatives.
    - It was out of compliance with performance measures related to funds invested in renewable energy project development assistance and developing a supplier diversity tracking system. The former is attributed to a slowdown in irrigation modernization efforts as a result of the pandemic.

## B. Notable activities and trends

- In the second year of the COVID-19 pandemic, the evolving situation—including the availability of coronavirus vaccines, vaccine mandates, two new disease variants and public health requirements—**created dynamic market conditions and economic uncertainty**, including supply chain constraints, equipment shortages and labor shortages.
- Bonuses offered in 2020 spurred activity when businesses were cautious during the first year of the pandemic and created an unusually large pipeline of efficiency projects for 2021. To pursue potential additional cost-effective energy savings from this project pipeline, Energy Trust's board of directors approved an amended 2021 budget with additional electric utility revenues and authorized staff to spend contingency reserves. In addition, to manage budgets in this unpredictable market, the organization adjusted its programs and operations by instituting incentive caps, pausing promotions and enhancing forecasting.
- To continue to adapt to this challenging market, Energy Trust **expanded forecasting to be more frequent and detailed**. Staff built intake and reporting infrastructure to support monthly and quarterly project pipeline reporting and management and created on-demand reports within Power BI to improve real-time monitoring of projects and budgets. Staff also identified additional improvements to forecasting methodology needed in uncertain market conditions to better gauge the impact of labor and supply shortages on customer projects.
- The **June 2021 heat wave brought temperatures to historic—and deadly—highs, driving up demand for cooling equipment**. To help customers choose energy-efficient equipment, Energy Trust promoted incentives for air conditioners and heat pumps that cool spaces, exploring potential offers for cooling equipment, and establishing research needs to better understand the benefits of portable cooling technologies. Energy Trust provided no-cost and low-cost cooling tips throughout the summer on its website, blog and through news outlets, including in Spanish.
- In 2021, **the Oregon Legislature passed House Bill 3141, the public purpose charge modernization law** that extends and expands Energy Trust's purview. The new law extends the public purpose charge sunset by 10 years; transitions energy efficiency funding into ratemaking processes, effectively removing the sunset on efficiency funding; expands what qualifies for renewable energy funding to include projects that improve reliability and resiliency of the electric grid; sets a requirement that at least 25% of renewable energy revenues benefit low- and moderate-income customers; ensures joint planning and coordination between Energy Trust and partner utilities; and includes a requirement for the OPUC to set equity metrics for funds invested by Energy Trust.
- The new law will impact the annual budget development process, and staff will work with the OPUC, utilities and stakeholders to review that process in 2022.



**EXPANDED FORECASTING TO BE MORE FREQUENT AND DETAILED**

- Several other energy and energy equity bills became law as well, including a law moving the state to 100% emissions-free electricity by 2040.
- In 2021, Energy Trust advanced efforts to achieve a more diverse, equitable and inclusive organization for staff and customers. This work included **meeting 17 of the 22 targets in its annual Diversity, Equity and Inclusion Operations Plan** (see Appendix 2 for the full progress report), hosting four community summits to learn from diverse customer and contractor groups, hiring two new outreach staff focused on communities of color and creating a new supplier diversity program to increase contracts with Black, Indigenous and people of color (BIPOC)- and women-owned businesses.
- Staff continued to support communities and customers recovering from wildfires and preparing for future wildfire seasons. Support included outreach to affected communities, such as supporting fire-affected business owners in southern Oregon through a collaborative regional economic development effort. To promote rebuilding that is both more resilient to future fires and more energy efficient, staff **designed targeted incentives for energy-efficient and fire-resistant new construction**, which will launch in 2022. Energy Trust also shared indoor air quality tips on its website, blog and through news outlets, including in Spanish.
- To **align incentives with the state's new building codes for residential and commercial buildings in 2022**, Energy Trust made changes to the Residential and New Buildings programs, including updating the EPS™ offer for new home construction and streamlining the pathway for 2021 standard whole-building new construction projects to offer early design and technical assistance to customers as they navigate the new code.
- Energy Trust continued to **support cities and counties as a strategic advisor**, helping them leverage energy efficiency and renewable power to achieve their resilience and climate goals. In 2021, highlights included participating in development of energy plans for Hood River and Washington County and funding a report on small-scale distributed hydropower potential in Wallowa County that will be used in regional energy planning.
- By **collaborating with public agencies and community organizations and helping customers leverage multiple sources of funding**, Energy Trust was able to provide benefits to more customers than it would have otherwise and to better serve communities it has underserved in the past. Highlights of 2021 efforts include:
    - Energy Trust used its Community Partner Funding pathway to help Community Action of Washington County provide weatherization and heating projects to more people than it could have without Energy Trust's incentives and partnered with the nonprofit EUVALCREE to provide funding for energy-saving upgrades in Spanish-speaking communities in Eastern Oregon. Working with EUVALCREE is also helping Energy Trust explore new ideas that will better serve rural customers.
    - Energy Trust supported the Oregon Housing and Community Services (OHCS) Oregon Multifamily Energy program to co-fund EPS-rated projects at four affordable multifamily housing properties. This co-funding enabled more comprehensive upgrades for each building.
- To expand funding to support additional investments in energy efficiency and renewable energy, **Energy Trust applied for grants**.
    - Major grants awarded in 2021 included funding for a BIPOC Solar Ambassadors program from the National Renewable Energy Laboratory (NREL), and—as part of a team with PGE, NREL, NEEA and Community Energy Project—a $6.65 million Connected Communities grant from the

**MET 17 OF 22 DIVERSITY, EQUITY AND INCLUSION PLAN TARGETS**

U.S. Department of Energy for the Smart Grid Asset Load Management and Optimized Neighborhood project.

- Energy Trust **launched Working Together Grants—a new, small grant offer for nonprofit organizations—at the end of 2021, attracting 21 applications**; the selection process is scheduled to complete in early 2022. The grants provide funding for nonprofit organizations interested in pursuing activities that help diverse customers and communities save energy or use clean, renewable energy.
- The Solar program hit a milestone in late 2021, **surpassing 20,000 solar systems installed on Oregon homes and businesses** since Energy Trust paid its first solar incentive in 2002. In addition, 2021 was the program's biggest year ever, with 60% more projects and generation than in 2020. Growth was driven by increased demand for both residential and non-residential solar projects and strong interest in the program's income-qualified Solar Within Reach offer. The program's Equitable Solar Initiative also attracted considerable interest in its first full year with 26 nonprofit and affordable multifamily solar projects enrolled.
- Energy Trust **collaborated with utilities to support targeted load management efforts**, which aim to change how and when customers use energy, focusing on reducing demand during periods of peak energy use and helping utilities avoid disruptive and costly infrastructure upgrades.
    - Final data from a targeted load management project with Pacific Power in Phoenix show above-baseline savings despite impacts from COVID-19 and the catastrophic 2020 Almeda fire. Above-baseline savings were also achieved during peak periods of energy usage.
    - The second phase of a targeted load management project with NW Natural in Creswell and Cottage Grove had strong results and realized substantial above-baseline savings. Offers included increased incentives accompanied by co-branded targeted marketing and outreach.

**LAUNCHED WORKING TOGETHER GRANTS FOR NONPROFIT ORGANIZATIONS**

**20,000**

**SOLAR SYSTEMS INSTALLED ON OREGON HOMES AND BUSINESSES**

## C. Updates requested by the OPUC

*This section provides information requested by the OPUC in comments on Energy Trust's 2021 Budget and 2021-2022 Action Plan, plus other information requested by OPUC staff.*


**DEVELOPED ONLINE HOME ENERGY ASSESSMENT TOOL**

**Report on efforts to identify new savings sources or delivery approaches for the Residential program:**

- Energy Trust began development of an **online home energy assessment tool** that will help customers identify areas for improvement in their homes and connect them to resources. Energy Trust expects to launch the tool in March 2022.
- Residential **behavioral energy savings reports** were an emerging source of savings for the Residential program. The offer, developed in coordination with Pacific Power and launched in fall 2020, delivers monthly energy use analysis and recommends ways to save energy to customers based on their home energy consumption.
- Staff explored potential savings and offers for **cooling equipment** ranging from window air conditioners to whole-home systems. In addition, Energy Trust established research needs to better understand the savings, energy efficiency and health benefits of portable cooling technologies.
- Energy Trust transitioned its **manufactured home replacement offer** from a pilot to a standard offer that will launch in 2022, following OPUC approval of a cost-effectiveness exception request. The program leverages funds from OHCS to bring housing and clean energy benefits to households, affordable housing organizations and tribal partners.

**TRANSITIONED MANUFACTURED HOME REPLACEMENT FROM PILOT TO STANDARD OFFER**

- Staff explored new residential savings opportunities through **coordinated research projects**, market tests and technical analyses, including for heat pump water heaters in existing manufactured homes, Wi-Fi-enabled smart controls for ductless heat pumps, a new class of wall-mounted heat pumps, residential cooling applications and a potential pay-for-performance program design in the residential sector.

**Provide highlights on work to refine peak modeling capability:**

- Energy Trust **tracked the OPUC's capacity docket**, in which the OPUC, utilities and other stakeholders reviewed methods to define, model and estimate the value of energy resources during peak times.
- Staff interviewed OPUC and utility staff to determine how Energy Trust's **data systems could evolve to quantify and value savings during peak periods** and assess whether and how to incorporate hourly savings estimates as part of measure definitions in Energy Trust's data system.
- Staff explored alternative **data constructs for valuing peak energy savings** and developed a plan to analyze the feasibility of system modifications in 2022. The selected data construct will guide how the organization estimates peak reduction impacts of energy efficiency and renewable generation investments.

**Provide updates on work to implement a supplier diversity tracking system:**

- Energy Trust **developed a supplier diversity program** to guide development of a supplier diversity tracking system. The program will require all competitive solicitations for new contracts over $100,000 to require a minimum spend for Certification Office for Business Inclusion and Diversity (COBID)-certified BIPOC- and women-owned businesses beginning in 2022.
- Staff defined the scope of a project to develop the supplier diversity tracking system in 2022 and identified requirements for the new system.

**Continue to report on complementary funds activities, tracking the status of co-funding opportunities and the outcomes of those arrangements:**

- In its third year of partnership with **Community Action of Washington County**, **Energy Trust provided $271,891 in incentives** that, paired with funds from OHCS, enabled Community Action to serve customers experiencing low incomes with more and deeper energy upgrades. Energy Trust also engaged with Yamhill Community Action Partnership to develop a similar collaboration to begin in 2022.
- Energy Trust concluded a one-year test period for co-funding projects with the **OHCS Oregon Multifamily Energy Program**. In 2021, Energy Trust and OHCS co-funded energy efficiency projects at four affordable multifamily housing properties, including ductless heat pumps, windows, weatherization, lighting and appliances, benefitting nearly 100 households experiencing low incomes. Co-funding enabled expanded scopes and more comprehensive upgrades for all four buildings.
- Energy Trust conducted research and engaged stakeholders to explore the **development of a coordinated service model that packages energy and health improvements** for the built environment. Energy Trust received positive feedback from the Oregon Health Authority and Oregon State Representative Pam Marsh, among others. Staff anticipate that various state and federal funding opportunities, including Oregon Health Authority's Healthy Homes program, may enable the development of a new offering in 2022.
- For information on the **PGE Smart Battery Pilot and other grants** and contracts, see Appendix 1.

**$271,891**

**INCENTIVES PROVIDED TO COMMUNITY ACTION AGENCY OF WASHINGTON COUNTY THROUGH PARTNERSHIP**

**New Buildings program cost-effectiveness exceptions:**

- The OPUC **approved a cost-effectiveness exception extension request** for a whole-building approach to the New Buildings program while staff develops a new, education-based approach to measure-level cost-effectiveness testing.

## D. Cumulative results

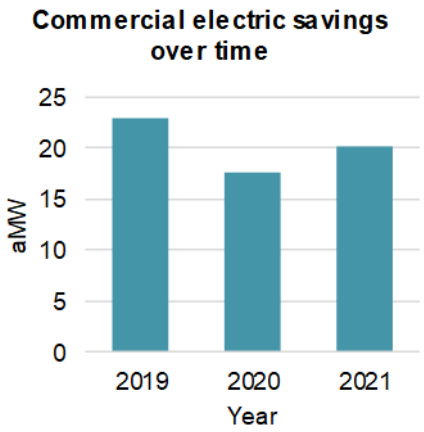
- From 2002 to 2021 in Oregon, Energy Trust has:
    - Saved 865 aMW, equivalent to powering 746,000 Oregon homes. This total includes 25 aMW of savings from self-direct customers.
    - Saved 84 million annual therms, equivalent to providing gas heat to 165,000 Oregon homes.
    - Generated 141 aMW, equivalent to powering 122,000 Oregon homes.
- The net economic benefits of Energy Trust 2002-2021 expenditures, energy savings and renewable energy generation added $10.4 billion to Oregon's economy, including $3.3 billion in wages, $549.2 million in small business income and employment equivalent to 74,000 jobs.
- Through 2021, air quality improvements stemming from Energy Trust investments have kept 22.3 million metric tons of carbon dioxide out of the atmosphere, equivalent to removing 5 million cars from Oregon roads for one year.
- Since 2003, Energy Trust has invested more than $29.5 million in energy-efficiency projects at more than 1,100 public and private K-12 Oregon schools and facilities and provided more than $4.4 million in funding for 94 solar electric and wind energy systems at 83 public and private K-12 schools.
- Energy Trust investments in energy efficiency and solar generation will save utility customers nearly $9.7 billion on their utility bills over the lifetime of those investments. Participating customers have already saved more than $5.3 billion on their energy bills since 2002.

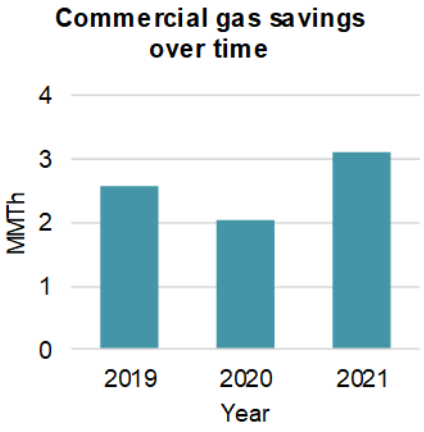
# III Program and operations activity

## A. Commercial sector highlights

*The commercial sector is comprised of two programs: Existing Buildings and New Buildings. Existing Buildings is delivered by Program Management Contractor TRC and includes multifamily offers. The program offers incentives for energy-efficient improvements in existing commercial buildings of all sizes. The New Buildings program, delivered by Program Management Contractor CLEAResult, supports design and construction of high-performance commercial buildings and major renovations of all sizes and building types. Lighting offers for commercial customers are delivered by Program Delivery Contractor CLEAResult that also serves industrial customers.*

- **The commercial sector fell short of its electric savings goals** and exceeded its gas savings goals. Electric savings shortfalls were largely due to the completion of fewer-than-anticipated business lighting projects due to pandemic-related disruptions and economic uncertainty. Construction delays, shipping delays, labor shortages and cost increases for equipment and materials made it difficult for customers to complete lighting and other commercial projects as planned in 2021. Many of these delayed projects are expected to complete and deliver energy savings in 2022. See Section III C for more information on business lighting.
- **Electric savings were supported by** large custom Existing Buildings projects, roof insulation projects and commercial Strategic Energy Management (SEM). The top markets for electric savings were offices, grocery stores, primary schools, hospitals and higher education.
- **Gas savings were driven by** Existing Buildings projects and projects participating in a roof insulation bonus from 2020 that completed in 2021. The top markets for gas savings were K-12 schools, offices and restaurants and other businesses with food service capabilities.
- **Community-based liaisons** led staff in identifying and acting on opportunities to incorporate equity throughout the Existing Buildings program with activities such as providing anti-racism and equity lens training, conducting community outreach, and providing guidance on program design and strategy. Community-based liaisons are a group of consultants that provide guidance on and implementation of strategies for the Existing Buildings program to operate more equitably and meet the needs of customers Energy Trust has underserved in the past—such as smaller businesses and businesses owned by people of color.
- The Existing Buildings program designed a **new small business offer and a new SEM cohort** for multifamily housing managers. New offers were informed by interviews, research and discussion groups with communities of color, affordable housing organizations and community-based organizations. Energy Trust contracted with nonprofit Community Energy Project to provide input for the design of SEM for multifamily participants.
- Energy Trust continued to **diversify its network of program allies**, growing the number of Certification Office for Business Inclusion and Diversity (COBID)-certified minority-, women- or service-disabled veteran-owned businesses by 20% in 2021. As part of this effort, Energy Trust finalized the design and development of a Contractor Development Pathway, which provides participating contractors with support to become successful trade allies. The pathway will launch in early 2022.



- Commercial and residential sector staff collaborated to deliver a **fixed-price ductless heat pump promotion for renters**, with higher incentives delivered through select trade ally contractors.
- **Staffed continued to align the New Buildings program** with commercial code updates through development of Market Solutions for multifamily customers and a streamlined pathway for whole-building projects to access early design and technical assistance as customers navigate the code updates for the 2021 Oregon commercial code. The program is operating under a cost-effectiveness exception from the Oregon Public Utility Commission (OPUC) as market research and new program designs are explored.
- Energy Trust helped building designers integrate net-zero building practices with **107 projects engaged in the Path to Net Zero offer;** nine projects completed in 2021.
- The New Buildings program **provided trainings to a record 1,763 participants** through 26 technical events, with notable increases in participation from women, people of color and people located outside of the Portland Metro area.
- Energy Trust **supported the Oregon Housing and Community Services (OHCS)-funded Oregon Multifamily Energy Program** to co-fund energy efficiency projects—including ductless heat pumps, windows, weatherization, lighting and appliances—at four affordable multifamily housing properties, benefitting nearly 100 households experiencing low income. This co-funding enabled expanded scopes and more comprehensive upgrades for each building. In consultation with the OPUC, Energy Trust will explore expanding this pilot program in the future.
- **Commercial savings from Northwest Energy Efficiency Alliance (NEEA)** activities comprised 5% of the sector's annual savings in Portland General Electric (PGE) service area, 6% in Pacific Power service area, and less than 0.1% in NW Natural, Cascade Natural Gas and Avista service areas.
    - Electric savings were driven by NEEA's influence on federal standards for walk-in coolers and fluorescent ballasts and the adoption of the state's commercial energy code.
    - Gas savings were driven by NEEA's condensing rooftop unit program.

**107**

**PROJECTS ENGAGED IN PATH TO NET ZERO**

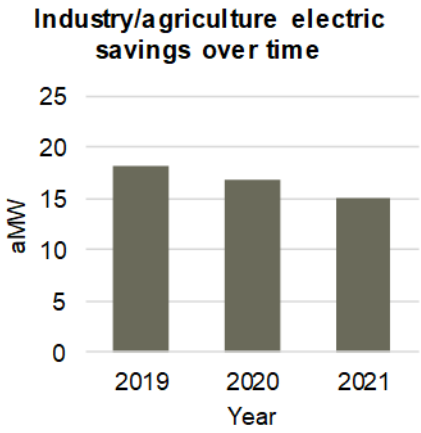
**1,763**

**PARTICIPANTS PROVIDED TRAINING THROUGH NEW BUILDINGS PROGRAM**

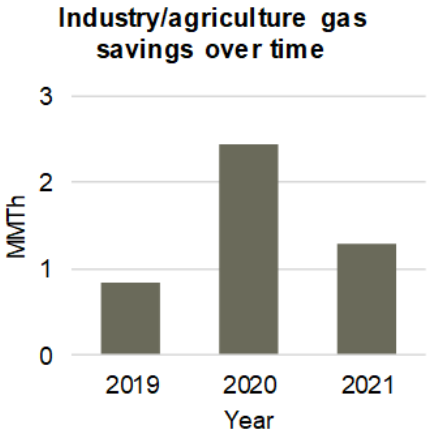
## B. Industry and agriculture sector highlights

*This sector provides energy-efficiency solutions for all sizes and types of eligible industrial, agricultural, municipal water and wastewater customers. Services and incentives are provided through two primary delivery tracks: standard and custom. The custom track includes energy performance management. The Production Efficiency program is designed and managed in-house by Energy Trust staff and is delivered to customers through the support of Program Delivery Contractors and other market actors.*

- The **industrial and agricultural sector fell short of its electric and gas savings goals**. Electric savings shortfalls were largely due to the completion of fewer-than-anticipated business lighting projects due to pandemic-related disruptions and economic uncertainty. Construction delays, shipping delays, labor shortages and cost increases for equipment and materials made it difficult for customers to complete lighting and standard industrial projects as planned in 2021. Many of these delayed projects are expected to complete and deliver energy savings in 2022. See Section III C for more information on business lighting.



- The Production Efficiency program **implemented incentive caps** in 2021 to help manage the budget following an unexpectedly high volume of projects driven by bonuses in 2020. Caps were applied to electric incentives and lighting incentives in quarter one and to gas incentives in quarter two. Incentive caps helped the program stay within budget for the year, also dampened trade ally enthusiasm for initiating new projects and seemed to reduce the urgency of customers to complete in-process projects. In concert with pandemic-related disruptions and economic uncertainty, this slowdown contributed to savings shortfalls.
- **Electric and gas savings were driven** by custom projects, including completion of a large electric megaproject, and operations and maintenance projects. Industrial SEM and standard projects, notably irrigation, fast-acting doors and compressed air for electric and greenhouse and insulation for gas, also contributed energy savings.
- Energy Trust's promotion of **low-cost operations and maintenance upgrades** continued to be effective at engaging customers who have limited capital budgets. Along with existing SEM engagements, these upgrades help achieve relatively inexpensive energy savings for the business and Energy Trust when incentive budgets are limited, particularly on the electric side.
- To improve forecasting and make it faster and easier for customers to complete projects and save energy, the sector **updated several offers to expand eligibility** or streamline the offer. These improvements included redeveloping the cannabis dehumidifier measure as a prescriptive rebate applicable for all indoor agriculture applications, including new construction; expanding the process hot water boiler offer to include additional high-efficiency equipment types that are now available in the market; and expanding eligibility and improving forecasting for direct install pipe insulation.
- The sector **added four new trade allies** in 2021 following recruitment efforts focused on firms that are owned by people of color, women and service-disabled veterans. Recruitment efforts included identifying businesses through the state's COBID database.
- **Industrial savings from NEEA** activities comprised approximately 5% of the sector's annual savings in PGE service area and 4% in Pacific Power service area. Savings were driven by NEEA's influence on federal standards for the electric motor market.




## C. Business lighting highlights

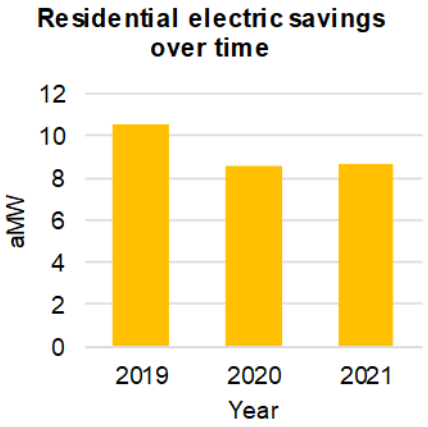
*Savings from business lighting offers are split between the Existing Buildings and Production Efficiency programs. Business lighting highlights are reported separately here because they apply to both commercial and industrial sectors. Starting in 2021, Energy Trust lighting offers for commercial and industrial customers were delivered by Program Delivery Contractor CLEAResult. This change, consolidating services previously provided through subcontracts to the commercial Program Management Contractor and an industrial Program Delivery Contractor, was made to align lighting offers for different customer types, gain program efficiencies and deliver cost savings, as well as strengthen diversity, equity and inclusion efforts.*

- **Fewer commercial and industrial businesses completed lighting projects** in 2021 than expected, contributing to Energy Trust's shortfall in electric savings.

- Savings were impacted by **pandemic-related disruptions and economic uncertainty**, including labor shortages, shipping delays and increased product costs that made it difficult for customers to complete lighting projects as planned in 2021. Many of these projects are expected to complete and deliver energy savings in 2022.
- Energy Trust **implemented incentive caps** for lighting projects in 2021 to help manage the budget following an unexpectedly high volume of projects completing in early 2021, driven by bonuses in 2020. Incentive caps helped the program stay within budget for the year, but also dampened trade ally enthusiasm for initiating new projects and seemed to reduce the urgency of customers to complete in-process projects. In concert with pandemic-related disruptions and economic uncertainty, this slowdown contributed to savings shortfalls.
- In 2022, the program is significantly raising annual project incentive caps and increasing some incentives. This is intended to help increase customer participation, especially for larger projects that may have paused due to the lower caps and/or increased project costs.
- Energy Trust **launched several new lighting offers**, including a no-cost direct installation lighting offer for small and medium businesses and those in rural areas designed to engage diverse suppliers from start to finish. To deliver this offer, Energy Trust worked with a Black, Indigenous and people of color (BIPOC)-owned distributor who supplies lighting, COBID-certified lighting installers and a COBID-certified company that manages outreach, which is focused on minority- and women-owned businesses. To support this offer, staff built a lighting assessment tool and provided 125 assessments to customers with energy efficiency recommendations.
    - Staff also launched an instant discount lighting offer, where customers can get instant incentives at point of purchase with 15 participating distributors around Oregon. This offer aims to better support customers in rural areas who may not have access to trade allies, customers performing their own product installations and customers who have smaller projects where administrative requirements for the downstream offer is too burdensome.

## D. Residential sector highlights

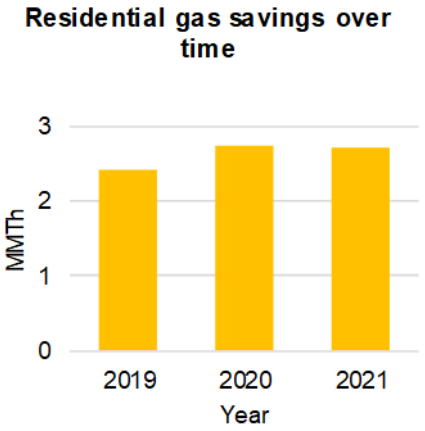
*Energy Trust's residential sector provides energy-efficiency solutions for residential customers of single-family homes, manufactured homes and newly constructed homes through its EPS™ initiative. The program is delivered through Program Management Contractor CLEAResult and Program Delivery Contractor TRC. Incentives are available for smart thermostats, energy-efficient HVAC and water heating equipment, lighting, appliances, weatherization upgrades and whole-home improvements in new construction.*




- The residential sector **exceeded its annual electric and gas savings goals** for all utility service areas in 2021.
- The leading **drivers of electric savings** were construction of new, highly efficient EPS homes; installation of heat pumps in manufactured homes,

grow lights and extended capacity heat pumps; and a bonus for ceiling insulation. Behavioral energy savings reports were an emerging source of savings for Pacific Power.

- **Gas savings were driven by** market transformation, thermostats and thermostat optimization, EPS new construction, heating, weatherization and a furnace bonus offer.
- Many projects driven by **2020 bonus offers for ceiling insulation and gas furnaces completed in 2021** and drove significant electric and gas savings during the first half of the year.
- Of all homes built in Energy Trust service area in 2021, **35% participated in EPS**. Energy Trust engaged builders in a strong new construction market, driven by high demand for housing and low interest rates. Delays due to supply and labor shortages and permit issuing slowed some projects, but overall more homes were built than anticipated.
- In preparation for the state's **new residential building code in 2022**, Energy Trust developed updated incentives and savings for its EPS offers to align with the state's new building code. Updated offers will go into effect in April 2022. The program also updated its Energy Smart Home and net zero home offers.
- Energy Trust partnered with retailers across the state to offer **incentives for types of LEDs** that have not yet been adopted widely in the market, such as specialty LEDs at Home Depot and other major retailers. To bring LEDs to customer groups that Energy Trust has previously underserved, the organization offered promotions at discount retailers such as Walmart and Dollar Tree and at small hardware stores in rural areas.
- An extreme heat event **spurred demand for HVAC equipment that offers cooling benefits**, such as air conditioners and heat pumps. Labor shortages and supply chain issues made meeting this demand challenging for many contractors. Upgrades were completed in 2021 with many more planned for 2022 as some contractors are booked as far out as summer 2022.
- Energy Trust **redesigned its offer for no-cost duct sealing and duct repairs** for residents of manufactured homes. The offer now includes a no-cost home energy assessment at every site to help customers identify additional energy-saving opportunities, such as installation of heat pumps and smart thermostats, and referrals to local organizations for critical home repair. A former version of this offer was sunset at the end of 2020 to be redesigned to capture additional savings. Staff also recruited new trade allies to deliver the offer.
- The OPUC approved a cost-effectiveness exception request for a **manufactured homes replacement offer**, enabling Energy Trust to transition this from a pilot to a permanent offer. Staff updated program eligibility and outreach and marketing strategies for a 2022 launch. The pilot, launched in 2018 with support from community and state partners, helped replace more than 50 older manufactured homes with energy-efficient models in communities like Northeast Portland and Umatilla County. The program leverages funds from OHCS to bring housing and clean energy benefits to households, affordable housing organizations and tribal partners.
- Staff enrolled seven more community-based organizations and community action agencies in the **Community Partner Funding pathway, bringing the total number of participating organizations to 14**. They include organizations serving customers in rural areas, customers experiencing low incomes and communities of color. Through these organizations, Energy Trust delivered more than $586,000 in incentives to support 660 customer projects—more than five




**35% OF HOMES BUILT IN ENERGY TRUST SERVICE AREA PARTICIPATED IN EPS**

**14**

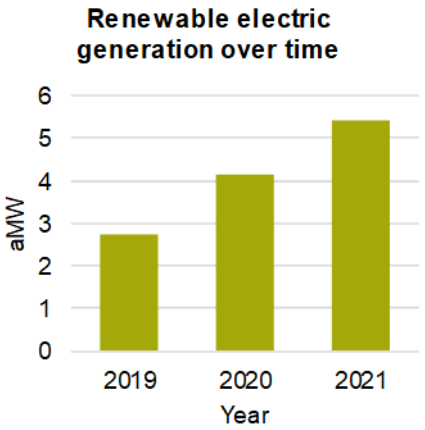
**ORGANIZATIONS ENROLLED IN COMMUNITY PARTNER FUNDING PATHWAY**

times the results in 2020 when the offer launched. In addition, many of these organizations distributed no-cost LEDs and educational materials to their clients while conducting home energy assessments.

- In its third year of partnership with **Community Action of Washington County**, Energy Trust provided $271,891 in incentives that, paired with funds from OHCS, enabled them to serve more customers experiencing low incomes with more and deeper energy upgrades. Energy Trust also engaged with Yamhill Community Action Partnership to develop a similar collaboration to begin in 2022.
- **Residential savings from NEEA** activities comprised approximately 34% of the sector's annual savings in PGE service area, 20% in Pacific Power service area, and less than 0.1% in NW Natural service area, Cascade Natural Gas service area and Avista service area.
    - Electric savings were driven by NEEA's retail product portfolio, which uses midstream incentives to influence retail stocking practices for consumer products, and NEEA's influence on energy code adoption for single-family and multifamily homes in Oregon.
    - Gas savings were driven by NEEA's work to increase adoption of energy-efficient advanced building practices for single-family homes, and work to develop efficient gas water heating products.

## E. Renewable energy sector highlights

*The renewable energy sector is comprised of two programs delivered in-house by Energy Trust staff: Solar and Other Renewables. The Solar program offers standard incentives for smaller-scale distributed systems for residential, business, public sector and nonprofit customers. Starting in 2019, the program focused on improving equitable access to solar for lower-income customers and expanding innovative applications of solar that provide greater value to communities or the grid. The Other Renewables program supports renewable energy projects up to 20 megawatts in nameplate capacity that generate electricity using biopower, geothermal, hydropower and community-scale, municipally owned wind technologies. The goal of the program is to support a range of renewable energy technologies and improve market conditions for their development by providing project development assistance incentives and installation incentives.*




- The sector **exceeded its energy generation goals** thanks to strong residential solar market demand and completion of a large biopower project.
- Energy Trust **completed 2,905 solar projects in 2021**, 60% more than in 2020, with demand up for residential and non-residential solar projects. Trade allies reported that this increased interest in clean energy generation is due to customers focused on investing in their homes while working from home; the federal Investment Tax Credit for solar being extended; federal payments being awarded as part of coronavirus relief legislation; and concerns about resilience driven by wildfires and recent weather events.
- Energy Trust helped more income-qualified customers access solar, providing incentives for more than **400 Solar Within Reach projects—five times as many as in in 2020**, its first full year as an offer. Solar Within Reach covers about one-quarter of the cost for income-qualified homeowners to install solar systems.
- Through its **Equitable Solar Initiative**, Energy Trust committed $1.8 million in incentives for installation of 26 solar projects at nonprofits and affordable multifamily buildings. Eleven of these projects were installed and paid for in 2021,

**SUPPORTED 400 SOLAR WITHIN REACH PROJECTS WITH INCENTIVES**

including projects around the state for organizations providing health services, employment for people with disabilities and mentoring for children. The rest of these projects are expected to be installed in 2022. The Equitable Solar Initiative, launched in late 2020, is for affordable multifamily properties and nonresidential projects by nonprofits and tribes that benefit communities underserved by Energy Trust.

- Energy Trust **committed $533,000 in incentives to five small-scale and community-led community solar projects** following a competitive process that began in quarter two. Funded projects were required to meet equity goals and be under 360 kilowatts in size. Awards went to projects in Portland, Talent, Beatty, Sprague River and Klamath Falls.
- Energy Trust **provided a $1.8 million incentive for a biopower project** that completed at the Clackamas Water Environment Services Tri-City Water Resource Recovery Facility in Oregon City. The 600-kW net-metered cogeneration system will convert biogas to renewable electricity and heat, offsetting about 40% of the electricity and most of the heat needed to operate the plant. Because the new system emits fewer pollutants and discharges colder water than the one it replaced, benefits also include cleaner air and healthier aquatic ecosystems. In addition to the installation incentive, Energy Trust provided project development assistance to determine project feasibility in the early planning stages.
- Energy Trust provided **project development assistance to the city of Prineville** to support design for the Prineville Renewable Energy Project, a baseload power plant fueled by locally sourced forest biomass. In addition to generating renewable energy, the project would yield lasting rural economic development, wildfire prevention and forests more resilient to catastrophic fire.
- To explore potential for **hydropower in municipal water systems**, staff completed a study of pressure reduction valves in 21 communities across the state. The report identified 17 viable projects out of 595 assessed sites across three municipalities. Staff is now engaged with Salem, Medford and Portland to advance development of the most viable hydropower projects.
- Staff helped Clatsop County and the city of Bend convene regional groups of businesses and diverse stakeholders to **explore using organic materials to produce biogas** for generation of electricity or renewable natural gas and to address the limits of existing water resource recovery facilities, which cannot handle growing commercial food waste from fish processing plants and breweries. As a result of the engagements, both the county and the city are taking the next step of using project development assistance from Energy Trust to explore feasibility of biogas projects.
- Energy Trust, Verde and the African American Alliance for Homeownership were awarded funding from the National Renewable Energy Laboratory to design a **BIPOC Solar Ambassadors program** that will launch in 2022 or 2023. This program seeks to build awareness about solar opportunities among African American, Latino, immigrant and refugee homeowners living in the Portland metropolitan region by partnering with seven community-based organizations serving these communities. As a partner, Energy Trust will provide funding, project management, facilitation and subject matter expertise to expand partners' capacities to lead clean energy initiatives in BIPOC communities.
- Energy Trust funded a **Wallowa Resources report on small-scale distributed hydropower** potential in Wallowa County that will be used in upcoming regional energy planning.

**$1.8M**

**PROVIDED IN INCENTIVES FOR BIOPOWER PROJECT**

## F. Internal operations highlights

*Energy Trust's internal operations teams support all program and organizational functions including Trade Ally Network management (engaging and supporting Energy Trust's network of contractors and trade allies statewide); general outreach (providing regional and statewide support to customers, trade allies, partners, utilities, community organizations, local and state governments and elected officials); communications (sharing organizational news, information and milestones, public reporting and public relations); customer service (providing customers with online and phone assistance); general marketing (educating customers and stakeholders through advertising, web content, social media and other marketing efforts); policy services (providing expert information to policymakers); IT and business systems (maintaining and improving Energy Trust's technology and business infrastructure); planning and evaluation (estimating costs and savings of efficiency programs, developing long-range savings forecasts and evaluating effectiveness and impact of offers and programs; and diversity, equity and inclusion (striving to make Energy Trust and its programs more diverse, equitable and inclusive).*

**Trade Ally Network management:**

- Energy Trust hosted an annual online **Trade Ally Forum attended by 230 participants** in late 2021. The event included an optional session on indoor air quality where participants could earn a continuing education credit.

**HOSTED ONLINE TRADE ALLY FORUM ATTENDED BY 230 PARTICIPANTS**

**General outreach:**

- At the end of 2021, Energy Trust launched **Working Together Grants** to provide funding for nonprofit organizations pursuing activities that help diverse customers and communities save or generate energy.
- Energy Trust **hired two new outreach staff focused on communities of color**, including a senior outreach manager and a community outreach specialist.
- Energy Trust and the National Association of Minority Contractors – Oregon hosted a second annual **Portland Community Resource Fair**, with support from the Portland Housing Bureau. The virtual fair featured local nonprofit organizations and resources for community members on energy efficiency, trade careers, home repair and homebuying.
- Staff provided information and support to cities and government agencies around the state, including to the city of Portland on potential equipment procurement and distribution approaches for the Portland Clean Energy Community Benefits Fund (PCEF) heat response program. Staff also served on the city of Hillsboro's Environmental Stewardship Committee for its 2035 environmental goals and on the city of Pendleton's Planning Commission.
- Energy Trust **engaged with community organizations** around the state, including as a board member of the Oregon Public Health Association and the Eastern Oregon Women's Coalition.
- Staff **supported fire disaster recovery efforts** throughout the state, including by participating in the Clackamas County Long Term Recovery Group Construction Committee, Douglas County's Archie Creek Long Term Recovery Group, and weekly meetings of the Southern Oregon Regional Economic Development, Inc.
- Staff supported the **Confederated Tribes of Umatilla Indian Reservation's Climate Adaptation Plan** work group and participated in the tribe's and Umatilla County's Federal Emergency Management Agency Natural Hazard Mitigation steering committees.
- Energy Trust trained new staff on its stakeholder relationship management system to better track interactions with stakeholders.

**HIRED TWO OUTREACH STAFF FOCUSED ON SUPPORTING COMMUNITIES OF COLOR**

- Staff responded to technical informational inquiries from **Portland Clean Energy Community Benefits Fund** staff and grant applicants leveraging Energy Trust incentives.

**Communications, general marketing and customer service:**

- Energy Trust's public relations and work with reporters resulted in **nearly 200 articles on Energy Trust programs, services and customer benefits**. Proactive content development and public relations prior to June's historic heat wave led to significant coverage of Energy Trust's cooling tips, including in Spanish-language outlets.
- Energy Trust's **website received more than 600,000 visitors** in 2021, generating 1.6 million pageviews—on par with 2020. Top landing pages for new visitors were the homepage and the residential incentives page. Several do-it-yourself resources were also common entry points to the website, including energy-saving tips.
- Visitors to Energy Trust's website primarily set their language to English (95%), with Spanish (<1%) the second largest language set at a web browser level.
- Staff **redesigned the website home page** to create a more accessible page for visitors.
- Energy Trust **developed and launched a new digital-only brand campaign** in 2021 based on customer research done in 2020, with a goal of increasing customer awareness of services particularly in rural parts of the state and among Spanish speakers. Ads ran statewide with more focused investments in communities in rural areas and Latino customer segments.
- The Residential program's **Spanish-language offer, Mi Comunidad**, launched in quarter four 2021. The website and marketing materials are in Spanish and customers work with Spanish-speaking trade ally partners. In 2022, a bonus incentive will be made available to Spanish-speaking trade ally partners to help encourage activity among Spanish-speaking customers.
- Energy Trust **received more calls and emails** to its customer service call center in 2021 than in 2020. Many customers called to check on status of incentives following processing delays, a result of an unusually high volume of projects completing in 2020 and some of those projects being processed in early 2021.

**200**

**ARTICLES ON ENERGY TRUST PROGRAMS, SERVICES AND CUSTOMER BENEFITS**

**600,000**

**WEBSITE VISITORS**

**Policy services:**

- During the 2021 legislative session, staff responded to **information requests from legislators, stakeholders and OPUC staff**, including for HB 3141. Signed into law by Governor Brown, this public purpose charge modernization bill extended the public purpose charge sunset by 10 years, effectively removed the sunset on energy efficiency funding, transitioned efficiency funding into ratemaking processes, expanded what qualifies for renewables funding, set a requirement that at least 25% of renewables funds benefit low- and moderate-income customers, ensured joint planning and coordination between Energy Trust and partner utilities, and included a requirement for the OPUC to set equity metrics for all funds invested by Energy Trust.
- Staff **provided organizational impacts and program information to the OPUC** as the commission opened proceedings to begin implementing laws passed in the 2021 state legislative session. This included HB 3141 and the OPUC setting interim definitions for the renewables program to serve low- and moderate-income customers and providing incentives for distribution system-connected technologies. The OPUC also began implementing HB 2475, which expands the authority of the commission to set differential energy rates and establish programs that reduce energy burden. Participation in these proceedings is expected to be ongoing in 2022.
- Staff **tracked OPUC dockets** relevant to Energy Trust including the COVID-19 customer relief docket, the natural gas fact-finding docket, the distribution system

**RESPONDED TO INFORMATION REQUESTS FROM LEGISLATORS, STAKEHOLERS AND OPUC STAFF**

planning docket and the capacity docket. Staff coordinated with OPUC, utilities and stakeholders representing utility customers, customers experiencing low incomes and environmental justice communities as appropriate. Staff also provided support to OPUC staff in leading a stakeholder workshop on Energy Trust and energy efficiency for lower-income customers as part of the COVID-19 relief docket.

- Staff tracked the development and adoption of the Oregon Department of Environmental Quality's (DEQ) **Climate Protection Program**. Energy Trust met with DEQ staff during rulemaking to provide background and information on cost-effective natural gas efficiency acquisition. Among other things, the Climate Protection Program will regulate the greenhouse gas emissions of Energy Trust's three natural gas utility partners and includes increasing energy efficiency acquisition as one possible action for the utilities to use for compliance.
- Energy Trust hosted NW Power and Conservation Council Member Charles F. Sams III for staff to hear about the **draft 2021 Power Plan** and submitted comments regarding the draft plan.
- Staff **supported state agency implementation** of new and ongoing programs, including with the Oregon Department of Energy and the Buildings Codes Division.

**IT and business systems:**

- Energy Trust i**nvested in systems that increase information security and help staff work remotely**, including a user-friendly virtual private network, an Information Security Management System and a new internet firewall.
- Energy Trust **upgraded its data management systems** to improve data quality, data analysis, staff efficiency and interactions with customers. Upgrades included modifying Energy Trust's Project Tracking system to track projects across programs and sectors and installing new software that facilitates data updates in the Customer Relationship Management system.
- Staff processed more than **46,300 customer projects** in Energy Trust systems, including over 36,700 submitted through web applications.
- Staff built intake and reporting infrastructure to **support monthly and quarterly project pipeline reporting** and management across energy programs.
- Staff created **on-demand reports within Power BI** to improve real-time monitoring of projects and budgets, including a report that identifies potential data issues with in-process projects, forecasts and payments and another that allows monitoring the status of progress toward budgets and quarterly targets at any time.
- Staff completed the first phase of **weather modeling and normalization for Utility Customer Information data**. Having a dataset containing energy consumption adjusted for weather will make it easier for staff to perform billing analysis in the future.

**46,300**

**CUSTOMER PROJECTS PROCESSED**

**Planning and evaluation:**

- Staff published **64 new measure approval documents** and approved 2,053 requests for product versions used to book savings and pay incentives in Energy Trust's Project Tracking system.
- Staff completed and posted **12 evaluation and research reports** to Energy Trust's website. These are primarily third-party evaluations that assess the efficacy of programs and services.
- Staff supported utility **integrated resource planning** in Oregon and coordinated with NW Natural and its contractor Applied Energy Group on Integrated Resource Plan modeling in Washington.
- Staff provided **data and analysis to the OPUC** on the capacity docket and distribution system planning docket.

**12**

**EVALUATION AND RESEARCH REPORTS COMPLETED**

- Staff **updated avoided costs** for use in 2022 for 2023 planning and participated in related docket UM 1893.
- Staff **provided data and information for industry partners** including the U.S. Energy Information Administration, American Council for an Energy-Efficient Economy, Consortium for Energy Efficiency, Northwest Power and Conservation Council and NEEA.

**Diversity, Equity and Inclusion:**

- Staff worked toward and reported on goals in **Energy Trust's 2021 Diversity, Equity and Inclusion Operations Plan**. See Appendix 2 for a detailed accounting of accomplishments and lessons learned.
- Energy Trust hosted **four community summits**. These events—for residential customers, business customers, tribal communities and diverse contractors—were an opportunity to hear from community leaders about their experiences and challenges. Comments focused on affordable housing availability, the need for workforce development, and issues related to labor shortages and certification challenges faced by diverse companies. Lessons learned from these events were shared with staff and informed development of diversity, equity and inclusion goals for 2022.
- Staff developed a new **Diversity, Equity and Inclusion Plan with goals for 2022** and beyond. The plan focuses on community engagement so that staff may learn from and work with communities on meaningful solutions that benefit communities of color, customers in rural communities and customers experiencing low incomes.
- Energy Trust **developed a supplier diversity program** and defined scope and requirements for implementing a supplier diversity tracking system. For more information, see Section II C.

# IV Progress to 2021 OPUC performance measures

Each year, the Oregon Public Utility Commission (OPUC) establishes minimum performance measures for Energy Trust in a variety of categories. Minimum savings and generation figures for energy-efficiency programs and renewable energy programs are set at an aggregated level rather than at an individual program or sector level. This allows Energy Trust to pursue different program strategies in the residential, commercial and industrial sectors as market forces and technologies change. Electric and gas efficiency performance targets are set at 85% of Energy Trust goals as defined in annual budgets. The following OPUC minimum performance measures apply to Energy Trust 2021 results.

| Category | Measure | Result |
|---|---|---|
| Electric efficiency | PGE:<br>• Save at least 21.1 aMW<br>• Levelized cost not to exceed 4.6 cents/kWh<br>Pacific Power:<br>• Save at least 17.1 aMW<br>• Levelized cost not to exceed 4.0 cents/kWh | PGE:<br>✓ **Exceeded**, with 24.2 aMW saved<br>✓ **Within requirement**, levelized cost at 3.4 cents/kWh<br>Pacific Power:<br>✓ **Exceeded**, with 19.8 aMW saved<br>✓ **Within requirement**, levelized cost at 3.4 cents/kWh |
| Natural gas efficiency | NW Natural:<br>• Save at least 4.3 million annual therms<br>• Levelized cost not to exceed 51 cents/therm<br>Cascade Natural Gas:<br>• Save at least 0.49 million annual therms<br>• Levelized cost not to exceed 63 cents/therm<br>Avista:<br>• Save at least 0.39 million annual therms<br>• Levelized cost not to exceed 48 cents/therm | NW Natural:<br>✓ **Exceeded**, with 6.2 million annual therms saved<br>✓ **Within requirement**, levelized cost at 36.9 cents/therm<br>Cascade Natural Gas:<br>✓ **Exceeded**, with 0.53 million annual therms saved<br>✓ **Within requirement**, levelized cost at 41.8 cents/therm<br>Avista:<br>✓ **Exceeded**, with 0.41 million annual therms saved<br>✓ **Within requirement**, levelized cost at 41.7 cents/therm |
| Renewable energy | For project and development assistance (part 1), deploy at least $1.37 million in non-solar project development assistance incentives. Maintain a non-solar project development assistance pipeline in excess of 25 projects. Report number of projects served and total dollars spent, and summarize project progress through development stages. | ☐ **Out of compliance**, paid $686,973 and committed an additional $862,061 in project development assistance to 28 projects. Energy Trust exceeded the benchmark for number of projects in the pipeline but was short of the benchmark for dollars deployed. This is attributed to a slowdown in irrigation modernization efforts as a result of the pandemic. In addition, several districts that enrolled in the Irrigation |

| | | |
|---|---|---|
| | | Modernization Program were in parts of the state where no hydropower project potential was identified, necessitating that these districts find other sources of funds for their modernization planning. See additional details in Appendix 5. |
| | For project and market development assistance (part 2), report annual results, including number of projects supported, milestones met and documentation of results from market and technology perspective. | ✓ **In compliance**, see Appendix 5. |
| | Obtain at least 2.5 aMW of installed generation of standard net-metered Solar program projects. | ✓ **In compliance**, with 4.94 aMW of installed generation from standard solar projects. |
| | For solar projects funded outside of the Solar program's standard, net-metered incentive offer, report sources of funding for projects and the criteria for selection. | ✓ **In compliance**, dedicated incentive funds for five small-scale community solar projects. Projects had to meet specific equity-focused criteria and an above-market cost screening to qualify and were selected competitively, with smaller incentive requests ranked higher. Incentives will be paid after project installations starting in 2022. |
| Financial integrity | Receive an unmodified financial opinion from an independent auditor on annual financial statements. | ✓ **In compliance**, with an unmodified financial audit opinion for 2021. |
| Administrative/ program support costs | Keep administrative/program support costs below 8% of annual revenues (no more than $14,443,806). | ✓ **In compliance**, with 2021 administrative/program support costs of 6.5% of annual revenues ($12,448,812). |
| | Administrative/program support cost growth limited to 10% year-over-year increase (no more than $1,383,127). | ✓ **In compliance**, with administrative/program support cost growth of 5.8% year-over-year ($677,100). |
| Staffing expenditures | Staffing cost growth is limited to 9% year-over-year increase (no more than $1,354,779). | ✓ **In compliance**, with staffing cost growth of 3.2% year-over-year ($476,779). The unusually low staffing cost growth was due to the impact of COVID-19 on vacation hours. During public health restrictions in 2020, staff accrued a large volume of vacation hours that inflated the staffing cost growth for 2020. In 2021, the balance of vacation hours was reduced, and 2021 staffing cost growth is unusually low in comparison to 2020. |

| | | |
|---|---|---|
| Customer satisfaction | Demonstrate greater than 85% satisfaction rates for interaction with program representatives and overall satisfaction. | ✓ **In compliance**, with a 93% satisfaction rate for interaction with program representatives and a 93% overall satisfaction rate. Results for major programs are averaged to determine satisfaction rates. See Appendix 3. |
| Benefit/cost ratios | Report utility system and total resource perspective annually. Report significant mid-year changes as warranted in quarterly reports. | ✓ **In compliance**, with no mid-year changes, see table below. |
| NEEA and market transformation | Report annually:<br>• Savings and costs<br>• Savings strategies<br>• Show Energy Trust direction to NEEA through committee membership<br>• Summary of Energy Trust direction to NEEA<br>• Summary of NEEA initiatives Energy Trust opts out of and why | ✓ **In compliance**, see Section VIII. |
| Diversity, equity and inclusion | Implement a supplier diversity tracking system as outlined in the 2021 Budget and Action Plan. | ☐ **Out of compliance**, Energy Trust developed a Supplier Diversity Program and began development of the supplier diversity tracking system for implementation in 2022. |
| | Develop a trade ally dashboard to track diverse spend in trade ally activities with stakeholder participation. | ✓ **In compliance**, Energy Trust developed a trade ally dashboard to track incentive and project completion activity for diverse trade allies. Energy Trust will update and post the report quarterly. |
| | Complete implicit bias training for all hiring managers. | ✓ **In compliance**, Energy Trust requires all hiring committee members to complete implicit bias training before resumes are screened. |

**Benefit/cost ratios**

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

**2021 Utility Cost and Total Resource Cost by program[11]**

| Program | Combined Utility Cost Test benefit/cost ratio | Combined Total Resource Cost Test benefit/cost ratio |
|---|---|---|
| Residential | 2.2 | 1.6 |
| Existing Buildings, including Multifamily | 2.4 | 1.5 |
| New Buildings[12] | N/A | N/A |
| Production Efficiency | 2.7 | 2.0 |

[11] Some benefit/cost ratios were updated in May 2023 after staff identified errors in the original calculations. All programs were cost-effective before and after the update.

[12] The New Buildings program currently operates under a cost-effectiveness exception granted by the OPUC due to the structure of the new state building code, which is a baseline level for quantifying efficiency cost.

# V Revenues and expenditures table[13,14,15]

## A. Oregon public purpose charge revenues and expenditures results

- Revenues totaled $190.4 million, 3% more than what was budgeted.
- Expenditures totaled $180.2 million; of which $101.8 million or 57% was for incentives.
- Electric efficiency expenditures were 15% below budget.
- Gas efficiency expenditures were about equal to budget.
- Renewable energy expenditures were 22% below budget.
- Administrative costs were $9.0 million, 10% below what was budgeted.
- Administrative and program support costs as defined by the Oregon Public Utility Commission (OPUC) were $12.4 million. This figure excludes program costs in the following areas: program management, program delivery, program incentives, program payroll and related expenses, outsourced services, planning and evaluation services, customer service management and Trade Ally Network management.

## B. Oregon public purpose charge revenues

| Source | | Annual actual revenues | | Annual budgeted revenues |
|---|---|---|---|---|
| Portland General Electric | $ | 44,281,826 | $ | 40,023,742 |
| PGE Incremental | $ | 50,674,639 | $ | 50,651,804 |
| Pacific Power | $ | 27,709,601 | $ | 26,976,449 |
| Pacific Power Incremental | $ | 34,921,466 | $ | 34,229,456 |
| NW Natural | $ | 21,573,031 | $ | 21,326,800 |
| NW Natural Industrial DSM | $ | 5,382,595 | $ | 5,381,586 |
| Cascade Natural Gas | $ | 3,388,789 | $ | 3,310,580 |
| Avista | $ | 2,443,293 | $ | 2,443,292 |
| **Total** | **$** | **190,375,240** | **$** | **184,343,709** |

## C. Oregon public purpose charge expenditures

| Source | | Annual actual expenditures | | Annual budgeted expenditures |
|---|---|---|---|---|
| Portland General Electric | $ | 85,694,542 | $ | 104,564,165 |
| Pacific Power | $ | 60,063,653 | $ | 68,597,552 |
| NW Natural | $ | 24,215,162 | $ | 22,041,586 |
| NW Natural Industrial DSM | $ | 4,904,169 | $ | 5,630,564 |
| Cascade Natural Gas | $ | 2,815,467 | $ | 4,070,712 |
| Avista | $ | 2,482,180 | $ | 2,603,724 |
| **Total** | **$** | **180,175,173** | **$** | **207,508,303** |

[13] Columns may not total due to rounding.
[14] Gas savings do not include results for NW Natural in Washington. These results are available in the total organization appendix.
[15] Revenues and expenditures include public purpose revenue and incremental electric revenue authorized under SB 838 to support capturing additional cost-effective electric efficiency savings above the amount supported by funding through SB 1149.

## D. Oregon public purpose charge expenditures by sector and program

| | | | Annual actual expenditures | | Annual budgeted expenditures | Budget variance |
|---|---|---|---|---|---|---|
| Commercial | Existing Buildings | $ | 51,295,882 | $ | 61,559,144 | 17% |
| | New Buildings | $ | 14,745,474 | $ | 16,442,528 | 10% |
| | NEEA Commercial | $ | 2,884,630 | $ | 3,392,312 | 15% |
| | **Commercial total** | **$** | **68,925,986** | **$** | **81,393,983** | **15%** |
| Industrial | Production Efficiency | $ | 32,216,065 | $ | 41,826,554 | 23% |
| | NEEA Industrial | $ | 25,714 | $ | 22,767 | -13% |
| | **Industrial total** | **$** | **32,241,779** | **$** | **41,849,321** | **23%** |
| Residential | Residential | $ | 48,258,797 | $ | 47,110,967 | -2% |
| | NEEA Residential | $ | 4,521,352 | $ | 5,134,557 | 12% |
| | **Residential total** | **$** | **52,780,148** | **$** | **52,245,524** | **-1%** |
| | **Energy efficiency total** | **$** | **153,947,914** | **$** | **175,488,828** | **12%** |
| Renewables | Solar | $ | 13,004,298 | $ | 13,279,181 | 2% |
| | Other Renewables | $ | 4,218,254 | $ | 8,778,322 | 52% |
| | **Renewable generation total** | **$** | **17,222,552** | **$** | **22,057,503** | **22%** |
| | **Administration** | **$** | **9,004,708** | **$** | **9,961,974** | **10%** |
| | **Total** | **$** | **180,175,173** | **$** | **207,508,304** | **13%** |

## E. Incentives paid

| Qtr | PGE efficiency | Pacific Power efficiency | NW Natural efficiency | Cascade Natural Gas efficiency | Avista efficiency | PGE generation | Pacific Power generation | Total |
|---|---|---|---|---|---|---|---|---|
| **Q1** | $ 6,914,443 | $ 4,138,851 | $ 3,277,869 | $ 193,997 | $ 296,602 | $1,139,036 | $ 862,628 | $ 16,823,426 |
| **Q2** | $11,262,559 | $ 8,928,197 | $ 4,097,772 | $ 473,876 | $ 352,966 | $1,800,236 | $1,230,742 | $ 28,146,348 |
| **Q3** | $ 9,331,740 | $ 9,336,830 | $ 4,206,322 | $ 292,144 | $ 312,752 | $3,598,422 | $1,098,804 | $ 28,177,014 |
| **Q4** | $12,945,865 | $ 7,331,652 | $ 4,473,958 | $ 500,297 | $ 347,137 | $1,843,747 | $1,253,543 | $ 28,696,199 |
| **Total** | **$40,454,607** | **$29,735,531** | **$16,055,921** | **$1,460,313** | **$1,309,457** | **$8,381,441** | **$4,445,717** | **$101,842,987** |

# VI Savings and generation tables[16,17,18,19]

## A. Savings and generation by fuel

| | Annual savings/generation | Annual goal | Percent Achieved | Levelized Cost |
|---|---|---|---|---|
| **Electric savings** | 44.0 aMW | 47.4 aMW | 93% | 3.4 ¢ per kWh |
| **Natural gas savings** | 7,095,988 therms | 6,118,162 therms | 116% | 37.5 ¢ per therm |
| **Electric generation** | 5.43 aMW | 3.54 aMW | 153% | 2.9 ¢ per kWh |

## B. Progress toward annual efficiency goals by utility

| | Annual savings | Levelized cost | Annual goal | Percent achieved YTD | Annual IRP target | Percent achieved YTD |
|---|---|---|---|---|---|---|
| **Portland General Electric** | 24.2 aMW | 3.4 ¢ per kWh | 26.3 aMW | 92% | 29.5 aMW | 82% |
| **Pacific Power** | 19.8 aMW | 3.4 ¢ per kWh | 21.1 aMW | 94% | 18.1 aMW | 109% |
| **NW Natural** | 6,162,453 therms | 36.9 ¢ per therm | 5,092,126 therms | 121% | 6,030,655 therms | 102% |
| **Cascade Natural Gas** | 525,372 therms | 41.8 ¢ per therm | 572,759 therms | 92% | 563,298 therms | 93% |
| **Avista** | 408,163 therms | 41.7 ¢ per therm | 453,277 therms | 90% | 437,805 therms | 93% |

[16] Columns may not total due to rounding.
[17] Electric savings also include transmission and distribution savings.
[18] The gas savings do not include results for NW Natural in Washington. These results are available in the total organization appendix.
[19] Energy Trust reports 100% of generation and capacity for renewable energy installations supported by Energy Trust's cash incentives. While some of these projects have additional sources of funding, Energy Trust enabled project completion.

## C. Electric savings by sector and program

| | | Annual savings aMW | Annual goal aMW | Percent achieved | Levelized cost per kWh |
|---|---|---|---|---|---|
| Commercial | Existing Buildings | 15.3 | 16.7 | 92% | 3.3 ¢ |
| | New Buildings | 3.8 | 4.4 | 86% | 3.6 ¢ |
| | NEEA Commercial | 1.1 | 1.2 | 94% | 4.7 ¢ |
| | **Commercial total** | **20.2** | **22.3** | **91%** | **3.4 ¢** |
| Industrial | Production Efficiency | 14.4 | 16.8 | 86% | 2.6 ¢ |
| | NEEA Industrial | 0.7 | 0.7 | 98% | 0.1 ¢ |
| | **Industrial total** | **15.1** | **17.5** | **86%** | **2.6 ¢** |
| Residential | Residential | 6.4 | 5.5 | 115% | 5.8 ¢ |
| | NEEA Residential | 2.3 | 2.1 | 110% | 2.0 ¢ |
| | **Residential total** | **8.7** | **7.6** | **114%** | **4.8 ¢** |
| | **Total electric savings** | **44.0** | **47.4** | **93%** | **3.4 ¢** |

## D. Natural gas savings by sector and program[20]

| | | Annual savings therms | Annual goal therms | Percent achieved | Levelized cost per therm |
|---|---|---|---|---|---|
| Commercial | Existing Buildings | 2,725,965 | 2,072,244 | 132% | 39.0 ¢ |
| | New Buildings | 364,076 | 363,531 | 100% | 36.5 ¢ |
| | NEEA Commercial | 486 | 609 | 80% | 11,221.7 ¢ |
| | **Commercial total** | **3,090,526** | **2,436,384** | **127%** | **39.6 ¢** |
| Industrial | Production Efficiency | 1,301,748 | 1,362,290 | 96% | 21.8 ¢ |
| | NEEA Industrial | - | - | - | - |
| | **Industrial total** | **1,301,748** | **1,362,290** | **96%** | **21.8 ¢** |
| Residential | Residential | 2,701,451 | 2,317,348 | 117% | 41.5 ¢ |
| | NEEA Residential | 2,262 | 2,140 | 106% | 3,487.6 ¢ |
| | **Residential total** | **2,703,713** | **2,319,488** | **117%** | **43.3 ¢** |
| | **Total natural gas savings** | **7,095,988** | **6,118,162** | **116%** | **37.5 ¢** |

[20] This was the second year Energy Trust reported NEEA gas savings. Levelized costs for NEEA gas savings appear high as NEEA costs represent current and future focused research and development activities while savings are on a first-year basis only.

## E. Renewable electric generation by utility

| | Annual generation aMW | Annual goal aMW | Percent achieved YTD |
|---|---|---|---|
| Portland General Electric | 3.13 | 2.25 | 139% |
| Pacific Power | 2.30 | 1.29 | 178% |
| **Total** | **5.43** | **3.54** | **153%** |

## F. Renewable electric generation by program

| | Annual generation aMW | Annual goal aMW | Percent achieved YTD |
|---|---|---|---|
| Solar | 4.94 | 2.94 | 168% |
| Other Renewables | 0.49 | 0.60 | 82% |
| **Total generation** | **5.43** | **3.54** | **153%** |

## G. Incremental utility SB 838 expenditures[21]

| Utility | Q4 SB 838 Expenditures | Total Annual SB 838 Expenditures |
|---|---|---|
| Portland General Electric | $ 127,024 | $ 675,978 |
| Pacific Power | $ 376,858 | $ 1,317,395 |
| **Total** | **$ 503,881** | **$ 1,993,373** |

[21] 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.

# VII Progress to 2021 organization goals

This section provides updates on Energy Trust's progress toward meeting its 2021 organization goals, which are set as part of Energy Trust's 2021 Budget and 2020-2021 Action Plan approved by the board of directors. For more information, see program sector highlights.

| Goal | Status and highlights |
|---|---|
| **Meet savings and generation targets with offers and services designed to support customers during the economic and social recovery related to the COVID-19 pandemic.** | **Partially met:**<br>• Energy Trust fell short of its annual electric savings goal and exceeded its natural gas saving while sustaining low costs. |
| • Continue to adapt program design to respond to market changes resulting from the recovery related to the COVID-19 pandemic | • Energy Trust achieved steady energy results despite the unpredictable impacts of multiple waves of COVID-19 on customers and the market, including supply chain disruptions and labor shortages. |
| • Meet Oregon Public Utility Commission (OPUC) metrics for cost-effectiveness, diversity, customer service and innovation | • Energy Trust achieved nearly all of its 2021 OPUC performance measures, falling short of compliance on performance measures related to renewable project development assistance and launching a supplier diversity tracking system.<br>• Staff invested in innovation activities including exploring intersections between clean energy and health and collaborating to develop a cross-cultural solar education and installation program. |
| • Target savings and generation within specific communities when and where they have the greatest value to the utility grid | • Staff targeted savings and generation to communities through several targeted load management efforts and applying for funding for the Smart Grid Asset Load Management and Optimized Neighborhood collaboration with Portland General Electric (PGE) on the Smart Battery Pilot. See Appendix 1 for more information. |
| **Invest in relationships and collaborations with other entities to meet common needs and future objectives.** | **Met goal** |
| • Collaborate with workforce organizations to enhance the diversity of our Trade Ally Network | • Energy Trust worked with the National Association of Minority Contractors–Oregon, LatinoBuilt and Professional Business Development Group (PBDG) to finalize plans for a Contractor Development Pathway to provide contractors who are certified or eligible for the state's Certification Office for Business Inclusion and Diversity (COBID) with the support they need to become successful trade allies for the Existing Buildings program. This pathway will launch in early 2022 with a goal of 10 initial participants.<br>• Energy Trust launched a Pathway to Certification in 2021 delivered through PBDG to help contractors get certified through the state's COBID.<br>• Energy Trust held a trade ally summit in 2021 with three trade partners (National Association of Minority Contractors–Oregon, LatinoBuilt and PBDG, focusing discussion on workforce development. |

| | |
|---|---|
| | • Staff conducted outreach to Black, Indigenous and people of color-owned contractor businesses through presentations at membership meetings of National Association of Minority Contractors–Oregon, PBDG and LatinoBuilt. |
| • Resolve funding uncertainties to enable continued delivery of clean energy programs and benefits and identifying other funding sources for complementary initiatives | • Staff responded to requests from the Governor and legislature regarding the development and ultimate passage of House Bill 3141, which removed the sunset on Energy Trust's energy efficiency funding and extended the renewables funding sunset by 10 years. |
| • Connect our programs to community planning, housing affordability, economic recovery, resiliency and greenhouse gas reduction efforts | • Energy Trust collaborated with cities, government agencies and community-based organizations around the state to develop and deliver offers that provide additional benefits beyond energy efficiency and renewable energy, such as support for community energy planning, offers that reduce costs of homeownership through lower utility bills and the PGE Smart Battery Pilot.<br>• Staff provided information and support to public entities and communities around the state, including to the city of Portland and the city of Hillsboro. |
| • Work with the OPUC and state agencies to support implementation of the state's energy- and climate-related policies | • Staff participated in 15 external policy initiatives to provide perspective on energy efficiency and renewable energy development.<br>• Staff tracked the development and adoption of the Oregon Department of Environmental Quality's (DEQ) Climate Protection Program. Energy Trust met with DEQ staff during rulemaking to provide background and information on cost-effective natural gas efficiency acquisition.<br>• Staff participated in the Oregon Department of Energy's rulemaking for programs like the Energy Efficient Wildfire Rebuilding Incentive Program. |
| • Collaborate with the Portland Clean Energy Fund and prospective grantees | • Staff responded to technical informational inquiries from Portland Clean Energy Community Benefits Fund staff and grant applicants leveraging Energy Trust incentives. |
| • Work with mid-stream market actors to retain our availability to deliver affordable, clean energy at volume | • Staff launched a midstream business lighting offer where customers can get instant incentives at point of purchase with 15 participating distributors around Oregon. This offer aims to support customers in rural areas who may not have access to a trade ally, customers performing their own product installations and customers who have smaller projects where administrative requirements for the downstream offer is too burdensome.<br>• Through a contract with Northwest Energy Efficiency Alliance, Energy Trust supports and claims savings for midstream incentives that influence retail stocking practices. |
| **Enhance operating processes and internal culture to efficiently respond to change.** | **Met goal** |
| • Enhance employee development and growth with an emphasis on intercultural awareness and inclusion | • Energy Trust made opportunities available for staff to attend a tribal culture training and an implicit bias training. In addition, new staff and individuals on hiring panels were required to completed implicit bias training. |

| | |
|---|---|
| | • Staff hosted a series of Diversity Day conversations with staff and community members.<br>• Staff received access to LinkedIn Learning as a professional development resource, which offers a library of training and modules on diversity, equity and inclusion.<br>• Staff were required to identify a diversity, equity and inclusion training element in their annual workplan. |
| • Improve the efficiency of our budget process | • Staff improved internal processes, schedule and communication to streamline the budget process.<br>• Staff engaged with customer and advocacy groups to better understand their priorities and concerns for their customers and clients.<br>• Energy Trust adjusted the approach to the October budget workshop to better explain budget process development and tools to board members and highlight the considerations of program staff in building budgets. |
| • Continue policy development and technology adoption to support remote work arrangements and social distancing for staff | • Energy Trust invested in systems that increase information security and help staff work remotely, including a user-friendly virtual private network, an Information Security Management System and a new internet firewall. |
| • Learn from experience and adapt our organizational structure to support progress in the focus areas identified in the strategic plan | • Energy Trust restructured a number of internal teams to better adapt to current and future business needs.<br>• Energy Trust offered change management training to staff and promoted the adoption of a standard methodology for decision making within the organization.<br>• Staff increased business planning to better align resources with areas growing in volume or complexity including cross-organizational efforts such as natural disaster response and expanding outreach to communities of color. |
| • Further our efforts to foster and promote innovation | • Staff advanced numerous strategic initiatives and innovation projects, such as development of an innovation team, development of a new budgeting and planning process and launching a healthcare partnership pilot. |
| • Accelerate our use of digital platforms and increased process automation to enhance our customer and contractor experience through increased efficiency | • Staff redesigned the website home page to create a more accessible page and developed and launched a new digital-only brand campaign to increase customer awareness of services. |

# VIII Northwest Energy Efficiency Alliance activities and results

To deliver low-cost energy for customers, Energy Trust has been working with the Northwest Energy Efficiency Alliance (NEEA) since 2002 to increase the availability and adoption of energy-efficient electric products, equipment and practices. In 2015, natural gas equipment was added; 2020 was the first year Energy Trust reported gas savings.

By pooling resources at a regional level to work with manufacturers, distributors and retailers, NEEA accelerates the development, testing and distribution of new energy-saving equipment and approaches. NEEA identifies and refines new high-efficiency products, services and practices and helps bring them to market. Once products are ready and available, Energy Trust creates and implements programs to support broad market adoption in Oregon.

Utility customers benefit by seeing a greater choice of higher-efficiency products available through contractors and at stores, through improved pricing and quality for efficient products, and through improvements to building codes and equipment and product standards that will save energy.

NEEA savings noted here are forecasted. Updated savings results will be available late in the second quarter of 2022 through NEEA's annual report.

## A. NEEA savings[22]

| | Annual savings therms | Annual energy target therms | Percent achieved | Levelized cost per therm |
|---|---|---|---|---|
| **Commercial** | 486 | 609 | 80% | 10,660.9 ¢ |
| **Industrial** | - | - | - | - |
| **Residential** | 2,262 | 2,140 | 106% | 3,313.3 ¢ |
| **Total** | **2,748** | **2,749** | **100%** | **4,130.5 ¢** |
| | **Annual savings aMW** | **Annual energy target aMW** | **Percent achieved** | **Levelized cost per kWh** |
| **Commercial** | 1.1 | 1.2 | 94% | 4.5 ¢ |
| **Industrial** | 0.7 | 0.7 | 98% | 0.1 ¢ |
| **Residential** | 2.3 | 2.1 | 110% | 1.9 ¢ |
| **Total** | **4.1** | **4.0** | **103%** | **2.2 ¢** |

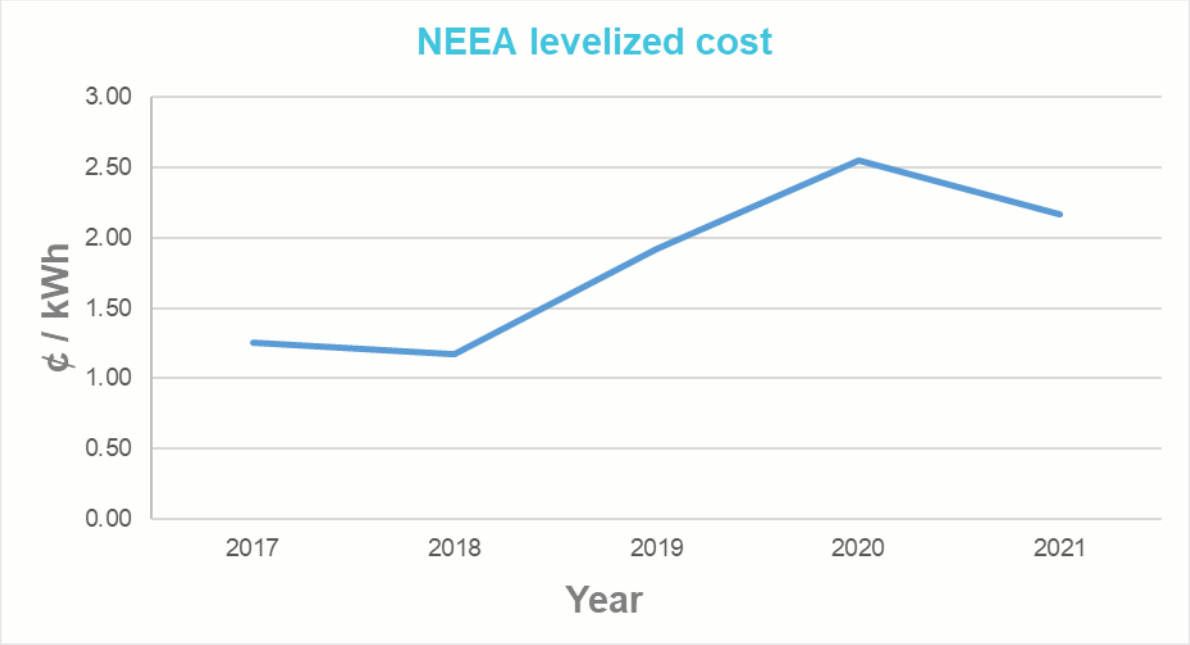
[22] Levelized costs in Table A do not include gas costs or administrative costs. Elsewhere in the report, levelized costs are calculated using administrative costs.

## B. NEEA expenditures

| | Annual actual expenditures | Annual budgeted expenditures | Budget variance |
|---|---|---|---|
| **Commercial** | $ 3,036,381 | $ 3,563,381 | 15% |
| **Industrial** | $ 27,067 | $ 23,915 | -13% |
| **Residential** | $ 4,759,205 | $ 5,393,485 | 12% |
| **Total** | **$ 7,822,652** | **$ 8,980,780** | **13%** |

## C. NEEA electric levelized cost

NEEA costs and savings are not realized in the same year. Savings in 2021 reflect costs from prior years, and costs from 2021 will lead to savings in subsequent years. For this reason, levelized costs are included for the past five years.




In the last business cycle (2015-2019), NEEA's electric savings were inexpensive due to large amounts of savings from early iterations of codes and standards along with NEEA's TV and lighting initiatives. While costs have remained consistent, savings for 2021 were lower than previous years. This reflects where NEEA is at in its product development cycle, investing in a broad array of initiatives and emerging technologies with the expectation that they will transform product markets. NEEA forecasts higher electric savings in 2022-2024 and decreasing year-over-year levelized costs. However, Energy Trust does not expect to see annual levelized costs at similar levels as the previous business cycle.

## D. NEEA electric market transformation long-term goals and strategies

Below are NEEA's long-term goals and strategies as outlined in NEEA's 2020-2024 Business Plan. More information on NEEA's market transformation strategies, processes and performance metrics is available in NEEA's 2020-2024 Business Plan and recent annual or quarterly reports.[23]

Goal 1: Sustain a portfolio of initiatives and support functions that enable more cost-effective efficiency to occur sooner, in larger amounts and/or at lower cost than otherwise expected. Key strategies:

- Routinely scan for, assess and report on the potential for newly identified efficiency products, services and practices and test the field performance of the most promising opportunities.
- Implement the prioritized portfolio of initiatives, routinely evaluate progress and adapt as necessary to achieve accelerated and sustained market adoption.
- Influence development and support successful implementation of building codes and equipment efficiency standards and test methods to materially improve efficiency outcomes.
- Selectively support dialogue and coordinate activities among stakeholders interested in accelerating energy efficiency through market transformation in the Northwest.
- Research, analyze and provide actionable insight to support identification and pursuit of efficiency opportunities and results reporting.

Goal 2: Continuously improve organizational culture and performance efficacy, ensure accountability and transparency and strive for innovation in service to the benefit of all stakeholders. Key strategies:

- Engage funders and other qualified advisors to identify, develop and sustain a portfolio of efficiency-enabling initiatives and activities that are consistent with the alliance's purpose.
- Establish board-determined policies to assure equitable allocation and appropriate prioritization of efforts.

## E. Energy Trust membership on NEEA committees and direction to NEEA

Energy Trust provides regular guidance to NEEA through Executive Director Michael Colgrove's service as vice president of the NEEA board of directors. He is also chair of NEEA's strategic planning and end use load research committees as a member of its natural gas committee. Additionally, Energy Trust staff participate in NEEA's advisory committees.

| Committee | Energy Trust staff member |
|---|---|
| Strategic Planning Committee | Michael Colgrove, executive director |
| Regional Portfolio Advisory Committee | Fred Gordon, director of planning and evaluation |
| Cost-effectiveness and Evaluation Advisory Committee | Phil Degens, evaluation manager<br>Ben Cartwright, senior planning project manager |
| Regional Emerging Technology Advisory Committee | Phil Degens, evaluation manager |
| Natural Gas Advisory Committee | Phil Degens, evaluation manager |
| Residential Building Stock Assessment Working Group | Dan Rubado, evaluation project manager |
| Regional Smart Thermostat Study Working Group | Dan Rubado, evaluation project manager |
| Products Coordinating Committee | Thad Roth, residential sector lead |
| Integrated Systems Coordinating Committee | Oliver Kesting, commercial sector lead |
| End Use Load Research Steering Committee | Michael Colgrove, executive director |
| End Use Load Research Working Group | Sarah Castor, program manager for evaluation & engineering<br>Erika Kociolek, senior evaluation project manager |

[23] Available online at neea.org.

Energy Trust staff provided the following direction to NEEA through committees:

- Provided review of analysis methods and reports.
- Supported the development of study design, recruiting and fielding methods.
- Contributed to advancing two market transformation initiatives, variable speed heat pumps and thin triple windows, and approved initiative design and testing.
- Advised on the transition from NEEA's longstanding ductless heat pump initiative to a broader initiative, transforming markets for a variety of variable speed heat pump products.
- Helped negotiate agreements with NEEA and utility funders to provide additional funding to increase the Residential Building Stock Assessment sample size.
- Provided feedback and buy-in for NEEA strategies, identifying opportunities for Energy Trust to collaborate.
- Provided guidance that NEEA should continue to support a midstream approach to heat pump water heater market development through regional utility initiatives and engagement with manufacturers, retailers, distributors and contractors.
- Provided guidance that NEEA should regularly communicate with utilities about products included in the retail products portfolio and strategies related to product changes.
- Reviewed the Residential Building Stock Assessment survey tool and research to ensure efficacy in informing measure development, evaluation and research related to the existing residential and multifamily programs.
- Requested that the Home Energy Metering Study contractor (Evergreen Economics) provide a report of load shapes by year based on all data collected so far.
- Reviewed and approved NEEA research and assumptions used to report savings from market transformation initiatives.
- Participated in committee review of the Northwest Power and Conservation Council's Draft 2021 Power Plan, providing feedback on the absence of standard measures in the plan.

# APPENDIX 1: Total organization results

This appendix provides information on Energy Trust's energy savings and generation results as well as revenue and expenditures for programs beyond those funded by Oregon utility customers of Portland General Electric (PGE) and Pacific Power under state law and by natural gas utility customers of NW Natural, Cascade Natural Gas and Avista through regulatory agreements between the Oregon Public Utility Commission (OPUC) and each natural gas utility. This includes activity in NW Natural service area in Southwest Washington, Energy Trust's subcontracts to deliver the Oregon Community Solar Program and support PGE's Smart Battery Pilot and expenditures for a grant from the U.S. Department of Energy to increase access to solar energy for low- and moderate-income communities. Energy Trust also receives revenue from investments and spends on business development.

Highlights of this work include:

- Energy Trust supported the **Oregon Community Solar Program** in its second year of operation, which included the first four community solar projects to begin operation for a total of 9 megawatts of capacity.
    - Staff also supported a Community Solar Program expansion and re-design process in 2021, resulting in the program doubling in authorized capacity, from 80 MW to 160 MW. Additional changes were made to expand opportunities for residential participation, increase benefits for participants with low incomes, and create flexibility and new pathways for engagement for community-based organizations and community-led projects.
- Energy Trust worked with NW Natural and the city of Eugene to develop the **Eugene Carbon Reduction Initiative** to help the city reach its climate action plan goals. Using a targeted load management framework, Energy Trust designed a comprehensive offer of incremental incentives and targeted marketing, designed to be delivered over a two-year period. Targeted load management involves deploying energy efficiency and solar in targeted areas to serve customers and strengthen utility systems, potentially deferring utility infrastructure investments. The initiative is ready to launch pending stakeholder and OPUC approval.
- Energy Trust supported **PGE's Smart Battery Pilot** designed to provide incentives for 525 residential battery energy storage systems in customers' homes. The individual customer-owned systems will be combined to create a virtual power plant that can support the electric grid. The five-year pilot will allow PGE to study how to optimize the use of these batteries to benefit the grid, while ensuring that customers also receive the benefits they want from owning the battery. Energy Trust has contracted with PGE to provide implementation support for the PGE pilot and help connect customers and solar trade ally contractors. As part of this pilot, Energy Trust is providing subject matter expertise, support for customer outreach, trade ally education, quality management, application review and upfront incentive processing.
    - While the pilot has been impacted by supply chain constraints limiting the availability of battery storage systems, in 2021, Energy Trust passed-through $8,000 in instant rebates and is starting 2022 with $107,000 in instant rebates reserved, 21 projects ready to be verified and 37 projects waiting to be installed.
- Energy Trust contracted with PGE to support two demonstration projects in **PGE's Smart Grid Test Bed** Phase II: the Flexible Feeder Demonstration (related to the U. S. Department of Energy Smart Grid Asset Load Management & Optimized Neighborhood grant) and the Smart Inverter Demonstration project.
    - In 2021, the U.S. Department of Energy awarded a Connected Communities grant to PGE for the Smart Grid Asset Load Management & Optimized Neighborhood project. This project will help transform neighborhoods into virtual power plants while reducing utility bills and avoiding greenhouse gas emissions by optimizing buildings for demand response and grid interactions. Energy Trust helped support the grant process in 2021 and will collaborate with PGE, Community Energy Project, Northwest Energy Efficiency Alliance and the National Renewable Energy Laboratory to implement this project in 2022.
    - As part of the Smart Grid Test Bed Phase II proposal, PGE submitted a budget and outline for a Smart Inverter Demonstration project that included a role for Energy Trust as a design and implementation partner. The demonstration project will take place from January 2022 through December 2024 and will allow PGE to explore the value of distributed solar as an operational grid resource.

- Energy Trust is working on a grant project funded by the U.S. Department of Energy increase equity in local and state solar energy programs and policies. The **U.S. Department of Energy Solar with Justice grant project** seeks to improve knowledge sharing among state energy organization and community-based organizations so that solar in low- and moderate-income communities is developed efficiently, equitably and cost-effectively.

## A. Total organization revenue

| Source | | Annual actual revenues | | Annual budgeted revenues |
|---|---|---|---|---|
| Oregon PPC programs | $ | 190,375,240 | $ | 184,343,709 |
| NW Natural Washington | $ | 3,000,874 | $ | 3,000,874 |
| Oregon Community Solar Program | $ | 456,993 | $ | 550,000 |
| Solar with Justice grant | $ | 8,934 | $ | - |
| NW Natural TLM | $ | 214,732 | $ | - |
| PGE Smart Battery Pilot | $ | 71,703 | $ | 495,484 |
| Revenue from investments | $ | 206,974 | $ | 96,000 |
| Business development | $ | 550 | $ | - |
| **Total** | **$** | **194,335,999** | **$** | **188,486,067** |

## B. Total organization expenditures

| Source | | Annual actual expenditures | | Annual budgeted expenditures |
|---|---|---|---|---|
| Oregon PPC programs | $ | 180,175,173 | $ | 207,508,303 |
| NW Natural Washington | $ | 3,069,312 | $ | 3,322,803 |
| Oregon Community Solar Program | $ | 265,996 | $ | 318,080 |
| Solar with Justice grant | $ | 10,204 | $ | - |
| NW Natural TLM | $ | 119,417 | $ | - |
| PGE Smart Battery Pilot | $ | 57,835 | $ | 448,653 |
| Business development | $ | 13,577 | $ | - |
| **Total** | **$** | **183,711,515** | **$** | **211,597,840** |

## C. Total organization expenditures by activity[24]

| | | | Annual actual expenditures | | Annual budgeted expenditures | Budget variance |
|---|---|---|---|---|---|---|
| | **Oregon PPC programs** | **$** | **171,170,465** | **$** | **197,546,329** | 13% |
| Other | NW Natural Washington programs | $ | 2,915,915 | $ | 3,163,284 | 8% |
| | Oregon Community Solar Program | $ | 252,703 | $ | 302,810 | 17% |
| | Solar with Justice grant | $ | 9,694 | $ | - | N/A |
| | NW Natural TLM | $ | 113,449 | $ | - | N/A |
| | PGE Smart Battery Pilot | $ | 54,945 | $ | 427,114 | 87% |
| | Business development | $ | 13,577 | $ | - | N/A |
| | **Other Total** | **$** | **3,360,282** | **$** | **3,893,208** | **14%** |
| | **Administration** | **$** | **9,180,767** | **$** | **10,158,303** | **10%** |
| | **Total expenditures** | **$** | **183,711,515** | **$** | **211,597,840** | **13%** |

## D. Total organization savings and generation by fuel

| | Annual savings/generation | Annual goal | Percent Achieved |
|---|---|---|---|
| **Electric savings** | 44.0 aMW | 47.4 aMW | 93% |
| **Natural gas savings** | 7,441,310 therms | 6,504,842 therms | 114% |
| **Electric generation** | 5.43 aMW | 3.54 aMW | 153% |

## E. Total organization progress toward annual efficiency goals by utility

| | Annual savings | Levelized cost | Annual goal | Percent achieved YTD | Annual IRP target | Percent achieved YTD |
|---|---|---|---|---|---|---|
| **Portland General Electric** | 24.2 aMW | 3.4 ¢ per kWh | 26.3 aMW | 92% | 29.5 aMW | 82% |
| **Pacific Power** | 19.8 aMW | 3.4 ¢ per kWh | 21.1 aMW | 94% | 18.1 aMW | 109% |
| **NW Natural** | 6,162,453 therms | 36.9 ¢ per therm | 5,092,126 therms | 121% | 6,030,655 therms | 102% |
| **Cascade Natural Gas** | 525,372 therms | 41.8 ¢ per therm | 572,759 therms | 92% | 563,298 therms | 93% |
| **Avista** | 408,163 therms | 41.7 ¢ per therm | 453,277 therms | 90% | 437,805 therms | 93% |
| **NW Natural Washington** | 345,322 therms | 62.8 ¢ per therm | 386,680 therms | 89% | 383,476 therms | 90% |

[24] Business development funds were spent on program development and seeking funding for the Smart Grid Asset Load Management and Optimized Neighborhood pilot, Federal Emergency Management Agency Hazard Mitigation Grant Program and Eugene Carbon Reduction Initiative.

## F. Total organization renewable energy generation by utility

| | Annual generation aMW | Annual goal aMW | Percent achieved YTD |
|---|---|---|---|
| Portland General Electric | 3.13 | 2.25 | 139% |
| Pacific Power | 2.30 | 1.29 | 178% |
| **Total** | **5.43** | **3.54** | **153%** |

# APPENDIX 2: Progress toward diversity, equity and inclusion goals

In 2021, Energy Trust developed 10 diversity, equity and inclusion (DEI) goals to improve and enhance offers for customers historically underserved by the organization. Since 2019, Energy Trust has provided progress reports on diversity, equity and inclusion goals twice a year. This appendix reflects activities and progress made from January 2021 through December 2021 unless otherwise noted. Customers underserved by Energy Trust are people of color, people with low incomes and people in rural areas, and they are identified based on census tract characteristics.

Highlights of this work and key lessons learned include:

- Energy Trust **met 17 of 22 targets** identified in the 2021 Diversity, Equity and Inclusion Operations Plan and partially met three of the remaining five targets.
- Through efforts to achieve goals, **staff learned important lessons** that will inform design of programs and practices going forward. Key lessons identified in this progress report include the critical importance of partnering with organizations that customers already know and trust, investing time to build trusting relationships with potential partners and collaboration across programs.
- To increase Energy Trust's contracts with Black, Indigenous and people of color (BIPOC)- and women-owned businesses, Energy Trust **developed a supplier diversity program** that will require all competitive solicitations for new contracts over $100,000 to require a minimum spend for minority- and women-owned businesses certified by Certification Office for Business Inclusion and Diversity (COBID) beginning in 2022.
- Energy Trust hired **two new staff members focused on outreach to communities of color**: a senior outreach manager and a community outreach specialist.
- In 2021, Energy Trust **hosted a series of community summits** to learn from community leaders and customers about their experiences and perspectives on how Energy Trust can more equitably serve customers of color, customers experiencing low incomes and customers in rural areas. These four summits focused on residential customers, commercial and industrial customers, trade allies and tribal communities. Feedback from these summits shaped Energy Trust's 2022 diversity, equity and inclusion goals. In particular, the summit feedback helped Energy Trust to identify barriers to participation and opportunities for collaboration. Feedback also helped staff better understand the scarcity of affordable housing and how it contributes to displacement, how local communities differ, the life-saving impact of cooling systems during heat events, and the unique challenges faced by BIPOC- and women-owned contractors.
- Informed by community summits and feedback from stakeholders and advisory councils, **staff developed a 2022 DEI Plan** with goals and a primary focus on continued learning from customers and communities through engagement.

## Key

| Goal achieved | Goal partially achieved | Goal not achieved |
|---|---|---|

# Goal 1: Increase customer participation in energy efficiency.

## Goal 1A: Increase residential participation of people of color.

| 2021 Target | Results | Status |
|---|---|---|
| Achieve 34% participation or 3,500 single-family, small multifamily or manufactured homes projects within census tracts with a large proportion of people of color[25] | 39% participation or 4,072 new participants from target census tracts | |

- The Community Partner Funding pathway offers a suite of higher incentives delivered to customers via nonprofits and community organizations that serve communities of color, customers in rural areas, customers experiencing low incomes, veterans and/or people experiencing disabilities. Energy Trust increased outreach to new community partners to grow its Community Partner Funding pathway substantially in 2021, enrolling seven new participants. In total, Energy Trust paid $586,000 in incentives to 12 of the 14 total participating community-based organizations. Compare that to 2020, when Energy Trust paid $54,428 in incentives to four of six total participating organizations.
    - Energy Trust met with participating community partners to identify areas of improvement for the Community Partner Funding pathway. As a result, Energy Trust expanded onboarding materials, posted program resources online, improved joint forecasting and budgeting processes, and established an annual schedule of collaboration meetings, all of which will improve working relationships with these partners.
    - Through its partnership with Community Action of Washington County, Energy Trust provided $271,891 in co-funding throughout 2021 that enabled Community Action to serve 28 additional customers with low incomes, leading to a total of 97 customers jointly served by the two organizations.
- The Residential program's Spanish-language offer, Mi Comunidad, launched in quarter four 2021. The website and marketing materials are in Spanish, and customers work with Spanish-speaking trade ally partners. In 2022, a bonus incentive will be made available to Spanish-speaking trade ally partners to help encourage activity among Spanish-speaking customers.

Going forward:

- Deferred maintenance costs in lower-income housing stock often prevent customers from participating in Energy Trust offers that require upfront investment. Energy Trust should continue supporting and encouraging community partners to access complementary funding sources (such as the Portland Clean Energy Community Benefits Fund) to help cover these expenses.
- Energy Trust should collect demographic data beyond Community Partner Funding projects to better understand if offers are reaching communities of color.
- Energy Trust should refine community-focused offers (such as Community Partner Funding, regionally specific offers, rental housing offers or manufactured home offers) to be more accessible through community agencies or trade allies, with less rigorous eligibility requirements and processes that are easier to navigate.

[25] Census tracts identified as racially diverse 5 in Energy Trust's *Diversity, Equity and Inclusion Data Baseline Analysis*.

## Goal 1B: Support participation of small and medium commercial business customers and commercial business customers in rural areas.[26]

| 2021 Target | Results | Status |
|---|---|---|
| Serve 1,082 small and medium businesses and 54 customers in very rural areas | Served 1,270 small and medium businesses and 39 customers in very rural areas | |

- Energy Trust served 1,270 small and medium businesses in 2021, exceeding goals for this customer group by 17%. Small and medium businesses installed lighting, smart thermostats and food service equipment most commonly.
- Energy Trust fell short of its goal to serve more businesses in very rural areas. Staff should develop more solutions to support businesses in these areas by continuing to focus on local community engagement.
- Energy Trust launched a no-cost direct lighting installation offer for small and medium businesses in 2021. Through this offer, Energy Trust provided more than 200 commercial and industrial businesses with no-cost site assessments. These businesses received information on energy efficiency opportunities and also established relationships with Energy Trust that may result in additional energy savings projects in the future.
- The Existing Buildings program is contracting with a network of community-based liaisons to reach new customers and make program offerings more equitable, including by incorporating a racial equity lens, equity trainings, meaningful community engagement strategies and community listening sessions with small, BIPOC-owned businesses. The network, launched in late 2020, is designed to influence and accelerate diversity, equity and inclusion initiatives and help the program reach new customers, including customers of color, customers in rural areas and those for whom English is not their first language.
- Existing Buildings and business lighting staff collaborated closely on customer outreach, providing holistic services to small businesses and engaging with community-based organizations to serve their communities.
- Centering equity in the design of a new offer takes time and requires intentional community engagement. The Existing Buildings small business offer, originally scheduled to launch in 2021, was put on hold to reassess the offer through a racial equity lens and conduct listening sessions with BIPOC-owned small business owners.

Going forward:

- In 2021, Energy Trust defined small business based on energy usage, which customers found challenging as it made identifying eligibility difficult. For 2022, Energy Trust developed a more customer-focused definition based on number of employees and square footage. In addition, Energy Trust made community service providers (such as community centers and organizations that provide social services) eligible for small business offers.
- Energy Trust learned that building trust is an ongoing activity and that energy efficiency projects result from meaningful relationships over time. Specific lessons that Energy Trust will apply in 2022 and beyond include:
    - Businesses are wary of no-cost offers. By approaching customers alongside a trusted partner, such as a utility or community-based organization, Energy Trust found businesses more receptive to participation. Energy Trust will continue partnering with utilities and community-based organizations to promote no-cost offers.
    - Partnering with community-based organizations can significantly increase access to energy efficiency for small businesses, a group that has historically participated at a lower rate than average in Energy Trust programs. In 2022, Energy Trust will expand Community Partner Funding offers to serve multifamily and small commercial customers, conduct joint outreach to community-based organizations about relevant offers and develop co-created offers with community-based organizations.
- Energy Trust should develop messaging and marketing materials that are responsive to different cultures and languages to build trust and relationships with businesses.

[26] Census tracts identified as rural 5 in Energy Trust's *Diversity, Equity and Inclusion Data Baseline Analysis*.

## Goal 1C: Increase participation of small and medium industrial and agricultural businesses in rural areas.

| 2021 Target | Results | Status |
|---|---|---|
| Serve 55 (with a stretch target of 67) new small and medium business customers in census tracts outside metro areas | Served 58 new small and medium business customers in census tracks outside metro areas | |

- Energy Trust engaged small and medium businesses in rural areas to participate in 26 standard, 13 custom and 19 lighting projects.
- Energy Trust launched a no-cost direct lighting installation offer for small and medium businesses in 2021. Through this offer, Energy Trust provided more than 200 commercial and industrial businesses with no-cost site assessments. These businesses received information on energy efficiency opportunities and also established relationships with Energy Trust that may result in additional energy savings projects in the future.
- Energy Trust collaborated with local trade groups and organizations to connect with building owners and motivate them to complete lighting projects with small and medium businesses in rural areas.
- In quarter four, Energy Trust staff conducted four interviews with rural economic development professionals in Eastern Oregon to gather insight on how industrial energy efficiency investments may positively impact communities. These insights informed planning in 2022.
- Energy Trust also increased participation in the Klamath Basin by completing 15 projects on farms and three compressed air projects in the region.

Going forward:

- In-person visits with trade allies, vendors and customers (such as events and site visits) motivate program participation, especially in rural areas. These in-person visits are also a great way to collect customer and market information and to provide support to move projects forward. Energy Trust should continue these proven tactics while finding more new ways to increase program awareness in rural areas.
- Businesses are wary of no-cost offers. By approaching customers alongside a trusted partner, such as a utility or community-based organization, Energy Trust found businesses more receptive to participation. Energy Trust will continue partnering with utilities and community-based organizations to promote no-cost offers.
- Energy Trust will continue to increase the number of COBID-certified lighting installers who deliver the direct lighting installation to small and medium business customers.
- Energy Trust should implement new mechanisms to collect data on industrial and agricultural customers' race/ethnicity, gender and business size to inform Production Efficiency program design, enable real-time tracking of progress toward diversity, equity and inclusion outcomes, and address shortcomings of prior baseline and data collection approaches.
- Energy Trust should engage with industrial and agricultural customers and business groups to develop new program approaches to reach small and medium businesses and BIPOC- and women-owned customers in rural areas.

## Goal 2: Increase the adoption of solar projects benefitting customers experiencing low-incomes, communities in rural areas and communities of color.

| 2021 Targets[27] | Results | Status |
|---|---|---|
| 38% of residential projects (approximately 646) are Solar Within Reach projects or projects in census tracts that are rural and have low- to moderate-income customers and people of color[28] | 41% of residential projects (1,099) are Solar Within Reach projects or located in census tracts that are rural and have low- to moderate-income customers and people of color | |
| 45% of residential projects (approximately 765) are in census tracts with a large proportion of people of color[29] | 37% of residential projects (984) are in census tracts with a large proportion of people of color | |

- Energy Trust engaged 424 households in Solar Within Reach, which provides higher incentives for income-qualified customers installing solar systems. This compares to 86 participating households in 2020.
- The number of projects in census tracts with a large proportion of people of color increased from 576 in 2020 to 984 in 2021; however, the percentage of these projects as compared to the total project volume was only 37%, short of the goal of 45%. This ambitious goal of 45% was based on forecast data and market assumptions that did not prove accurate over the course of the year. While overall demand for solar increased substantially, high-volume solar trade allies completed more projects in more rural and less racially diverse parts of the state. This resulted in a less racially diverse percentage distribution of projects overall.

Going forward:

- Solar Within Reach effectively drives adoption of solar among customers with moderate incomes. Funding for this offer will remain stable going forward as the program prioritizes funding and staff time for offers that bring additional value to the market (like Solar Within Reach).
- Limiting reporting to just the number of residential solar projects installed in target census tracts provides an incomplete picture of all diversity, equity and inclusion-related work in the renewables sector. Future measures of success will focus on community engagement (especially in the development of new offers), additional benefits of renewable energy projects (solar and non-solar; residential, nonresidential, community-focused), as well as the number of projects installed and dollars invested in communities that have been traditionally underserved by Energy Trust.
    - Passed in 2021, House Bill 3141 mandates that at least 25% of Energy Trust's public purpose charge revenues for renewable energy programs must be used for activities, resources and technologies that serve low- and moderate-income customers, including for technologies that do not have above-market costs. This will enable Energy Trust to develop more offers and dedicate more funds to offers that meet the needs of low- and moderate-income customers.

## Goal 3: Increase participation in the Trade Ally Network by BIPOC-owned and women-owned businesses.

| 2021 Target | Results | Status |
|---|---|---|
| Three new women-owned trade allies and six new BIPOC-owned trade allies, a 50% increase | Three new women-owned trade allies and one new BIPOC-owned trade ally | |

[27] Solar targets assumed Energy Trust will complete about 1,700 residential projects in 2021.
[28] Census tracts identified as composite 4 and 5 in Energy Trust's *Diversity, Equity and Inclusion Data Baseline Analysis*.
[29] Census tracts identified as racially diverse 4 and 5 in Energy Trust's *Diversity, Equity and Inclusion Data Baseline Analysis*.

- Energy Trust designed a Contractor Development Pathway for potential and current Existing Buildings trade allies in 2021, working with the National Association of Minority Contractors-Oregon, LatinoBuilt and Professional Business Development Group. Launching in January 2022, the pathway will engage contractors who have not worked with Energy Trust's Existing Buildings program and will support existing trade allies who participate infrequently with the program. The pathway will:
    - Provide one-on-one mentorship, technical training and program training.
    - Offer training on Energy Trust programs, additional utility programs for contractors and business opportunities in the emerging energy efficiency field.
    - Provide technical training on installation of advanced rooftop controls in small commercial buildings, which will include both online and in-person learning labs for contractors to get hands-on installation experience.
- Energy Trust launched a Pathway to Certification in 2021 to help contractors get certified through the state's COBID. The pathway is delivered through Professional Business Development Group and provides coaching and advising on achieving COBID certification. Five contractors participated in the pathway in 2021, including one that received COBID certification.
- Energy Trust held a trade ally summit in 2021 with three trade partners (National Association of Minority-owned Contractors-Oregon, LatinoBuilt and Professional Business Development Group) with workforce development a key issue for discussion. Partners recommended ways that Energy Trust can support development of a more diverse, inclusive and equitable workforce, including being more involved in education (from primary school through higher education) and supporting mentorships between experienced and novice contractors. Participants also discussed the need to support more minorities and women in joining the architecture and engineering fields. Energy Trust has begun this work through the New Buildings program's Building Engineering Simulation Forum training and Net Zero fellowship and internship. Feedback was also shared about COBID certification and Energy Trust's support and requirement of it to track BIPOC- and women-owned trade ally businesses in the Trade Ally Network. Energy Trust learned that COBID certification is useful, but it does not work for every contractor. The organization should consider when to require COBID certification and when to be more flexible.
- Energy Trust conducted outreach to BIPOC-owned contractor businesses through presentations at membership meetings of National Association of Minority Contractors-Oregon, Professional Business Development Group and LatinoBuilt.

Going forward:

- Energy Trust should connect with local contractors through community-based organizations that contractors know and trust. Through relationships with community-based organizations, Energy Trust received contractor referrals including for two new trade allies who enrolled in 2021.
- Energy Trust's programs can impose an administrative burden on participating contractors that are very small (one- or two-person) firms with limited capacity. Energy Trust should weigh the benefits of gathering more information against the risk of creating administrative work when determining what information to require.
- Energy Trust will continue outreach to identify and enroll COBID-certified contractors as trade allies.
- Energy Trust can better support recently enrolled (within the past two years) BIPOC- and women-owned trade ally contractors in completing projects and ultimately delivering more incentive dollars to the communities they serve.
- Energy Trust will engage the Tribal Employment Rights Office to involve more Indian-owned contractors in its energy efficiency and renewable energy programs. The Tribal Employment Rights Office has an Indian-owned business certification.

## Goal 4: Increase the number of projects completed by BIPOC-owned and women-owned trade allies.

| 2021 Target | Results | Status |
|---|---|---|
| 1,800 total projects completed by BIPOC- and women-owned contractors, a 15% increase | 2,114 total projects completed by BIPOC- and women-owned contractors | |

- Energy Trust completed 1,574 projects with women-owned trade allies and 540 projects with BIPOC-owned trade allies in 2021; 363 of these projects were done by firms that are both BIPOC- and women-owned.

Going forward:

- Stakeholders have provided feedback that Energy Trust should set goals and targets based on the dollar amount of incentives delivered by BIPOC-owned and women-owned trade allies rather than number of projects completed.
- Energy Trust should seek to break down barriers and develop improved onboarding and training for BIPOC- and women-owned trade allies, which will benefit the entire Trade Ally Network.

## Goal 5: Increase the number of contracts with Black-owned, BIPOC-owned and women-owned businesses and improve contract tracking systems to support increased supplier diversity.

| 2021 Targets | Results | Status |
|---|---|---|
| Enter into 25 new contracts with BIPOC-owned or women-owned businesses and 10 new contracts with Black-owned businesses in Oregon, a 20% increase | Entered into 21 new contracts with BIPOC-owned or women-owned businesses and 7 Black-owned businesses in Oregon | |
| Track number of contracts with community-based organizations to establish a baseline for comparison for future contracting goals | Established system to track number of contracts with community-based organizations to establish a baseline for comparison for future contracting goals | |
| Establish a system for tracking community-based organizations by March 1, 2021 | Established in quarter one 2021 a system for tracking community-based organization contracts | |

- In 2021, Energy Trust entered into contracts with eight BIPOC-owned businesses, seven Black-owned businesses, three women-owned businesses and three community-based organizations. As these numbers fell short of the 2021 target, they indicate that Energy Trust has work to do in identifying and reaching out to Black-owned, BIPOC-owned and women-owned businesses.
- Energy Trust is working to contract with more BIPOC- and women-owned suppliers. As part of this effort, Energy Trust has expanded support for COBID-certified firms.
- Energy Trust developed a supplier diversity program in 2021 to guide development of a supplier diversity tracking system in 2022. The policy will require all competitive solicitations for new contracts to require a minimum spend for COBID-certified BIPOC- and women-owned businesses beginning in 2022.

Going forward:

- Energy Trust does not yet have all processes and systems in place to engage and recruit services from BIPOC- and women-owned businesses. Energy Trust is currently working on identifying, developing and implementing a supplier diversity tracking system to improve visibility and tracking of contracts with BIPOC businesses.
- The organization's work to develop a supplier diversity tracking system will standardize tracking and improve visibility on our procurement and contracting practices.

## Goal 6: Build relationships with community-based organizations.

| 2021 Targets | Results | Status |
|---|---|---|
| Continue to deepen and develop relationships with 50 community-based organizations to better reach and serve more diverse customers | Tracked relationships with 59 community-based organizations | |
| Have at least twice yearly conversations with community-based organizations focused on workforce diversity to understand workforce opportunities for energy efficiency and renewable energy | Held regular meetings with community-based organizations focused on workforce diversity (more than two) | |
| Ensure more than one-half of the community-based organizations' missions are to serve people of color | 61% of the 59 community-based organizations tracked serve BIPOC customers or communities | |

- In 2021, Energy Trust tracked its relationships with 59 community-based organizations as part of this goal. More than one-half (61%) of the 59 organizations tracked for this goal focus on serving BIPOC customers or community members.
- Energy Trust launched Working Together grants, a new offer for nonprofits. Several organizations tracked for this goal provided insight to help shape the offer.
- Staff deepened relationships with organizations focused on workforce diversity including Professional Business Development Group, National Association of Minority Contractors-Oregon and LatinoBuilt by establishing contracts, holding twice yearly meetings and recruitment and training events.
- Through collaborations with food banks, community action agencies and nonprofits around the state, 24 organizations ordered a total 31,200 LEDs to provide to their communities and clients in 2021. Since 2020, Energy Trust has collaborated with 77 organizations to offer—39 food pantries, 29 community-based organizations, and nine community action agencies.

Going forward:

- Energy Trust will continue to engage community-based organizations as these partnerships can help us reach customers not previously served and bring new ideas and approaches to achieving energy savings and generation.
- Working with community-based organizations requires a commitment to long-term relationships and a desire to achieve mutual benefits. Energy Trust should focus, in the early stages of relationships, on building trust, which requires dedicated staff time.
- There are fewer community-based organizations in rural communities than in urban communities and many of these are stretched thin financially and in terms of staffing. Supporting rural community-based organizations and developing long-term partnerships may require more staff time or funding.
- As relationships with many of these organizations deepen, staff will move toward co-developing offers with each organization. Staff will continue to build their skills in this regard.
- Energy Trust can support organizations enrolled in Community Partner Funding by generating customer leads and by working more closely together on outreach and external funding opportunities.

## Goal 7: Increase representation of staff identifying as people of color.

| 2021 Targets | Results | Status |
|---|---|---|
| Increase percentage of applicants identifying as people of color by 10% | Increased percentage of applicants identifying as people of color by 19% | |

| | | |
|---|---|---|
| Ensure at least 50% of all new hires identify as people of color | 64% of new hires in 2021 identify as people of color | |

- Energy Trust implemented a new recruiting strategy to promote diversity, equity and inclusion, which includes (among other changes):
    - Requiring all hiring panels to consider qualified applicants of color throughout the hiring process
    - Inviting members of the Diversity Advisory Council to participate in hiring panels
    - Using a hiring blueprint and scoring card to help make objective hiring decisions
    - Requiring members in all hiring panels to take an implicit bias training
    - Analyzing and tracking where our applicants learn about Energy Trust openings

Going forward:

- Energy Trust's leaders will apply an equity lens to any changes to remote and/or hybrid work policies and practices.
- Energy Trust will evaluate its recruiting strategies on an annual basis.

## Goal 8: Determine new ways to track participation among communities of color, households experiencing low incomes and rural customers.

| 2021 Targets | Results | Status |
|---|---|---|
| Complete report on data enhancement project | Reported to Diversity Advisory Council and Oregon Public Utility Commission on data enhancement project | |
| Conduct contractor/trade ally analysis | Improved tracking of enrollment and project-level activity for BIPOC- and women-owned contractors involved in projects receiving Energy Trust incentives | |
| Explore market research to inform customer engagement (e.g., marketing and outreach) and differential baselines for developing new offers (e.g., measure development) | • Scoped next iteration of Customer Awareness and Participation Survey to study participation and awareness of all Energy Trust customers and within communities of color, households experiencing low incomes and customers in rural areas<br>• Participated in a work group for the next update of Northwest Energy Efficiency Alliance's Residential Building Stock Assessment, including prioritizing demographic information on residential and multifamily building stock to be used in program designs and planning<br>• Engaged outreach teams, trade allies and customers for feedback on current measures to inform updates, including participation requirements | |

| | | |
|---|---|---|
| | and additional insight on baseline conditions | |

- Staff researched what data are meaningful and feasible to measure and track for program engagements beyond the census tract approach used in the 2021 DEI Operations Plan, including demographics and trade allies involved in projects. Staff sought qualitative insights from focus groups and community partners and evaluated customer-level quantitative metrics from the Customer Awareness and Participation Study and Fast Feedback Survey reports.
- In 2021, Energy Trust concluded several informative qualitative research projects (such as research on Black-owned businesses) and posted reports to its website.
- Program teams used market insights from outreach, trade allies and customers to develop measures focused on customers historically underserved by Energy Trust, including focused offers for low- and moderate-income customers, small businesses and rural customers to expand participation pathways.

Going forward:

- Gathering external stakeholder input on what metrics and targets to track is important. Outreach to stakeholders requires time as well as knowledge of program implementation strategy and Energy Trust's data systems.
- Scoping research objectives and conducting research about people and communities historically underserved by Energy Trust requires intentionality, relationship building with research partners/vendors and time.
- Energy Trust will continue to engage stakeholders, the Diversity Advisory Council and community-based organizations to understand what data are valuable and should be collected as part of the 2022 Diversity, Equity and Inclusion Plan engagement efforts.
- Program teams will continue to use market insights, including qualitative information, to design offers and measures for customers historically underserved by Energy Trust.

## Goal 9: Increase the ability of staff and board to work across cultures and be more inclusive through structural organizational change and continuous staff learning.

| 2021 Targets | Results | Status |
|---|---|---|
| Create a work environment that supports staff who are people of color | Improved Energy Trust's work environment through launching affinity groups, including one for staff of color, continuing First Thursday Diversity Days and surveying staff of color regarding retention | |
| Ensure 100% of Energy Trust employees attend a training that addresses gaps in organizational readiness | Offered four different training courses to address organizational readiness and provided each staff member a LinkedIn Learning license | |

- All new hires and anyone participating on an interview panel were asked to take an implicit bias training. As a result, 100% of interview panelists have completed this training.
- As part of 2021 training offerings, each full-time staff member had access to LinkedIn Learning as a professional development resource. LinkedIn Learning offers an extensive library of training and modules on diversity, equity and inclusion.

- Energy Trust offered in quarter two a tribal culture training led by an external expert that 32% of staff attended. The training gave staff critical historical, political and cultural context as they work with and develop relationships with tribes across the state. Many people requested an additional training on this topic in 2022.
- All trainings were recorded and stored in SharePoint for employees to access on demand.
- All staff members were required to identify a diversity, equity and inclusion training element in their annual workplan. Completion of this task was monitored by management throughout the year.

Going forward:

- Energy Trust learned several lessons that it should incorporate into future efforts related to this goal; specifically, that management should continue to respond to staff requests for training and encourage staff to utilize the LinkedIn Learning platform.
- Energy Trust will continue to provide diversity, equity and inclusion training opportunities.

## Goal 10: Increase awareness and understanding of the diversity, equity and inclusion goals and progress.

| 2021 Targets | Results | Status |
|---|---|---|
| Provide progress reports in an appendix to Energy Trust's Q2 2021 and 2021 Annual Report to the OPUC | Published two progress reports on diversity, equity and inclusion goals | |
| Ensure efforts to support diversity, equity and inclusion are reflected in organizational communications and public relations | Featured stories about diversity, equity and inclusion efforts on website, in materials and in presentations | |

- Energy Trust continued to publish twice yearly progress reports on diversity, equity and inclusion activities that serve to inform the OPUC, Energy Trust board, staff and external stakeholders on current work and lessons learned.
- Work to advance Energy Trust's diversity, equity and inclusion objectives was featured in articles on Energy Trust's blog and monthly stakeholder newsletter. Highlights included a community solar installation on an affordable multifamily building, support for BIPOC- and women-owned contractor businesses, our first outreach manager dedicated to communities of color, Energy Trust's support for AmeriCorps Resource Assistance for Rural Environments community development resources in rural communities, and partnerships with community-based organizations like EUVALCREE and Lake County Resources Initiative.

Going forward:

- Energy Trust will continue to report twice yearly on progress to diversity, equity and inclusion goals set in its 2022 Diversity, Equity and Inclusion Plan. In addition, staff will evaluate the organization's current website content related to diversity, equity and inclusion and determine and implement improvements.

# APPENDIX 3: Customer satisfaction results

Energy Trust calculated customer satisfaction from short web and telephone surveys with randomly selected 2021 program participants within about two months of project completion. The survey asked residential and non-residential participants in Oregon about satisfaction with their overall experience with Energy Trust. Participants in the Existing Buildings (including Existing Multifamily), Production Efficiency and commercial solar programs were also asked about satisfaction with their interactions with program representatives. Surveys were conducted with 896 residential customers and 653 non-residential customers in Oregon who received an incentive or discount from Energy Trust in 2021.

In 2021, the average proportion of program participants satisfied with their overall experience with Energy Trust was 93% and satisfaction with Energy Trust program representatives was 93%.

New Buildings projects often involve numerous market actors (architects, engineers, developers and owners) at different project stages, so it is difficult to reach a project representative who is able to respond to questions about satisfaction. Satisfaction with the New Buildings program is obtained from interviews with program participants as part of a separate evaluation survey. The most recent survey took place in Q1 2018. Ninety New Buildings project owners or representatives that participated in 2017 and 2018 were surveyed about their overall program satisfaction and satisfaction with interactions with program representatives. Of participants surveyed, 98% were satisfied with their overall program experience. Satisfaction with program representatives was 96%.

**Table 1: 2021 overall satisfaction**

| Program | Satisfaction with overall experience |
|---|---|
| Existing Buildings, including Existing Multifamily | 90% |
| New Buildings* | 98% |
| Production Efficiency | 97% |
| Residential | 91% |
| Solar (residential and commercial) | 90% |
| **Unweighted average** | **93%** |

* New Buildings satisfaction based on survey results of 2017 and 2018 program participants.

**Table 2: 2021 satisfaction with program representatives**

| Program | Satisfaction with program representative |
|---|---|
| Existing Buildings, including Existing Multifamily | 92% |
| New Buildings* | 96% |
| Production Efficiency | 95% |
| Commercial Solar | 88% |
| **Unweighted average** | **93%** |

* New Buildings satisfaction based on survey results of 2017 and 2018 program participants.

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

# APPENDIX 4: Progress to 2020-2024 Strategic Plan

Energy Trust's 2020-2024 Strategic Plan defines the organization's areas of focus and key strategies for the five-year period. These focus areas align with Energy Trust's purpose, which is to help customers and communities reduce costs and realize additional benefits by saving energy and using renewable resources. The board-approved strategic plan was developed through a public process that involved gathering input from the Oregon Public Utility Commission (OPUC), utility partners, stakeholders, advisory councils and members of the public.

This appendix provides updates on activities for each focus area and related progress indicators. Throughout 2021, progress reports were provided to the board Strategic Planning Committee on a quarterly basis and once to the full board. The strategic plan and related information is available at www.energytrust.org/strategicplan.

## Key

| On track | On track, managing | Off track |
|---|---|---|

## Focus Area 1: Services to customers

We engage customers with relevant programs, information and services, including information and services specifically for underserved customers. We know we are making progress to this focus area when we achieve the following progress indicators:

| Progress Indicator | Status as of Year 2 |
|---|---|
| We achieve our annual savings and generation goals and continue to use multi-year planning processes to identify ambitious longer-term energy targets that incorporate emerging sources of savings. | |

- Energy Trust achieved its annual organizational energy goals for natural gas efficiency and renewable generation. The organization achieved 93% of its electric efficiency goal in 2021 (successful attainment of goals is defined as achieving at least 95% of the annual goal).
- Staff provided energy efficiency and solar information, services and incentives to customers underserved by Energy Trust, including customers in rural communities, customers experiencing low incomes and customers of color. Related new initiatives included transitioning the manufactured home replacement pilot to a standard offer; providing higher solar incentives for tribes, affordable multifamily properties and qualifying nonprofits; and launching a no-cost direct-install lighting offer for small and rural businesses.
- Staff completed research efforts and held virtual workshops and community summits the past two years to understand customer, contractor and community priorities and needs. Findings from the research and forums informed program offers and the 2021 and the 2022 Diversity, Equity and Inclusion (DEI) Operations Plans.
- The COVID-19 pandemic affected customer participation rates and trends in different ways over the past two years. Residential retrofits and new construction levels remained strong, as did rooftop solar. Bonuses were launched to boost participation by existing business customers. Pandemic-related improvements made to verifications and site assessments, like making them virtual rather than site visits, were kept in place. However, pandemic-induced supply chain shortages and labor shortages increased project costs and/or slowed installation rates for some customer groups.
- Over the past two years, the region has experienced multiple natural disasters like the floods in Eastern Oregon, the 2020 Labor Day wildfires and the 2021 heat dome—where multiple days of excessive heat caused 116 heat-related deaths in Oregon. Following these disasters, staff formed an internal natural disaster response team to develop cross-organizational strategies for addressing customer needs related to our core

work. These strategies included designing wildfire rebuilding incentives and developing an outreach strategy for severe weather shelters.

- Staff spent more time in 2021 than planned on core innovation activities and adaptation of existing programs, driven by a need to adapt in response to COVID-19. Despite this, Energy Trust has gradually increased the time it is investing in more cutting-edge, transformational innovation activities over the plan period.
    - Some examples of 2021 innovation activities included exploring the intersections between clean energy and health with other interested parties throughout the state, and developing a cross-cultural solar education and installation program in partnership with seven community-based organizations.

| Progress Indicator | Status as of Year 2 |
|---|---|
| We meet or exceed the goals we establish to increase the diversity of program participants. | |

- This progress indicator aligns with the organization's diversity, equity and inclusion program participation goals one and two as listed in 2020 and 2021 DEI Operations Plans.
- For program participation goals one and two, Energy Trust achieved more than half of the participation targets in the 2021 DEI Operations Plan, an increase in performance compared to the 2020 DEI Operations Plan.
- Participation targets were met for residential program participation by people of color, participation of small and medium industrial and agricultural businesses in rural areas and the adoption of solar projects benefitting customers experiencing low incomes and/or communities in rural areas.
- Informed by lessons learned on 2020 and 2021 plans, plus feedback from customers, trade allies, advisory councils and other stakeholders, staff began developing a 2022 DEI Plan with a primary focus on continued learning from customers and communities through engagement.

## Focus Area 2: Supporting utilities

We strengthen the value we deliver to customers by linking energy efficiency and renewable energy to the approaches utilities are using to meet changing customer energy needs. We know we are making progress to this focus area when we achieve the following progress indicators:

| Progress Indicator | Status as of Year 2 |
|---|---|
| We develop a framework to value, deliver, report and evaluate energy efficiency and renewable energy resource opportunities in targeted locations in collaboration with utilities. | |

- Staff completed a methodology document describing standard elements of targeted partnerships with utilities. Along with documenting lessons learned from previous and active targeted projects, the methodology will help streamline and standardize this growing area of work.

| Progress Indicator | Status as of Year 2 |
|---|---|
| We implement and evaluate initiatives designed to drive customer adoption of energy efficiency and renewable energy projects in targeted areas. | |

- Targeted load management involves deploying energy efficiency and solar in targeted areas to serve customers and strengthen utility systems, potentially deferring utility infrastructure investments.
- Targeted partnerships with three of the five partner utilities were completed, in progress or in the planning stage by the end of 2021. Examples and lessons learned included:

- Final data from a targeted load management project with Pacific Power in Phoenix show above-baseline savings despite impacts from COVID-19 and the catastrophic 2020 Almeda fire. Above-baseline savings were also achieved during peak periods of energy usage.
- The second phase of a targeted load management project with NW Natural in Creswell and Cottage Grove had strong results and realized substantial above-baseline savings. Offers included increased incentives accompanied by co-branded targeted marketing and outreach.
- Energy Trust expanded work with Portland General Electric to support the second phase of its Smart Grid Test Bed with planning for a Smart Inverter Demonstration project on several constrained feeders and collaboration on the Smart Grid Asset Load Management & Optimized Neighborhood (SALMON) project in North Portland, which received a $6.65 million grant from the U.S. Department of Energy.

## Focus Area 3: Informing policymakers

We provide objective information and analyses to policymakers and implementers to support development and implementation of energy policies. We know we are making progress to this focus area when we achieve the following progress indicator:

| Progress Indicator | Status as of Year 2 |
|---|---|
| We establish a system for monitoring regulatory and policy initiatives. We contribute data analyses and technical expertise during policy development and participate in policy implementation when there is potential customer benefit related to energy efficiency and renewable energy. | |

- Staff continued use of the internal policy tracking system developed in 2020. Over time, the system will allow staff to evaluate and adjust allocation of resources dedicated to this focus area.
- In 2021, staff participated in approximately 15 external policy initiatives to provide perspective on energy efficiency and renewable energy development—slightly more than in 2020. Initiatives included:
    - Participating, at the Governor's request, as a public purpose charge administrator to stakeholder discussions related to Senate Bill 1149 and the subsequent proposed and adopted 2021 legislation to modernize the public purpose charge (House Bill 3141).
    - Oregon Public Utility Commission dockets or workshops on distribution system planning, capacity, impacts of COVID-19 on customers, natural gas fact finding and implementing the Energy Affordability Act (House Bill 2475 from 2021)
    - Department of Environmental Quality's Climate Protection Program rulemaking
    - Oregon Department of Energy's rulemaking for programs like the Energy Efficient Wildfire Rebuilding Incentive Program
- Staff conducted stakeholder interviews with four organizations to gather feedback on the impact and value to policy makers and policy implementers of Energy Trust information and data. The feedback was supportive of receiving information on how Energy Trust programs and utility customers could be impacted by proposed or upcoming changes. Feedback highlighted the organization's independent and neutral perspective as well as staff's deep program delivery and market expertise in energy efficiency and small-scale renewables. Another round of interviews will be conducted by the end of 2023.

## Focus Area 4: Delivering multiple benefits

We maximize the effectiveness and reach of public purpose charge funding by leveraging additional funding to advance clean energy investments that deliver multiple benefits. We know we are making progress to this focus area when we achieve the following progress indicators:

| Progress Indicator | Status as of Year 2 |
|---|---|
| We acquire more energy savings and renewable generation than would otherwise be achieved with only public purpose charge funding. | |
| We coordinate with more organizations and communities where their additional resources help accomplish mutually supportive objectives. | |

- Staff continued work with the board Strategic Planning Committee to develop methodologies for tracking savings and generation that result from customers also leveraging non-public purpose charge funding, as well as tracking partnerships with organizations and communities that help accomplish mutually supportive objectives. Staff developed internal methods and systems for tracking partnerships.
- Over the past two years, Energy Trust has increased coordination with communities, organizations and other funders to achieve greater impact. Examples of this increased coordination included:
    - Co-funding battery storage paired with solar, co-funding smart thermostats for commercial buildings and collaborating on a ductless heat pump controls study as part of Portland General Electric's Smart Grid Test Bed pilots.
    - Continuing a partnership with Community Action of Washington County to co-fund improvements for customers experiencing low incomes. This co-funding partnership enabled Community Action of Washington County to serve 28 additional customers in 2021.
    - Expanding the residential Community Partner Funding pathway to further promote close collaboration with community-based organizations, community action agencies and other agencies to reach customers who have been underserved by Energy Trust. The pathway significantly increased enrollments, incentive volume and savings, compared to 2020, and the number of active partners more than doubled from 2020 to 2021.

| Progress Indicator | Status as of Year 2 |
|---|---|
| We establish a concept agreement with the OPUC and at least one natural gas utility to assess a joint carbon reduction effort. | |

- Over the past year, Energy Trust has been working on a community-specific concept agreement with a natural gas utility. The carbon reduction project is on hold pending stakeholder and OPUC approval.
- Energy Trust is working with its three natural gas utility funders to support their efforts to comply with the Climate Protection Program's greenhouse gas emissions limits. Staff are exploring with stakeholders a pilot offering for transport gas customers who are not currently eligible for energy efficiency services.

## Focus Area 5: Adapting to change

We enhance our ability to quickly and effectively respond to changes, needs and new opportunities. We know we are making progress to this focus area when we achieve the following progress indicators:

| Progress Indicator | Status as of Year 2 |
|---|---|
| We achieve diversity, equity and inclusion goals for employee hiring and recruitment, and for the board of directors. | |

- Staff continued work on diversity, equity and inclusion recruitment and retention strategies. The percentage of applicants identifying as people of color exceeded the target in 2021, the first year for measurement. While the percent of new hires identifying as people of color didn't reach the 2020 target level, the target was exceeded in 2021.

- Several strategies are in place to diversify the staff applicant and hiring pool, including inviting members of the Diversity Advisory Council to participate in hiring panels, ensuring candidates of color are included through the hiring process and requiring members in all hiring panels to take implicit bias training.
- The board began work to set diversity, equity and inclusion goal(s) by forming an ad-hoc board DEI committee. In addition, the board incorporated diversity, equity and inclusion into its recruitment strategy to attract diverse applicants for two positions that opened on the board in quarter four 2021.

| **Progress Indicator** | **Status as of Year 2** |
|---|---|
| Annual surveys indicate that staff is significantly aware of how annual goal setting, business planning and prioritization enable flexible resourcing of existing and new initiatives. | |

- For two years, the organization has surveyed staff every six months to assess progress toward improving organizational flexibility, adaptability and nimbleness.
- Survey results indicate the organization is making progress to quickly and effectively respond to change. Survey results also highlight a need for further focus on re-prioritizing work as new opportunities and challenges emerge, clarifying roles when making complex decisions and moving quickly to explore innovative new ideas.
- Projects and activities pursued in 2021 to enhance the organization's ability to quickly and effectively respond to changes and new opportunities included:
    - Re-structured multiple internal teams to adapt to current and forecasted business needs.
    - Delivered change management training.
    - Promoted adoption of a standard methodology for decision making.
    - Improved business planning to better align staff resources to areas that are growing in volume or complexity, including cross-organizational efforts like natural disaster response and expanded outreach to communities of color.

# APPENDIX 5: Renewable resource development targets

## A. Purpose of project development assistance

Energy Trust provides project development assistance and installation incentives for projects that will generate renewable electricity from hydropower, biopower, municipally owned community-scale wind and geothermal resources.

The primary purpose of project development assistance is to increase the number of distributed renewable energy generation projects in Oregon by lowering early-stage development barriers and financial risk. Through project development assistance, Energy Trust builds a pipeline of potential projects that have achieved critical pre-construction activities, including technical and financial assessments. Development assistance also prepares proposed project owners to apply for Energy Trust installation incentives and other sources of financial support. The early-stage analyses delivered through development assistance, such as feasibility studies, build and reinforce Energy Trust's awareness of market factors and other considerations important for supporting distributed renewable energy resources while helping individual projects leverage other incentives, construction services and long-term financing.

Applications for project development assistance must be received and approved by Energy Trust prior to the start of the proposed development activity. Project development assistance incentive funds are provided as a reimbursement following completion of the activity and proof of full payment to all contractors. Incentive funding typically equates to 50% of the project activity cost, up to a maximum of $200,000 per project. Project proponents have a significant financial stake in development activities, helping ensure that activities are necessary and fiscally prudent. Common examples of project development activities include feasibility and design studies, feedstock studies, irrigation district modernization technical investigations and assessments, and transmission and interconnection studies. In addition to this assistance, Energy Trust supports customers and markets through studies and offering expertise for community planning. In 2021, staff conducted a study of hydropower potential at municipal pressure reduction valve sites. Energy Trust is also supporting Wallowa County in its energy planning effort which is expected to build the project pipeline.

While project proponents using any eligible technology may apply for project development assistance incentives, staff focus most outreach efforts in two key areas:

- Electricity generation from the combustion of biogas, which is created by the anaerobic digestion of organic material at water resource recovery facilities and businesses that manage organic materials (such as breweries).
- Hydroelectric projects made possible from the modernization (i.e., piping) of irrigation water delivery infrastructure (canals, ditches and laterals) by irrigation districts.

## B. Barriers to project development

Energy Trust's project development assistance incentive offer is designed to address development barriers and challenges. In 2021, barriers to projects increased significantly due to the second year of the COVID-19 pandemic, higher professional services costs and disaster events. These barriers were present for some development assistance activities, often slowing customer decision-making and the ability to move forward, even with activities such as feasibility studies. The following summarizes barriers encountered in 2021:

- **COVID-19 pandemic and other pressures on communities.** The second year of the COVID-19 pandemic led to slowed decision-making for communities, changed priorities and supply chain issues. While communities are still interested in renewable energy, particularly for resilience, their ability to move studies ahead was greatly slowed by the need to focus their limited resources on more pressing public resource demands. This was magnified by economic uncertainty and constrained municipal budgets as well as wildfire events in Oregon.

- **Market conditions for distributed renewable energy generation in Oregon continue to be challenging.** At all stages of the development process, project owners face poor market fundamentals, including persistent low avoided cost rates, high inflation causing increasing material and labor costs, and diminished state and federal incentives. This has led to a long-term chilling effect for custom renewable energy project development. Utility interconnection for small-scale renewables continues to be difficult, time consuming and increasingly costly. This continues to reinforce project development assistance as an essential tool to continue to attract investment in projects in Oregon.
- **Early-stage development capital is scarce and high risk.** Investing financial resources in renewable energy project development with above-market costs is often regarded as high risk. Investors are reluctant to commit funds into projects with unclear technical or financial viability, especially when a project is likely to have a lengthy return on investment. Without early-stage funding, a project cannot advance to the point where the risk is reduced. By providing early-stage funding, Energy Trust builds a pipeline and helps move projects forward, enabling them to attract additional financing and decide to proceed with construction. On the other hand, early-stage assessments may also help inform the market if a project is determined to not be technically or financially viable. Energy Trust helps project owners reach that point with less financial exposure.
- **Project proponents whose primary business is not energy often encounter difficulties navigating the stages of project development.** Energy Trust works with many project proponents (e.g., municipalities, private businesses, irrigation districts) that are not professional energy developers. Advancing a project through resource characterization, feasibility assessment, financing, permitting and interconnection can be lengthy and difficult. Project development assistance—both financial and technical—helps project proponents navigate these steps in less time and at a lower cost.

## C. Project development assistance activity in 2021 relative to the OPUC performance metric

This report details the specific uses of project development assistance in these areas in 2021. Since 2014, Energy Trust has focused on increasing the deployment of project development assistance incentives to build a pipeline of projects that can apply for installation incentive funds.

**Summary of project development assistance activity in 2021**

| Focus areas | Projects in pipeline | Total funds spent in 2021 | Funds dedicated in 2021 for spending in 2022 |
|---|---|---|---|
| **Focus area 1: Biogas** | 3 | $0 | $378,996 |
| **Focus area 2: Irrigation hydropower** | 14 | $368,658 | $183,281 |
| **Outside focus areas** | 11 | $318,315 | $299,784 |
| **Total** | 28 | $686,973 | $862,061 |

The 2021 Oregon Public Utility Commission (OPUC) performance measures for Energy Trust include metrics related to project development assistance:

> *For project and development assistance (part 1), deploy at least $1.37 million in non-solar project development assistance incentives. Maintain a non-solar project development assistance pipeline in excess of 25 projects. Report number of projects served, total dollars spent and summarize project progress through development stage.*

In 2021, the Other Renewables program spent $686,973 in non-solar project development assistance incentives. About 54% of funds spent involved irrigation hydropower projects, with the remainder spent on activities including

design of a large-scale woody biomass energy project, a hydro-turbine feasibility study at a municipal water delivery pressure reduction valve and energy planning for Wallowa County. No development assistance funding was spent on biogas energy projects in 2021. The program served 28 projects in 2021, exceeding the benchmark for maintaining a pipeline of non-solar project development assistance incentives.

Spending in 2021 was lower than forecasted for several reasons:

- Due primarily to COVID-19, decision-making by municipalities and irrigation districts slowed considerably. This was exacerbated by other issues such as response to wildfires.
- Capacity issues slowed decision-making by several irrigation districts, leading to lower enrollment and less spending by those already enrolled. Many of the districts without these issues have already enrolled and accomplished significant modernization planning. Those remaining are more likely to have slower decision timelines, resulting in a need to adjust our methods of forecasting irrigation modernization spending.
- Several districts that enrolled in the Irrigation Modernization Program were in parts of the state where no hydropower project potential was identified, necessitating that these districts find other sources of funds for their modernization planning. This led to Energy Trust spending less than expected.

In many cases, customers decided to move forward with project development assistance activities later in the year, which will result in 2022 spending. In 2021, staff also completed and spent $73,000 on a pipeline-building study of hydropower potential at pressure reduction valve sites in municipal water systems and spent $21,000 out of a commitment of $106,000 for Wallowa County's energy planning initiative.

In June 2021, staff shifted unspent project development assistance dollars to the Solar program, allowing the Solar program to respond to a very active residential market for both market-rate solar projects and Solar Within Reach for low- and moderate-income customers. The shift in dollars across programs enabled the sector to exceed 2021 generation goals.

In 2022, staff will monitor project development assistance spending monthly and require monthly reports on irrigation modernization spending and follow-up discussions with irrigation modernization contract organization, Farmer's Conservation Alliance, about forecasts for the year. Staff will make a decision in June 2022 about whether there will be unspent funds that should be shifted to other programs. This decision will be revisited and updated in August and October.

Following is a description of project development activities in 2021 in detail.

## D. Focus area: Electricity generation from biogas

**Biogas projects supported: 3**

**Milestones met:**

- Organic material recovery feasibility assessments
- Municipal post-commercial food waste processing design

Oregon's businesses and municipalities are obligated to manage and safely dispose of significant volumes of organic material. As Oregon's population grows, the volume of organic material requiring processing and disposal increases as well. Organic waste material, managed daily by food processors, breweries and municipal water resource recovery facilities, are costly to manage and transport and may pose human health risks. Traditional methods of safely managing these materials include land application and landfilling, and in the case of food waste, conveyance to livestock operations.

With recent technological advancements, these materials can serve as a valuable biogas feedstock. Biogas, about 60% methane by volume, is a well-recognized renewable energy resource that can be combusted to serve onsite thermal energy needs, used as a fuel for combined heat and power systems (cogeneration), or conditioned further and compressed for vehicle fuel or injected into existing natural gas pipelines as renewable natural gas.

In 2021, a 600-kW cogeneration project reached commercial operation at Water Environment Services Tri-City water resource recovery facility. This combined heat and power system uses biogas from the anerobic digestion of municipal wastewater solids to offset 40% of the plant's electric load and most of its thermal load. Energy Trust provided Water Environment Services with a $1.8 million incentive to offset the above-market costs of this renewable energy resource as well as early-stage project development assistance for design.

## E. Focus area: Irrigation hydropower

**Irrigation modernization projects supported: 14**

**Milestones met:**

- Feasibility studies
- Compilation and evaluation of information on existing water use and infrastructure
- Evaluation of stakeholder needs
- Evaluation of water and energy conservation potential
- Evaluation of environmental benefits and water quality impacts
- Evaluation of hydroelectric potential
- Evaluation of economic impacts
- Development of system optimization plans

Energy Trust supports several types of irrigation hydropower projects, which are categorized by customer type and process used. Staff see technically and financially viable hydropower opportunities among irrigation districts, other agricultural water suppliers such as ditch companies, and farms where irrigation water is delivered to an individual user. Energy Trust's irrigation modernization work provides a comprehensive structure for irrigation districts and other agricultural water suppliers to assess hydropower potential and identify additional water delivery system improvements and benefits.

Much of Oregon's agricultural water is delivered to farms by irrigation districts or other water providers using aging, open canal systems. The conveyances were typically constructed more than 100 years ago, which lose significant quantities of water to seepage and evaporation. They are ripe for modernization, which would derive lasting energy and water conservation benefits, and create additional opportunities for agricultural security, rural prosperity, drought resiliency and environmental improvements.

Hydropower projects using irrigation water have been a focus for Energy Trust since 2010. Despite challenging renewable energy market conditions, these types of projects remain viable due to the wide range of non-energy benefits that modernized irrigation systems can provide, substantial grants from state and federal agencies to offset the cost of piping and the concerted efforts by irrigation district managers and agricultural producers.

Modernizing an irrigation district is complex. A significant modernization milestone is the replacement of open canals with pipes, which saves water by eliminating seepage and evaporation. Irrigation canals use gravity to keep water flowing. Once the open system of canals and laterals are piped, the water in the pipe is pressurized by gravity, allowing irrigators to remove the pumps they formerly needed to lift and convey water to crops, thereby reducing energy use and maintenance costs. Pressurized water may also enable additional upgrades to more water-efficient on-farm irrigation systems. Surplus water pressure can be used to generate hydropower, with revenues from the sale of renewable electricity helping to finance project implementation.

The Irrigation Modernization Program provides irrigation districts and the farmers they serve a one-stop shop to navigate complex agricultural priorities, regulatory requirements, funding needs and environmental concerns. Within each district, the irrigation modernization initiative identifies short- and long-term irrigation goals, assesses opportunities and risks, identifies potential stakeholder partnerships, evaluates and communicates the associated energy, economic, ecological and social benefits of modernization, secures project financing and facilitates project implementation.

This nationally recognized effort reduces the cost and time required for project planning and implementation, addresses key regulatory and institutional barriers, leverages federal, state and private funding, and reduces costs for agency, environmental and agricultural program deployment. This initiative builds awareness that modern agricultural water management can help mitigate the impacts of long-term drought on agricultural production and regional watersheds and ecosystems. Irrigation modernization is replicable and scalable, designed to achieve significant energy, agricultural and ecosystem benefits in Oregon and other western states.

In 2021, irrigation modernization assessments were underway at 21 Oregon irrigation districts. These assessments identify the renewable energy, energy efficiency, agricultural, water conservation, environmental and economic benefits associated with modernization. They also characterize various potential project implementation approaches. Each irrigation district will choose the implementation approach that is right for their patrons and unique situation. After a district's board selects a preferred approach, then design, permitting and financing will begin, followed by contracting and construction.

## F. Project development assistance outside of focus areas

**Projects supported: 11**

**Milestones met:**

- Feasibility studies
- Design study
- Hydrologic assessments
- Interconnection system impact study
- Study of hydropower potential at municipal pressure reduction valve sites
- Support for Wallowa County's energy planning process
- Renewable Energy Certification registration costs

Energy Trust supported 11 projects outside the two focus areas in 2021. These projects represent a wide variety of distributed renewable energy generation opportunities, including municipal water supply hydro-turbine feasibility study and design, post-commercial food waste processor design, system impact study and design of a municipal woody biomass fueled based-load power plant.

A municipal pressure reduction valve (PRV) hydropower assessment was also completed in 2021, which identified 17 viable PRV hydropower conversion projects out of 595 assessed sites across 11 municipalities within Energy Trust service area. Energy Trust is working with three municipalities on advancing the most viable projects. In addition, Energy Trust also committed and spent development assistance funds in support of regional energy planning. Using a framework developed by the U.S. Department of Energy, Wallowa Resources is leading an effort to create a replicable community-led energy planning process, which will result in a Community Energy Strategic Plan for Wallowa County.

# APPENDIX 6: NW Natural industrial demand-side management activities

Since 2009, Energy Trust has provided service to NW Natural's Schedule 31 and 32 non-transport customers, funded through a special rate adjustment mechanism rather than through the public purpose charge. Program costs and therm savings for these customers in 2021 are included in the body of this annual report as a portion of NW Natural savings and reported separately below.

| | | Annual savings therms | | Annual actual expenditures | Levelized cost per therm |
|---|---|---|---|---|---|
| Commercial | Existing Buildings | 865,822 | $ | 2,557,080 | 32.8 ¢ |
| | New Buildings | 33,275 | $ | 80,893 | 19.3 ¢ |
| | **Commercial total** | **899,097** | **$** | **2,637,973** | **32.0 ¢** |
| Industrial | Production Efficiency | 1,013,873 | $ | 2,266,196 | 20.9 ¢ |
| | **Industrial total** | **1,013,873** | **$** | **2,266,196** | **20.9 ¢** |
| | **Total** | **1,912,970** | **$** | **4,904,169** | **25.6 ¢** |

# APPENDIX 7: Purpose, goals and background

## A. Purpose statement

We help customers and communities reduce costs and realize additional benefits by saving energy and using renewable resources.

## B. Vision statement

Clean, affordable energy for everyone.

## C. Background

Energy Trust is an independent 501c(3) nonprofit organization funded by and serving Oregon customers of Portland General Electric (PGE), Pacific Power, NW Natural, Cascade Natural Gas and Avista, and Washington customers of NW Natural. Since 2002, we have offered energy efficiency and renewable energy programs and services to customers and communities, including those who own or rent a home or building, product manufacturers, small and large businesses and industries, nonprofit and public organizations, farmers and ranchers.

We invest utility customer funds to deliver benefits from cost-effective energy-efficiency improvements, reduce the above-market costs of small-scale renewable energy generation systems with an emphasis on benefiting customers with low incomes, and support projects that improve the reliability and resiliency of the electric grid. We serve customers in coordination with utilities, community and industry organizations and government agencies. Our work helps ensure a more affordable and sustainable energy future for utility customers and contributes to our local and state economy in positive ways.

We provide information, technical expertise and financial assistance to help people modify their energy usage habits, choose high-efficiency products, invest in energy-efficient construction and install renewable energy projects. Our programs and approaches, range of offers tailored to customers, and collaboration with public agencies and community organizations enable us to provide relevant clean energy solutions as customer and community needs evolve. With our assistance, participating customers derive a range of benefits—lower energy bills, greater comfort, improved productivity and lower carbon emissions.

It is our responsibility to ensure all customers can directly benefit from our services, including people with low and moderate incomes, communities of color and rural communities. Since 2019, Energy Trust has developed annual diversity, equity and inclusion plans and goals to improve and enhance offerings for customers we have historically underserved.

As a steward of utility customer dollars, we consistently maintain low administrative and program support costs to ensure the majority of public purpose charges and ratepayer funds flow back to customers in the form of incentives, services and education. We competitively bid our program management and delivery contracts, ensuring competitively priced and effective services are provided. For most programs, Energy Trust leverages specialized local trade and program ally businesses—many of which employ 20 or fewer staff—that already serve customers in the marketplace. We support and leverage a statewide network of trade ally contractors, allied professionals and participating retailers that are familiar with Energy Trust incentives. By connecting customers directly to this network, Energy Trust helps keep costs low, supports our region’s energy services sector and sustains opportunities in the areas we serve.

We are led by an independent board of directors whose members volunteer their time and expertise. Our work is also shaped by advice from three advisory councils comprised of stakeholders and volunteers. We strive to be inclusive and transparent by holding open meetings and publishing online meeting agendas, notes, independent

third-party program evaluations, draft and final budgets and action plans, reports and annual audited financial statements.

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

# APPENDIX 8: Board of directors, board development guidelines; advisory councils and meetings

## A. Board of directors

**PRESIDENT—Melissa Cribbins**, Coos Bay, is a Coos County Commissioner and attorney. Prior to her election in 2012, she worked for the Coquille Indian Tribe as in-house counsel for six years. Before Melissa became an attorney, she worked for the city of Spokane and Eugene Water and Electric Board in the field of water quality. She is a member of the Oregon State Bar, the Washington State Bar and is active in many organizations in Coos County and statewide. She is a graduate of Portland State University and Gonzaga University. *Melissa has served as president since February 2020.*

**VICE PRESIDENT—Henry Lorenzen**, Pendleton, has a resume that spans working as a partner at Corey, Byler, Rew, Lorenzen and Hojem law firm to running his family's 4,000-acre wheat farm. From 2002 to 2018, he served on the Northwest Power and Conservation Council, which develops a regional power plan and fish and wildlife program. He also served on the Oregon State Board of Higher Education, Oregon Fish and Wildlife Commission, Oregon Environmental Quality Commission, and on the boards of Oregon Public Broadcasting and the Oregon Historical Society. Henry's education includes a law degree from Lewis & Clark Law School, a master's degree in business administration from Harvard University and a bachelor's degree in electrical engineering from Oregon State University. He is a certified professional electrical engineer. *Henry has served as vice president since February 2020.*

**SECRETARY—Mark Kendall**, Salem, has more than 35 years of experience in energy management and renewable resource development in Oregon. Prior to founding his own consultancy, Kendall Energy, in 2009, he spent 19 years with the Oregon Department of Energy working in commercial and industrial energy management policy, including serving as the governor's appointee to the Northwest Energy Efficiency Alliance board from 2001 to 2006. Before working for the state, he spent 11 years with the Eugene Water and Electric Board. He also served on the Oregon Low Carbon Fuel Standard Advisory Committee and facilitated the 2009 Industrial Greenhouse Gas Reduction subcommittee of the Oregon Global Warming Commission. He received his bachelor's degree from Linfield College with an emphasis in communications and energy management and his master's degree in organizational development from the Leadership Institute of Seattle City University. *Mark has served as secretary since February 2018.*

**TREASURER—Susan Brodahl**, Portland, is a senior vice president in the Portland office of Heffernan Insurance Brokers as well as an owner of Heffernan Group. Heffernan Group has more than 400 employees and is ranked in the top tier of all privately held brokerages in the country. Susan believes in a creative approach to insurance using a risk funding model. Susan is a frequent featured speaker at regional and national conventions and has been published in various trade and mainstream journals. She has been awarded the Lifetime Achievement Award from the Painting and Decorating Contractors of America and has an economics degree from Willamette University. *Susan has served as treasurer since February 2018.*

**Erik Andersson**, Salem, brings to the board an understanding of how renewable energy and energy efficiency efforts can be leveraged into a community's economic development strategy, particularly in rural areas. He is president of SEDCOR, or Strategic Economic Development Corporation, an economic development nonprofit with more than 450 members in Oregon's Mid-Willamette Valley. He previously served as economic development manager for Tacoma Public Utilities in Tacoma, Washington, where he developed the utility's first economic development strategic plan, and as economic development manager for Pacific Power. Erik served under former Gov. Ted Kulongoski as regional coordinator for economic revitalization in the Willamette Valley and central part of the Oregon Coast. He has a bachelor's degree in agricultural economics from Cornell University and a master's degree in business administration from McGill University. *Erik joined the board in February 2020.*

**Ernesto Fonseca**, Portland, is the chief executive officer of Hacienda, an Oregon community development corporation and social enterprise that advances the livability, health and economic progress of underserved communities in the Pacific Northwest. He has dedicated his career to the development of high quality, affordable housing and social services in Mexico and the United States. Ernesto brings experience in community development, housing and energy access from his time working with the Housing Authority of Maricopa County and the city of Avondale, and Arizona State University. He holds a master's degree in energy performance and climate responsive architecture and a doctorate in environmental design and planning from Arizona State University. *Ernesto joined the board in May 2018.*

**Lindsey Hardy**, Bend, is the program director of the Bend Energy Challenge, a program of The Environmental Center. Before that, she was the outreach director at Sunlight Solar Energy. She sat on the steering committee of the High Desert branch of the Cascadia Green Building Council for three years and planned Central Oregon's Green and Solar Tour. As an AmeriCorps volunteer with the University of Oregon's Resource Assistance for Rural Environments, she oversaw the Solarize Pendleton campaign, helping neighborhoods benefit from efficiency of scale in residential solar installations. She has a bachelor's degree in environmental studies from Ithaca College. *Lindsey joined the board in May 2015.*

**Eric Hayes**, Beaverton, is the state organizing coordinator for the International Brotherhood of Electrical Workers. He engages and organizes electrical workers to achieve better wages, pension, insurance and training. With 23 years at IBEW, Eric's multiple roles included recording secretary, vice president and president of Local 48. During this time, Eric served as a trustee of the Edison Pension Trust, Harrison Health Trust and the Apprenticeship Trust. He was also president of the Electrical Minority Workers Caucus Portland Chapter, which promotes minorities and women in IBEW. *Eric joined the board in October 2018.*

**Elee Jenn**, Newberg, is principal marketing and business development manager at Energy Performance Engineering LLC in Newberg. She helps building owners construct and maintain high-performance energy-efficient facilities through system commissioning and building control services. Many of Energy Performance Engineering's clients are schools, colleges and governments, including Portland Community College in Newberg. An accredited Leadership in Energy and Environmental Design professional, Elee holds a master's degree in analytical chemistry and a bachelor's degree in chemistry. *Elee joined the board in October 2018.*

**Alexia Kelly**, Hood River, works at the intersection of policy and finance to accelerate the transition to a zero-carbon economy. Alexia is currently director of Net Zero + Nature at Netflix where she leads the company's efforts to reduce, retain and remove carbon, implements internal emission reduction strategies and leads investment strategy for nature-based solutions. Over her 15-year career, she has held leadership roles in government, nonprofits and the private sector, including as a senior climate change adviser and foreign service officer with the U.S. Department of State. At the State Department she led an initiative on low emissions development across more than 25 countries, 10 federal agencies and more than $800 million in climate change mitigation funding. She also served as the lead U.S. negotiator on emissions trading to the United Nations Framework Convention on Climate Change and represented the U.S. to multiple World Bank funds. She was a member of Energy Trust's Renewable Energy Advisory Council and is an appointee to the Hood River County Energy Council. Alexia has a bachelor's degree in planning, public policy and management and master's degrees in public administration and community and regional planning from the University of Oregon. *Alexia joined the board in February 2020.*

**Alan Meyer**, Salem, is a retired director of energy management for Weyerhaeuser Company, a diversified forest products manufacturing company. In that role, he was responsible for coordinating energy management activities at numerous manufacturing facilities throughout North America. Prior to joining Weyerhaeuser, he was director of energy for Willamette Industries, holding similar responsibilities. He also worked for PacifiCorp as the Oregon large industrial accounts manager. He previously served on the board of directors of Industrial Customers of Northwest Utilities, a nonprofit advocacy organization focused on energy policies. He has also served for more than 20 years on the city of Salem Morningside Neighborhood Association board. *Alan joined the board in September 2005.*

**Roland Risser**, Washington County, has extensive knowledge of residential, commercial and industrial energy efficiency program design, development and implementation, including low-income energy efficiency programs. He recently resumed support for the U.S. Department of Energy after having retired from DOE where he was the director of the Building Technologies Office and then deputy assistant secretary of Renewable Power. His decades of energy experience include multiple leadership positions at Pacific Gas and Electric and serving on national boards for the American Council for an Energy-Efficient Economy and the Consortium for Energy Efficiency. Roland earned a master's degree in biology from California Polytechnic State University, a bachelor's degree in biology from the University of California at Irvine and graduated from the Haas School of Business at University of California at Berkeley. *Roland joined the board in October 2018.*

**Anne Haworth Root**, Medford, is co-owner and general manager of EdenVale Winery and Eden Valley Orchards, a destination winery, historic pear orchard and events center in southeast Medford. A second tasting room, Enoteca, is located in Ashland. An award-winning entrepreneur, Anne developed the concept and helped found the 57 Oregon Wine and Farm Tour, an agritourism coalition of Southern Oregon wineries, historic farms and specialty food and cheese companies. She is a graduate of Southern Oregon University, where she was student body president and chair of the Oregon Student Lobby. She pursued postgraduate studies in the Master of Commerce program at Wollongong University in Australia. *Anne joined the board in December 2011.*

*Ex-officio: Oregon Public Utility Commission*

**Letha Tawney**, Portland, is one of three Oregon Public Utility Commissioners and was appointed by Gov. Kate Brown in June 2018. Prior to this, Letha worked for the World Resources Institute as an expert on clean energy development and large customer buying strategies. As the Polsky Chair for Renewable Energy, she led the Institute's work on propelling innovation in business and regulatory models in the power sector. Now Letha represents Oregon on the Electricity and the Critical Infrastructure committees for the National Association of Regulatory Utility Commissioners. She also serves on the Energy Imbalance Market Board of State Regulators, engaging closely on Western electricity market development. Letha has a master's degree in public administration from the Harvard Kennedy School and a bachelor's degree in business and computer science from George Fox University. *Letha joined the board as ex-officio in October 2019.*

*Special board adviser: Oregon Department of Energy*

**Janine Benner**, Salem, is the director of the Oregon Department of Energy. She joined ODOE in 2017 as assistant director for planning and innovation and was later made director in February 2018. She provides leadership and policy direction to help the state shape an equitable clean energy transition, protect the environment and public health, and responsibly balance energy needs and impacts for current and future generations. Janine came to ODOE from the U.S. Department of Energy where she served as associate assistant secretary in the Office of Energy Efficiency and Renewable Energy, the largest government funder of clean energy research and development. Before that, she served as deputy assistant secretary in the department's Office of Congressional and Intergovernmental Affairs. Janine also spent 12 years working for U.S. Rep. Earl Blumenauer, first as an energy and environmental policy adviser and then as deputy chief of staff. She grew up in Portland and has a degree in history from Princeton University. *Janine joined the board as special board adviser in April 2017.*

## B. Board development guidelines

Energy Trust's board of directors is a non-stakeholder, volunteer board. It oversees Energy Trust management, provides strategic and policy direction and approves the organization's budget and major expenditures. The board carries out its oversight role collectively and through several committees. The board's bylaws ensure Energy Trust board meetings and other processes are clear, open and accessible to the public.

The Oregon Public Utility Commission grant agreement with Energy Trust calls for the Energy Trust board to include the skills, broad representation and diversity necessary to achieve the nonprofit's purpose and vision. As board openings arise, the board consults community-based organizations, advisory councils, individuals and

collaborating organizations to identify candidates with appropriate experience and knowledge of customers underserved by Energy Trust.

The 2021 board included 13 voting members with background in business, private consulting, government, utilities, trades, nonprofits and higher education. Members are from Bend, Coos Bay, Eugene, Hood River, Medford, Newberg, Pendleton, Salem and the Portland metropolitan area. The board's OPUC ex-officio member is OPUC Commissioner Letha Tawney. Janine Benner, director of the Oregon Department of Energy, has been a special board adviser since April 2017. The ex-officio and special board adviser are not voting members.

All voting board members complete and sign disclosure of economic interest forms each year. The OPUC ex-officio board member and the special adviser from the Oregon Department of Energy do not receive confidential information. Once a year, board and staff members participate in a planning session to review progress and discuss Energy Trust's strategic direction. Board members are supported to undertake ongoing development activities. In addition, board governance and fiduciary responsibility training is provided to new board members in orientation and to all board members in conjunction with the board's annual meetings.

## C. Advisory councils and meetings

The board of directors conducts its work with the input from three advisory councils. The following lists of advisory council members reflect members who served during all or part of 2021. In addition to the council meetings detailed below, Energy Trust held a 2022 Organizational Goal Setting Workshop in April and a 2022 Draft Budget Workshop in October for the three councils. The budget workshop included the board of directors and both workshops were open to the public.

**Conservation Advisory Council**
Jeff Bissonnette, NW Energy Coalition
Warren Cook, Oregon Department of Energy
Kari Greer, Pacific Power
Julia Harper, Northwest Energy Efficiency Alliance
Tim Hendricks, Building Owners and Managers Association
Rick Hodges, NW Natural
Tina Jayaweera, NW Power and Conservation Council
Roger Kainu, Oregon Department of Energy
Anna Kim, Oregon Public Utility Commission
Jess Kincaid, Bonneville Power Administration
Jason Klotz, Portland General Electric
Lisa McGarity, Avista
Kerry Meade, Northwest Energy Efficiency Council
Dave Moody, Bonneville Power Administration
Tyler Pepple, Alliance of Western Energy Consumers
Alyn Spector, Cascade Natural Gas
Becky Walker, Northwest Energy Efficiency Alliance

Board liaisons: Lindsey Hardy, Alan Meyer

| 2021 meeting dates | Major discussion topics |
|---|---|
| **February 17** | Report on findings from individual member outreach, preliminary 2020 results, 2021 goals, business lighting changes and incentive management, New Buildings cost-effectiveness workshops, 2021 state legislative update |
| **May 14** | Measure development and in-progress cost-effectiveness exceptions, update on Manufactured Home Replacement Pilot, update on 2021 business incentives management approach and program changes |

| | |
|---|---|
| **June 16** | Business incentives management, residential sector budget management, wildfire rebuilding support, commercial and industrial performance tracking tool platform, 2022 organizational goals and budget development schedule |
| **August 4** | Exploration of ways to provide cost-effective energy efficiency measures to diversity, equity and inclusion communities, House Bill 3141 passage and implementation |
| **September 15** | Energy savings year-end forecast, preview of draft 2022 action plans, energy efficiency measure and incentive changes, 2022 industrial and agriculture program contract request for proposals |
| **November 17** | Board of directors recruitment, House Bill 3141 implementation update, in-progress Diversity, Equity and Inclusion Plan for 2022, exploring Energy Trust strategic plan focus area 2: Targeted utility partnerships, 2022 budget update, 2022 Residential program management contract request for proposals |

**Diversity Advisory Council**
Susan Badger-Jones, Special projects consultant
Oswaldo Bernal, OBL Media, LLC
Shane Davis, City of Portland
Rebecca Descombes, Native American Youth and Family Center
Charity Fain, Community Energy Project
Terrance Harris, Oregon State University
Dolores Martinez, EUVALCREE
Kheoshi Owens, Empress Rules
Cheryl L. Roberts, African American Alliance for Homeownership
Indika Sugathadasa, PDX HIVE
Huong Tran, Small business owner

Board liaison: Mark Kendall

| 2021 meeting dates | Major discussion topics |
|---|---|
| **January 19** | Director of Energy Programs job description, future Diversity Day topics, topics for future Diversity Advisory Council meetings, collaborative marketing campaign, update on diversity, equity and inclusion board ad-hoc committee, Northwest Energy Efficiency Alliance nomination |
| **February 16** | Welcome new members, project update, program contract management request for proposals, legislation and policies in the works, discussion of organizational goals, discussion of virtual retreat |
| **March 9** | Legislation and policy updates, customer insights study report findings, contracting update |
| **June 15** | Data enhancement project update, 2021 Diversity, Equity and Inclusion Operations Plan, revisions to Diversity, Equity and Inclusion Lens |
| **September 14** | Legislative updates, industry and agriculture request for proposals, 2020 customer insights study goals and objectives, overview of public budget workshop meeting |
| **November 16** | In-progress 2022 Diversity, Equity and Inclusion Plan, supplier diversity initiative, recruitment for Energy Trust's board of directors, 2022 Residential program management contract request for proposals |

**Renewable Energy Advisory Council**
Erik Anderson, Pacific Power
John Cornwell, Oregon Department of Energy
Angela Crowley-Koch, Oregon Solar + Storage Industries Association
Max Greene, Renewable Northwest
Josh Halley, Portland General Electric
Raphaela Hsu-Flanders, Bonneville Environmental Foundation
Andria Jacob, City of Portland
Tess Jordan, Portland General Electric
Anna Kim, Oregon Public Utility Commission
Brikky King, All Pacific Mortgage
Suzanne Leta, SunPower
Oriana Magnera, Verde
Les Perkins, Farmers Irrigation District
Josh Peterson, Solar Monitoring Lab, University of Oregon
April Snell, Oregon Water Resources Congress
Jaimes Valdez, Portland Clean Energy Community Benefits Fund

Board liaisons: Susan Brodahl, Alexia Kelly

| 2021 meeting dates | Major discussion topics |
|---|---|
| **January 21** | 2021 legislative session preview, 2021 solar incentive priorities, Above-market Cost board policy review |
| **March 18** | Oregon Community Solar Program update, Energy Trust 2020 results, Customer Insights Study survey results, legislation update |
| **July 28** | Renewable Energy Advisory Council input for 2022-23 budget and action plan, Solar program priorities, acknowledgement of retiring Director of Energy Programs |
| **September 15** | Draft budget and action plan for 2022-23 |
| **November 17** | In-progress 2022 Diversity, Equity and Inclusion Plan, Solar Ambassadors NREL grant funding, update on House Bill 3141, feedback from low-income carve-out community solar developers, scoping study on municipal hydro potential at water pressure reduction sites, recruitment for Energy Trust's board of directors |

# APPENDIX 9: Impacts on utility peak demand

This appendix provides an annual update on Energy Trust's impacts on utility demand. It describes ongoing and future approaches to work with utilities and other stakeholders to employ distributed energy resources to mitigate peak demand on a systemwide basis for utilities, alleviate local distribution system constraints and lower utility costs for the benefit of ratepayers. This appendix also discusses the impacts energy efficiency and renewable resources have on peak demand and the progress toward further development of methods to quantify and value the impact that peak demand reductions have on utility transmission, supply and distribution systems.

Specifically, this appendix addresses the following purposes:

- Report Energy Trust annual program impacts on peak demand for electric and natural gas utilities. This includes:
    - Expected winter and summer coincident peak capacity contribution estimates from 2021 energy efficiency and solar generation measures.
- Assess data and tools needed to link utility system management objectives to specific Energy Trust actions. These might include:
    - Actionable information about opportunities to avoid specific system investments.
    - Description of methods, including areas of collaboration with utility partners, for linking the areas where investments are needed in demographic and load data for program targeting.
    - Possible enhancements or updates regarding peak impact valuation and measurement used in cost-effectiveness analyses.
- Identify and report on complementary pilots and initiatives that reduce peak demand and meet corresponding grid optimization objectives, developed in coordination with utilities. This includes:
    - Work with utilities to plan where and how Energy Trust programs and measures reduce demand on critical elements of the power delivery system while optimizing co-benefits through coordinated planning.

## A. Report the value of current program impacts on peak demand

Energy Trust helps customers install energy efficiency and renewable generation measures that not only save energy and offset electric and gas loads, but also provide additional benefits to the utility system and to ratepayers. Energy Trust will continue to improve its understanding of how energy efficiency savings and renewable generation provide these additional benefits to utilities in context with utility integrated resource planning and the evolving policy landscape. Energy Trust is incorporating this evolving knowledge into avoided cost benefit calculations to estimate the value of impacts of energy efficiency activities on utilities' peak demand.

**Peak demand reduction estimates from energy efficiency**

For 2021, Energy Trust estimated peak demand reductions from electric and gas energy-efficiency projects by calculating the percent of annual energy savings that occur during the system's peak time periods identified by utilities, and documented and approved by the Oregon Public Utility Commission (OPUC) for use in the calculation of Energy Trust avoided costs via OPUC docket UM 1893.[30] To estimate the portion of electric energy savings in those periods, Energy Trust relied on load profiles from the Northwest Power and Conservation Council's Seventh Power Plan.[31] For natural gas, Energy Trust calculated both peak-day demand reductions and peak-hour demand reductions by relying on peak factors from two sources: Peak day factors were based on electric analogs taken from the Northwest Power and Conservation Council's Seventh Power Plan for several end-uses, and peak day factors for space heat end-use savings were developed by NW Natural. Peak hour factors were also based on electric analogs taken from the Northwest Power and Conservation Council's Seventh

[30] The most recent information on capacity values and calculations used in UM 1893 is available online: https://apps.puc.state.or.us/orders/2021ords/21-476.pdf

[31] https://nwcouncil.app.box.com/s/ph0by9u53vygowx42rms5oytojhdmg5x

Power Plan for several end-uses, and peak hour factors for space heat end-use savings were developed by NW Natural.[32] These factors are used to calculate gas peak reductions by end-use at the measure level.

Energy Trust's and Northwest Energy Efficiency Alliance efficiency programs resulted in the following peak demand reduction estimates for 2021.

**Table 1. 2021 electric system efficiency peak demand reduction estimates (MW) at generator**

| Utility | Summer MW | Winter MW | Total aMW Saved |
|---|---|---|---|
| PGE | 32.75 | 35.99 | 24.20 |
| Pacific Power | 26.51 | 34.76 | 19.79 |
| **Total** | **59.26** | **70.75** | **43.99** |

For gas measures, Energy Trust calculated peak-day and peak-hour natural gas savings, presented in the table below.

**Table 2. 2021 net natural gas system efficiency peak demand reduction estimates (therms)**

| Utility | Peak-day Therms | Peak-hour Therms | Total Therms Saved |
|---|---|---|---|
| NW Natural | 79,877 | 6,003 | 6,162,437 |
| Cascade Natural Gas | 7,197 | 369 | 525,372 |
| Avista | 6,144 | 546 | 408,163 |
| **Total** | **93,218** | **6,918** | **7,095,972** |

**Peak demand reduction estimates from solar electric generation**

Energy Trust estimated 2021 average peak demand contributions from residential and non-residential solar electric projects. Energy Trust estimated average generation from installed solar projects for multiple locations throughout Energy Trust service area during peak hours by using monthly generation profiles for representative project types based on variation caused by shading, tilt, orientation and geographic location. Actual historic or real time peak contributions for each project varies based on time of day and weather. Table 3 shows the average solar generation over the peak period identified by each utility for each season. The figures below show the average daily solar generation profile shape by season and utility.

**Table 3. 2021 solar electric generation peak demand reduction estimates (MW)**

| Utility | Summer MW | Winter MW | Total Generation (MWh) |
|---|---|---|---|
| PGE | 3.49 | 1.19 | 14,318 |
| Pacific Power | 2.17 | 0.71 | 13,406 |
| **Total** | **5.66** | **1.90** | **27,724** |

[32] NW Natural peak factors can be found in Chapter 4 of NW Natural's 2018 IRP on pages 4.7 and 4.8. Available online https://webfrontend-sc-pd.azureedge.net/-/media/nwnatural/pdfs/nwnatural_2018_irp.pdf?la=en&rev=f4f7b91117c94e498d04f5f13ce3b776&hash=73D349C4E84F57B9CE6B10C65F10B789

**Figure 1: Average hourly summer solar generation profile from all 2021 solar installations in PGE service area**

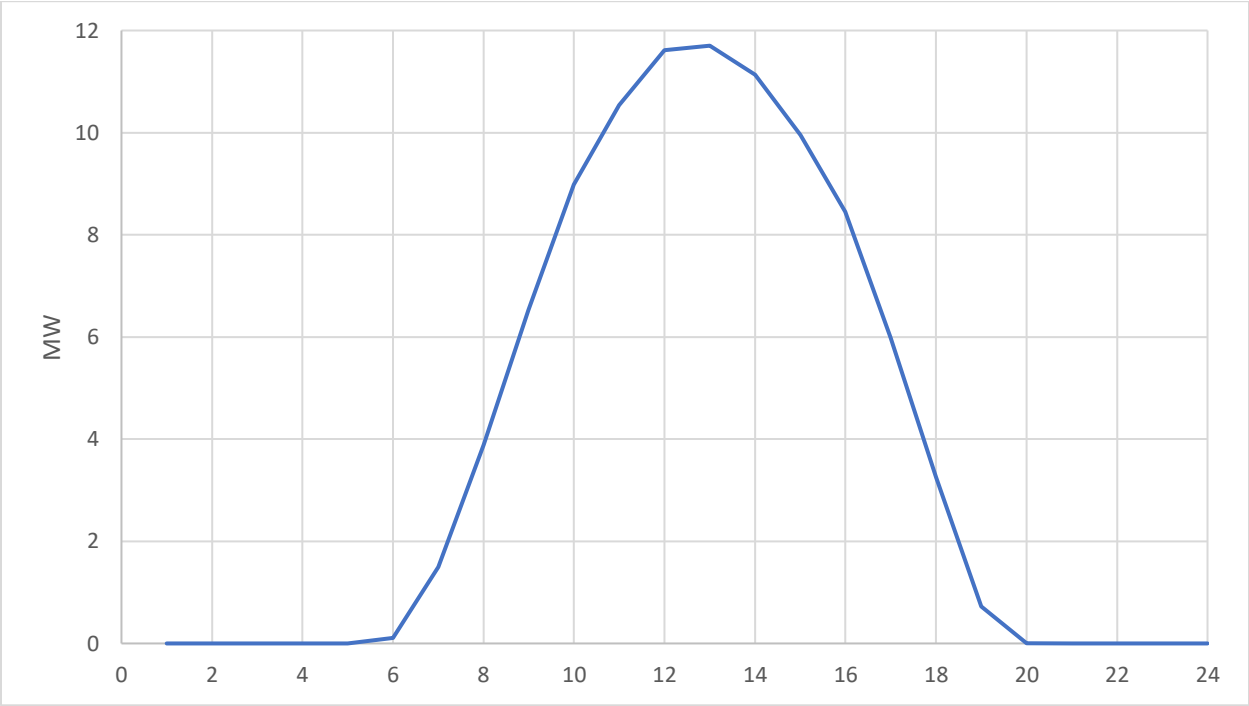



**Figure 2: Average hourly winter solar generation profile from all 2021 solar installations in PGE service area**

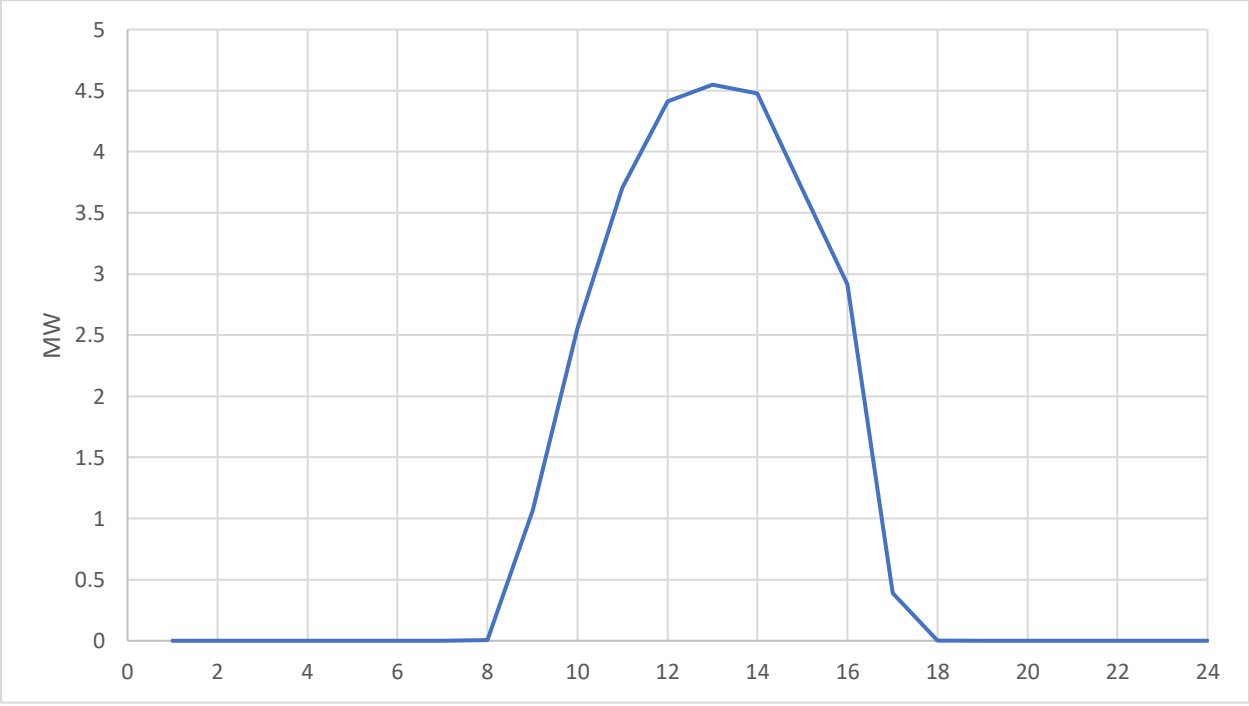



**Figure 3: Average hourly summer solar generation profile from all 2021 solar installations in Pacific Power service area**

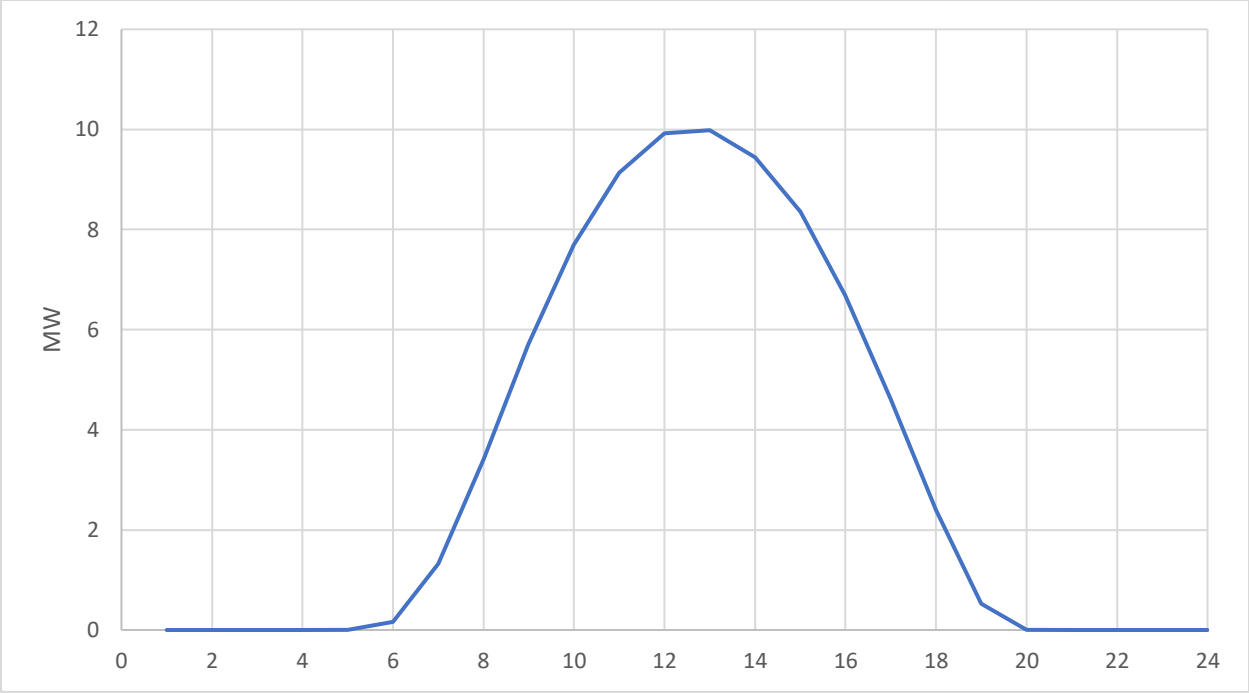
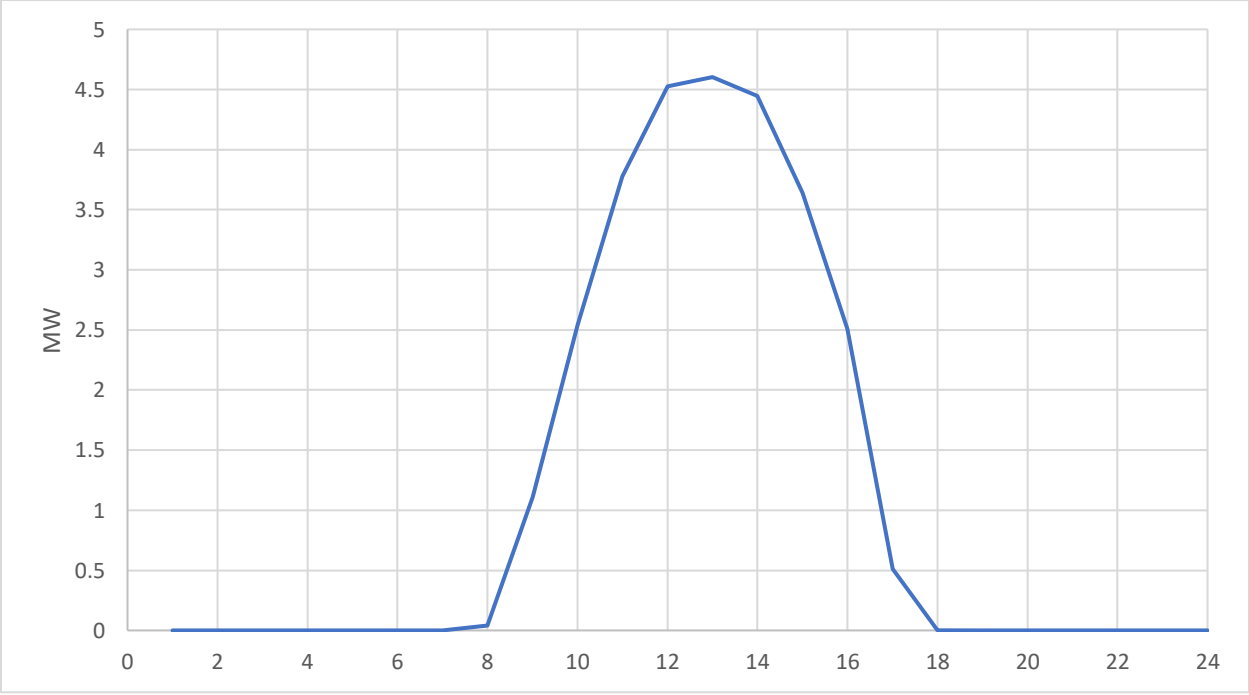



**Figure 4: Average hourly winter solar generation profile from all 2021 solar installations in Pacific Power service area**




The above 2021 tables and figures exclude demand reduction estimates from renewable energy generation projects other than solar electric projects. Energy Trust has not incorporated these impacts into reporting because there are a relatively small number of projects with high degrees of production variability. More work is required to estimate the demand contributions of these projects and Energy Trust will consider doing so in future reporting.

## B. Assess data and tools needed to link utility grid objectives to specific Energy Trust actions

Beginning in September 2018, Energy Trust and Portland General Electric (PGE) partnered to deliver direct installation of smart thermostats for PGE customers. Customers receiving direct installation of smart thermostats are required to be automatically enrolled in PGE's Smart Thermostat Demand Response program. PGE customers can also receive discounts on smart thermostats through the PGE Online Marketplace program. In 2021, the direct installation and online marketplace offerings led to approximately 7,000 smart thermostats installed in homes in PGE's service area. Due to budget restrictions, the direct installation program will be discontinued in 2022.

The Northwest Energy Efficiency Alliance (NEEA) and regional stakeholders continued the End-Use Load Research project in 2021 to help gather meter data for load profile development. While COVID-19 slowed the pace of installations at metering sites during 2021, the project is still ongoing and initial data has been made available for review and analysis. The Northwest has not conducted large-scale studies on how different types of residential and commercial customers use electricity on a daily basis for almost 30 years. The Home Energy Metering Study and the Commercial Energy Metering Study aim to address deficiencies for a number of end-use profiles. The End-Use Load Research project is a key component of Energy Trust's strategy to adopt updated end-use and whole-home load shape estimations when they become available. This study design was informed by a collaborative planning effort conducted by NEEA's partners, including Energy Trust. The main objective of this study is to develop a robust characterization of energy consumption of key heating and cooling measures to support planning and implementation to pursue clean energy goals and support utility information needs. Key benefits include:

- An updated framework to assess the contributions energy efficiency technologies make to reducing utility peak demand.
- A better understanding of how to integrate renewable energy into the grid, increasing reliability as the deployment of distributed generation and new end-use technologies increases over time; and
- Prioritized data by end use for application in a range of utility functions including demand response, load forecasting and resource planning.

## C. Report on Energy Trust activities that help meet grid objectives in coordination with utilities

Energy-efficiency programs help electric and natural gas utilities address demand-related challenges. Energy Trust can provide further benefit to utility systems by increasing the saturation of energy-efficient, demand response-capable equipment (such as internet connected thermostats and heat pump water heaters manufactured with CTA-2045 technology which is a modular communications interface to facilitate communications with residential devices for applications such as energy management), providing additional options for utilities when considering potential demand response programs. Utility demand response programs can use this equipment as a resource in reacting to peak demand events.

Through targeted load management pilot designs, Energy Trust is collaborating with utility partners to offer additional incentives for measures and services that contribute to coincident peak demand reduction. Additionally, Energy Trust's well-established program marketing and outreach efforts, sales channels, contractor connections and customer relationships may prove valuable to utilities in marketing combined efficiency and demand management equipment and service packages. In 2020, the Oregon Public Utility Commission (OPUC) issued guidelines to PGE and Pacific Power to develop distribution system plans for their grid systems. Energy Trust has been tracking developments related to these distribution system plans via OPUC docket UM 2005. Going forward in 2022, Energy Trust expects to work collaboratively with utilities to provide data in support of these plans and to structure related pilots that emerge from these plans. Pending utility identified grid needs, Energy Trust also expects to provide additional efficiency and renewable investments for localized areas to support utility distribution system needs.

**Coordination with Portland General Electric**

**Smart Grid Test Bed**
Energy Trust acts as a representative on PGE's advisory committee for its Smart Grid Test Bed Demand Response pilot. In this role, Energy Trust provides advice on the design of the test bed and feedback on the Phase II pilot, which was approved in 2021. In addition to coordination on the Smart Grid Test Bed, Energy Trust is working with PGE to support the test bed through the development of coordinated marketing arrangements and joint measures.

**Smart Grid Asset Load Management & Optimized Neighborhood (SALMON)**
In 2021, the U.S. Department of Energy awarded a Connected Communities grant to PGE for the Smart Grid Asset Load Management & Optimized Neighborhood (SALMON) project. This project will help transform neighborhoods into virtual power plants while reducing utility bills and avoiding greenhouse gas emissions through helping buildings to get optimized for demand response and grid interactions. Energy Trust helped support the grant process in 2021 and will collaborate with PGE, Community Energy Project, NEEA and the National Renewable Energy Laboratory to implement this project in 2022.

**Smart Inverter Demonstration Project**
As part of the Smart Grid Test Bed Phase II proposal, PGE submitted a budget and outline for a smart inverter demonstration project that included a role for Energy Trust as a design and implementation partner. The demonstration project will take place from January 2022 through December 2024 and will allow PGE to explore the value of distributed solar as an operational grid resource.

**Smart Battery Pilot**
In 2020, PGE launched a residential Smart Battery Pilot designed to provide incentives for 525 residential battery energy storage systems located "behind the meter" in customers' homes. The individual customer-owned systems are combined to create a "virtual power plant" that can be used to provide valuable grid services. The five-year pilot will allow PGE to study how to optimize the use of these batteries to benefit the grid, while ensuring that customers also receive the benefits they want from owning the battery. PGE contracted with Energy Trust to provide implementation support for the PGE pilot and help connect customers and Solar trade ally contractors interested in participating in this program. As part of this pilot, Energy Trust is providing subject matter expertise, support for customer outreach, trade ally education, quality management, application review and upfront incentive processing. Supply chain constraints have impacted the number of projects installed under pilot program however customer interest has increased significantly. In 2021, Energy Trust received 250% more application submissions that included battery storage than the year before. In 2022, we expect an increase in the number of installations due to that interest as supply chain constraints begin to resolve.

**EPS Construction "Energy Smart Home" Offers**
In 2020, Energy Trust finalized research and prospective plans to integrate distributed energy resources into residential new construction programs to deliver benefits to the grid. This work revealed that, in the future, distributed energy resources will deliver significant value for residential customers and utilities beyond energy efficiency and solar generation. The research suggested that program and installation costs of distributed energy resources could be reduced if distributed energy resources were considered and adopted during the construction of a home as opposed to being retrofitted into the home at a future date. Measures identified during this research as valuable included grid interactive water heaters, smart thermostats, solar + smart inverters or solar + battery storage, electric vehicle chargers and others. In 2020 Energy Trust rolled out the Energy Smart Home package providing an additional incentive for new homes that incorporated specific "energy smart" measures. In 2021, Energy Trust simplified the Energy Smart Home package for 2022 to make it more accessible for builders. Additionally, Energy Trust is studying the integration of solar + storage in new construction as it relates to energy resilience and exploring coordination with PGE on a project in the Smart Grid Test Bed.

**Targeted load management pilots with utilities**

In 2021, Energy Trust and NW Natural finalized the approach for the third and final phase of a pilot project to determine a value per peak therm that NW Natural can use to vet energy efficiency against other supply side resources to address future location-specific capacity constraints. This originated in 2019, when NW Natural filed the pilot proposal with the OPUC as an amendment to their 2018 Integrated Resource Plan. The proposal included pilot design, a research hypothesis, key research questions and the overall objectives of the pilot. The pilot area was established in NW Natural service area in Cottage Grove and Creswell, Oregon. A pre-pilot baseline was established for the area based on an average of peak therm and therm savings and project counts during the five years preceding the pilot period. Outliers were addressed by taking a three-year average of the outlier year and the years before and after the outlier year and applying that number as a replacement.

Phase 1 of the pilot completed in July 2020. Phase 1 focused on increasing awareness of Energy Trust and Energy Trust offerings in the targeted area through increased marketing and outreach. While slightly more projects (99 vs 94) were implemented in the pilot area during the first phase than during the baseline period which preceded the pilot, the peak therms saved per project were lower in Phase 1. Therefore, the peak savings realized during Phase 1 did not exceed the peak savings observed during the baseline period. It is believed that this result is related to the COVID-19 pandemic which changed program priorities to focus on impacts on the market at large and also impacted customer behaviors.

During phase 2 Energy Trust promoted increased incentives (up to current cost-effectiveness caps) through targeted marketing and outreach. This resulted in peak therm and annual therm savings that were respectively 90% and 61% greater than were observed during the established baseline period.

Energy Trust is implementing phase 3 of the project from Aug. 1, 2021 - July 31, 2022, under a funding agreement with NW Natural. Energy Trust is providing incrementally increased incentives (above what is cost-effective statewide) based on the application of local avoided cost values for subjecting pilot measures for cost-effectiveness screening using the utility cost test. Energy Trust is continuing to promote the pilot offerings through targeted marketing, outreach and participation agreements with trade allies serving the local area.

# APPENDIX 10: Higher-value solar applications

In 2021, in addition to standard program offerings, the Solar program focused on activities to improve equitable access to solar for lower-income customers and to support innovative applications of solar that provide greater value to communities or the grid. This appendix provides information and context on higher-value applications of solar, market barriers and trends.

## A. Advanced solar systems

Solar systems paired with "smart" inverters or "smart" battery storage can provide greater benefits to customers and the grid compared with conventional solar. Energy Trust defines advanced solar systems as those that integrate photovoltaics with advanced inverters, advanced battery energy storage systems and/or complementary flexible loads.

**Advanced "smart" inverter adoption**

The Solar program collects inverter manufacturer and model data for each system installed and has identified "smart" models capable of advanced functions that can be remotely enabled and programmed via an internet connection to utilize those capabilities. Table 1 summarizes adoption of these inverter models compared with full program volume. Other models may also have latent advanced functions, so this is likely a conservative estimate. In 2022, Energy Trust will begin working with PGE on a Smart Inverter Demonstration project as part of the Smart Grid Test Bed pilot to help the utility gather lessons on the benefits that smart inverters can provide the grid.

**Table 1. Energy Trust solar installations with advanced "smart" inverters**

| Year installed | Installation with advanced inverters[33] | Total solar installations | % of total |
|---|---|---|---|
| 2008 | 0 | 253 | 0% |
| 2009 | 14 | 475 | 3% |
| 2010 | 81 | 1,198 | 7% |
| 2011 | 180 | 1,329 | 14% |
| 2012 | 348 | 1,242 | 28% |
| 2013 | 173 | 881 | 20% |
| 2014 | 247 | 1,291 | 19% |
| 2015 | 448 | 1,801 | 25% |
| 2016 | 508 | 1,750 | 29% |
| 2017 | 758 | 1,795 | 42% |
| 2018 | 1,129 | 1,787 | 63% |
| 2019 | 1,059 | 1,357 | 78% |
| 2020 | 1,345 | 1,812 | 74% |
| 2021 | 2,120 | 2,905 | 73% |
| **Total** | **8,410** | **19,876** | **42%** |

[33] Table 1 counts only installations that have advanced inverters that are capable of being remotely updated and programmed to provide grid services. Other installations may have inverters that can be updated manually.

**Solar with advanced battery storage adoption**

The Solar program has seen growing customer interest for pairing battery storage with a solar system.[34] Table 2 summarizes solar + storage installations in the program through 2021. The number of completed projects has remained relatively flat between 2020 and 2021; however, that is more of a reflection of supply chain constraints than customer demand. In 2021, Energy Trust received 250% more application submissions that included battery storage than the year before. Since 2016, an increasing number of solar + storage applications have specified equipment that could be categorized as advanced battery energy storage systems capable of providing additional benefits to the customer and the utility grid beyond backup power during an outage. Starting in 2020, solar + storage adoption was bolstered by two additional incentives that were made available: the Oregon Department of Energy's Solar + Storage Rebate and a PGE Smart Battery Pilot. Energy Trust plays an implementation partner role in the PGE Smart Battery Pilot, which launched in 2020 and is planned to continue through summer 2025.

**Table 2. Energy Trust solar + storage installations**

| Year installed | Installation with battery storage | Total solar installations | % of total |
|---|---|---|---|
| 2008 | 4 | 253 | 1.6% |
| 2009 | 2 | 475 | 0.4% |
| 2010 | 6 | 1,198 | 0.5% |
| 2011 | 4 | 1,329 | 0.3% |
| 2012 | 8 | 1,242 | 0.6% |
| 2013 | 2 | 881 | 0.2% |
| 2014 | 6 | 1,291 | 0.5% |
| 2015 | 2 | 1,801 | 0.1% |
| 2016 | 10 | 1,750 | 0.6% |
| 2017 | 42 | 1,795 | 2.3% |
| 2018 | 66 | 1,787 | 3.7% |
| 2019 | 34 | 1,357 | 2.5% |
| 2020 | 72 | 1,812 | 4.0% |
| 2021 | 73 | 2,905 | 2.5% |
| **Total** | **331** | **19,876** | **1.7%** |

## B. Equitable Solar Initiative

Despite continuing cost declines and increased availability, solar remains out of reach for many households. The Equitable Solar Initiative acknowledges that historic participation in Energy Trust's solar offers has not accurately represented Oregon's demographics. The objective is to foster a more equitable solar market by designing incentive offers, program strategies and solutions to support people of color, people with low- and moderate-incomes and people in rural communities to expand the benefits of solar to all utility customers.

From 2017 through early 2019, Energy Trust convened a low- and moderate-income solar work group that included public entities, community-based organizations and industry representatives. The group developed strategies to address market barriers and work toward a more equitable distribution of solar projects. Many of the organizations involved in the solar work group are still engaged with Energy Trust through the Diversity Advisory Council or other more direct program engagement. The Solar program continues to implement feedback from the work groups to develop new offers to support projects that benefit low- and moderate-income customers.

[34] Energy Trust does not have a storage incentive offering. Customers who choose to install an integrated solar + storage system are eligible for a standard solar incentive and the federal Investment Tax Credit. Some customers in 2020 were able to reserve an Oregon Solar + Storage rebate before funding ran out. Additionally, PGE customers with qualifying equipment may qualify for on-bill rewards or an instant rebate through PGE's Smart Battery Pilot.

Here are some examples:

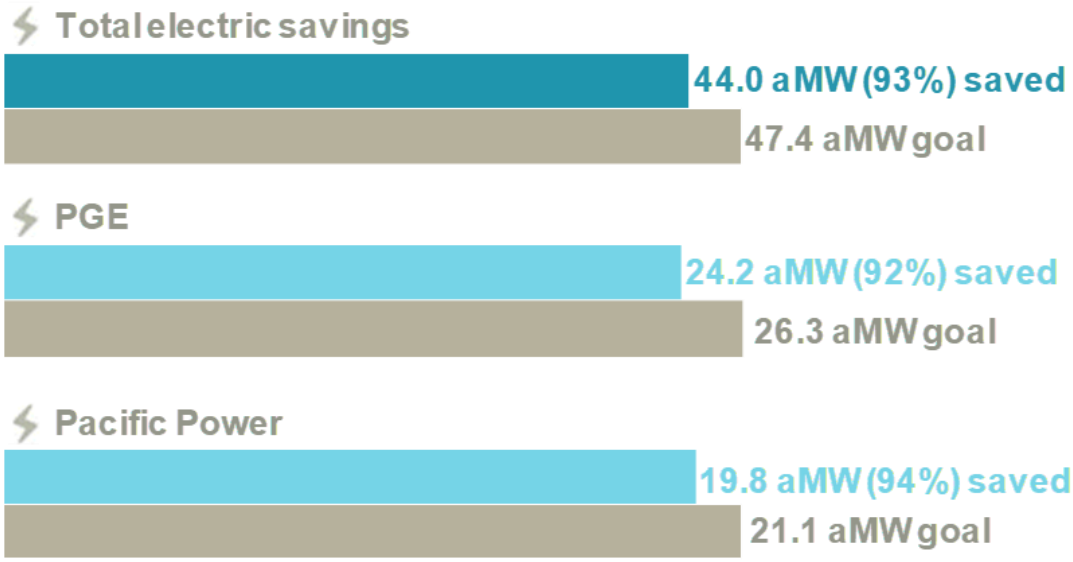
- 2021 was the second full year that the income-qualified incentive for moderate-income homeowners called Solar Within Reach was available. The offer provides a higher incentive amount for moderate-income homeowners who may have less ability to use tax incentives or have higher financing needs. In 2021, the program received 678 Solar Within Reach applications and 434 projects were completed, with $3,147,274 paid in Solar Within Reach incentives.
- In 2020, the Solar program began offering development assistance incentives for small or public and nonprofit projects applying to the Oregon Community Solar Program. To qualify for the development assistance, applicants must show how the project will bring additional benefits to low-income or other underserved customers. The program received 14 enrollments for development funds through 2021 and paid $51,392 incentives so far in support of qualifying community solar project development. In 2021, the program began offering technical assistance for program managers interested in pursuing projects that bring additional benefits to low-income or other underserved customers.
- Starting in 2020, the Solar program made increased incentives available for non-residential projects for tribal, affordable multifamily properties and eligible nonprofit customers with a stated mission and track record of serving underserved communities. These incentives offset a greater portion of the upfront cost of a project and support Energy Trust's goals to expand the benefits of solar to more underserved Oregonians, and those serving them. In 2021, the program received 25 applications and 11 projects were completed, with $688,740 in incentives paid.
- In 2021, for the first time, the Solar program dedicated incentive funds to support the installation of small-scale (<360 kWac) community solar projects. The program selected five projects for custom incentives through a competitive process. When installed, these projects are expected to result in 495 kWac of capacity dedicated for low-income subscribers.
- In 2021, Energy Trust in collaboration with a team of community-based organizations applied for a grant from the National Renewable Energy Laboratory to increase solar awareness and ultimately solar deployment in communities of color. The grant was awarded and the Solar program is working with the African American Alliance for Homeownership, Verde, Adelante Mujeres, Community Energy Project, Unite, Portland Community Reinvestment Initiatives and Solar Oregon to develop and test the program with African American, Latino, immigrant and refugee communities in the Portland metro area. Energy Trust is playing a facilitator role while the work and decision-making will be driven by the community-based organizations.

# APPENDIX 11: Quarter four results tables

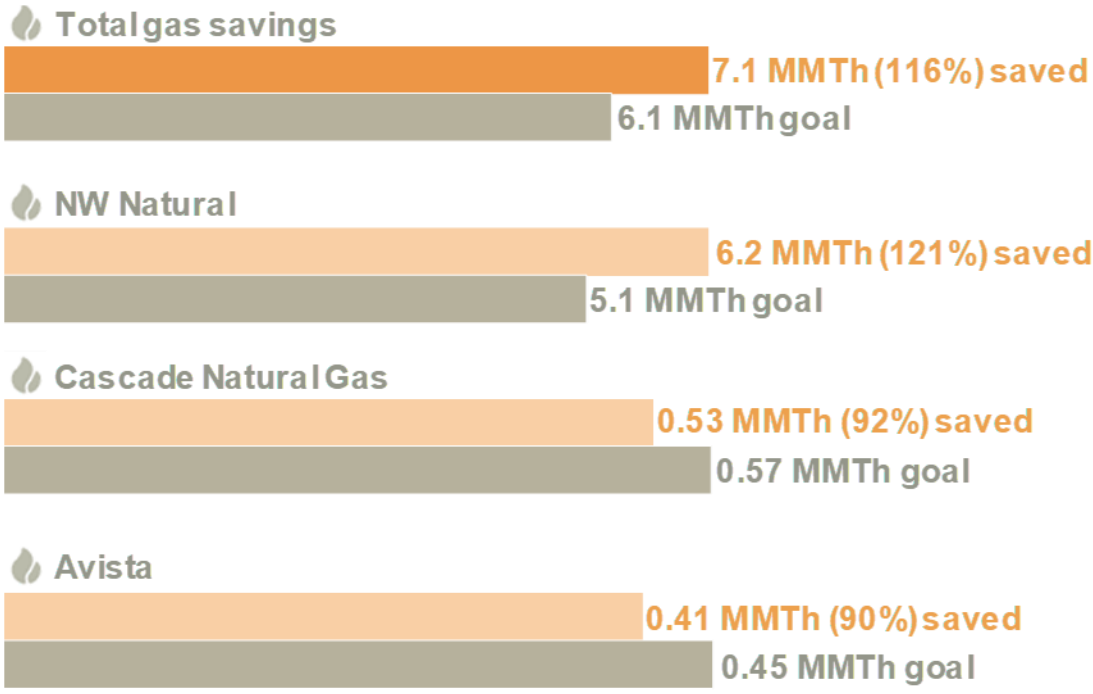
This appendix includes only activity funded by Oregon electric utility customers of Portland General Electric and Pacific Power under state law and by Oregon natural gas customers of NW Natural, Cascade Natural Gas and Avista through regulatory agreements between the OPUC and each natural gas utility.

# I Q4 2021 activity at a glance[35]

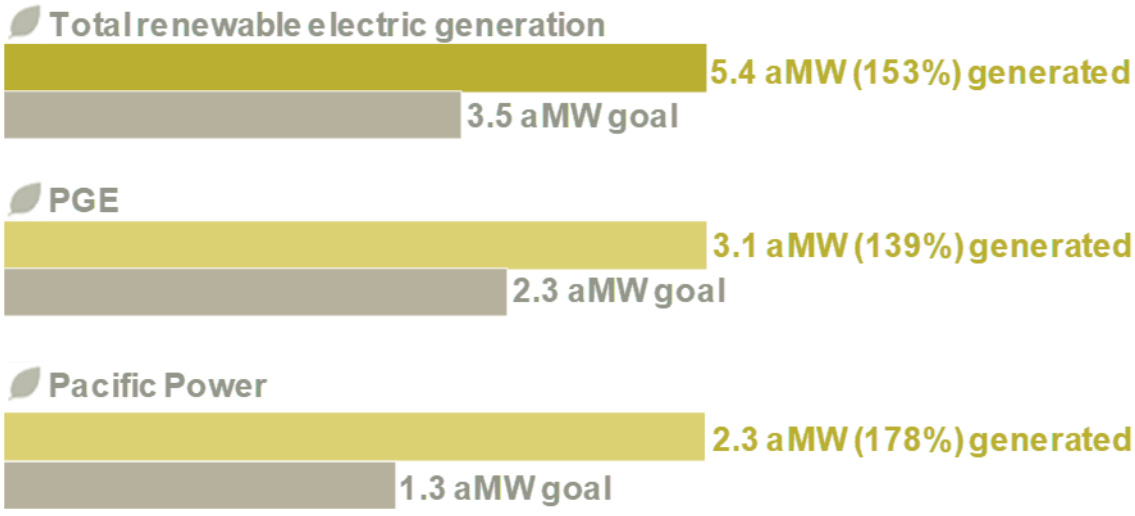
## Savings



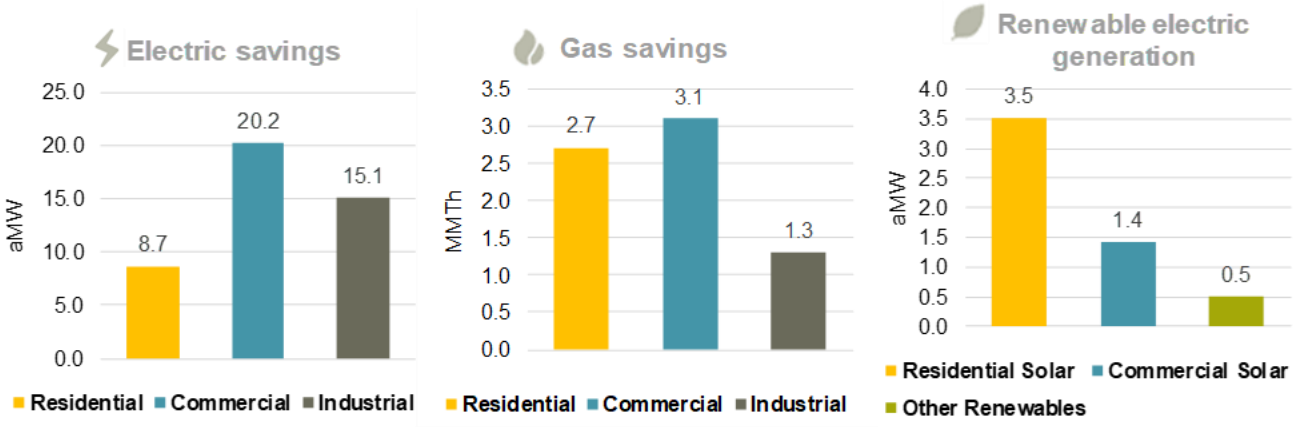

[35] This document reports gross savings. Note that aMW indicates average megawatts, MMTh indicates million annual therms and MM is million.


Total gas savings
7.1 MMTh (116%) saved
6.1 MMTh goal
NW Natural
6.2 MMTh (121%) saved
5.1 MMTh goal
Cascade Natural Gas
0.53 MMTh (92%) saved
0.57 MMTh goal
Avista
0.41 MMTh (90%) saved
0.45 MMTh goal

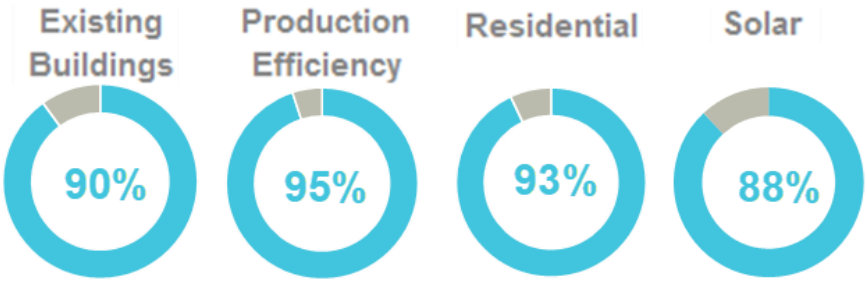
## Generation


Total renewable electric generation
5.4 aMW (153%) generated
3.5 aMW goal
PGE
3.1 aMW (139%) generated
2.3 aMW goal
Pacific Power
2.3 aMW (178%) generated
1.3 aMW goal

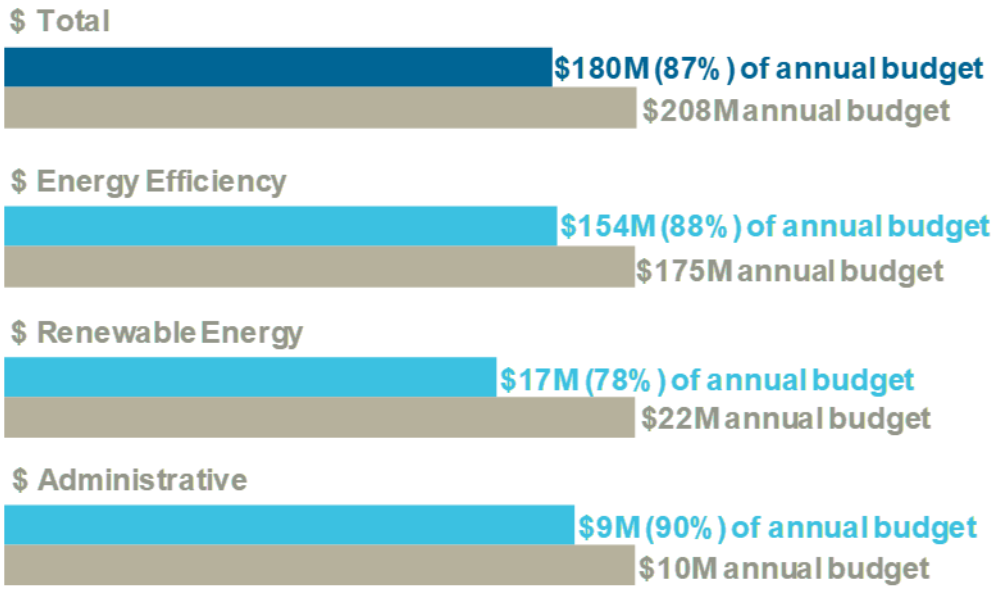
## Savings and generation by sector year-to-date




## Customer satisfaction[36]

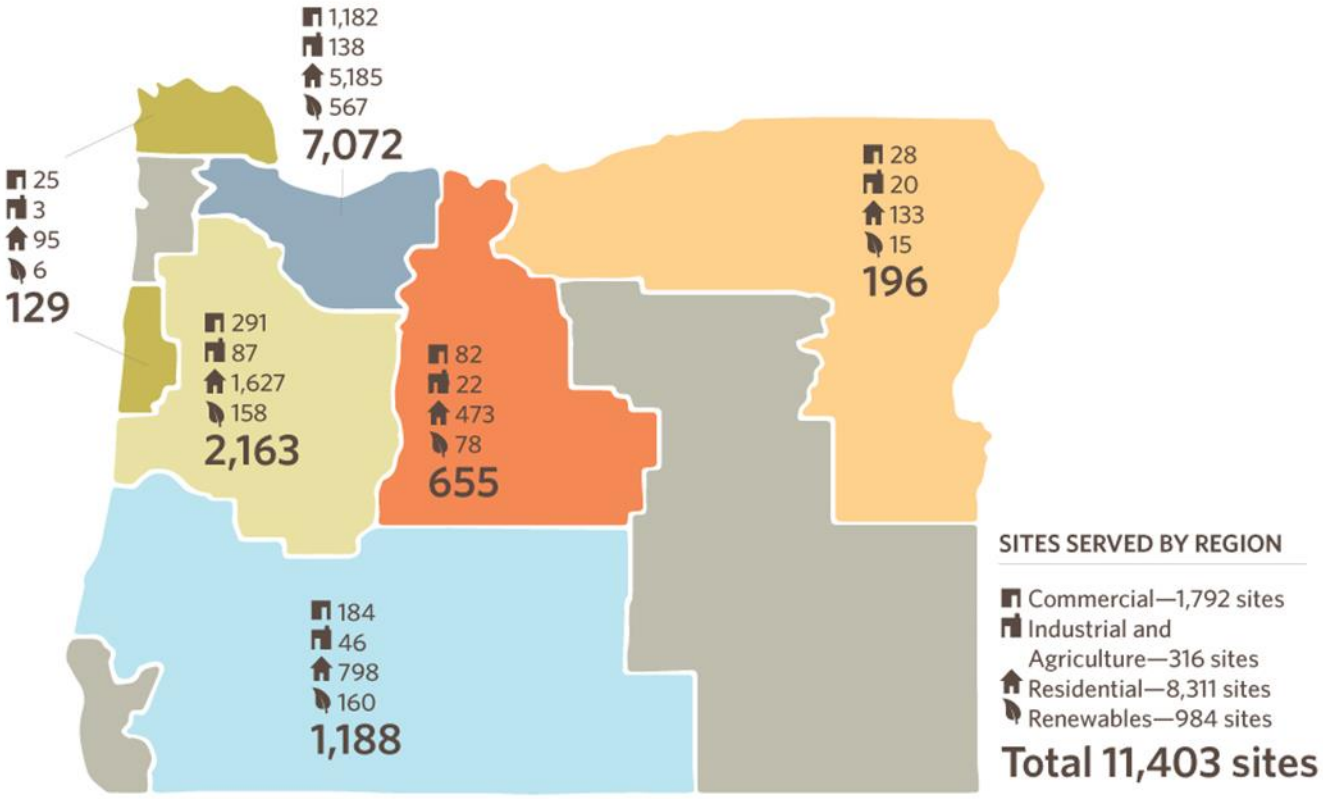



## Oregon public purpose charge expenditures




[36] Energy Trust surveyed 896 residential customers and 653 non-residential customers in Oregon who received an incentive or discount from Energy Trust in 2021. New Buildings satisfaction data is from 2018. See Appendix 3 for more information.

## Sites served by region in Q4[37]




[37] This document reports on Energy Trust services to Oregon customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista. Areas in gray are not served by these utilities.

# II Revenues and expenditures tables[38]

## A. Oregon public purpose charge revenues[39]

| Source | | Q4 actual revenues | | Q4 budgeted revenues |
|---|---|---|---|---|
| Portland General Electric | $ | 10,218,968 | $ | 8,896,932 |
| PGE Incremental | $ | 11,577,881 | $ | 12,911,707 |
| Pacific Power | $ | 6,386,197 | $ | 6,268,097 |
| Pacific Power Incremental | $ | 8,222,079 | $ | 8,193,076 |
| NW Natural | $ | 3,843,195 | $ | 3,912,529 |
| NW Natural Industrial DSM | $ | 2,691,298 | $ | 2,062,866 |
| Cascade Natural Gas | $ | 861,302 | $ | 782,737 |
| Avista | $ | 610,823 | $ | 610,823 |
| **Total** | **$** | **44,411,744** | **$** | **43,638,768** |

## B. Oregon public purpose charge expenditures

| Source | | Q4 actual expenditures | | Q4 budgeted expenditures |
|---|---|---|---|---|
| Portland General Electric | $ | 24,586,367 | $ | 34,449,805 |
| Pacific Power | $ | 14,590,453 | $ | 22,577,358 |
| NW Natural | $ | 5,688,138 | $ | 6,640,394 |
| NW Natural Industrial DSM | $ | 1,673,964 | $ | 2,175,632 |
| Cascade Natural Gas | $ | 796,058 | $ | 1,521,803 |
| Avista | $ | 651,847 | $ | 815,809 |
| **Total** | **$** | **47,986,827** | **$** | **68,180,802** |

[38] Columns may not total due to rounding.
[39] Revenues include public purpose revenue, including incremental electric revenue from SB 838. Incremental revenues are those authorized under SB 838 to support capturing additional cost-effective electric efficiency savings above the amount supported by funding through SB 1149.

## C. Oregon public purpose charge expenditures by sector and program

| | | | Q4 actual expenditures | | Q4 budgeted expenditures |
|---|---|---|---|---|---|
| Commercial | Existing Buildings | $ | 13,206,597 | $ | 20,311,633 |
| | New Buildings | $ | 2,987,799 | $ | 6,143,931 |
| | NEEA Commercial | $ | 687,694 | $ | 929,259 |
| | **Commercial total** | **$** | **16,882,090** | **$** | **27,384,823** |
| Industrial | Production Efficiency | $ | 10,505,789 | $ | 14,385,504 |
| | NEEA Industrial | $ | 6,318 | $ | 3,932 |
| | **Industrial total** | **$** | **10,512,107** | **$** | **14,389,435** |
| Residential | Residential | $ | 12,871,016 | $ | 14,902,967 |
| | NEEA Residential | $ | 936,838 | $ | 1,413,616 |
| | **Residential total** | **$** | **13,807,853** | **$** | **16,316,583** |
| | **Energy efficiency total** | **$** | **41,202,050** | **$** | **58,090,842** |
| Renewables | Solar | $ | 3,540,276 | $ | 4,000,260 |
| | Other Renewables | $ | 675,690 | $ | 3,338,321 |
| | **Renewable generation total** | **$** | **4,215,966** | **$** | **7,338,581** |
| | **Administration** | **$** | **2,568,811** | **$** | **2,751,379** |
| | **Total** | **$** | **47,986,827** | **$** | **68,180,802** |

## D. Incentives paid

| Qtr | PGE efficiency | Pacific Power efficiency | NW Natural efficiency | Cascade Natural Gas efficiency | Avista efficiency | PGE generation | Pacific Power generation | Total |
|---|---|---|---|---|---|---|---|---|
| **Q1** | $ 6,914,443 | $ 4,138,851 | $ 3,277,869 | $ 193,997 | $ 296,602 | $1,139,036 | $ 862,628 | $ 16,823,426 |
| **Q2** | $11,262,559 | $ 8,928,197 | $ 4,097,772 | $ 473,876 | $ 352,966 | $1,800,236 | $1,230,742 | $ 28,146,348 |
| **Q3** | $ 9,331,740 | $ 9,336,830 | $ 4,206,322 | $ 292,144 | $ 312,752 | $3,598,422 | $1,098,804 | $ 28,177,014 |
| **Q4** | $12,945,865 | $ 7,331,652 | $ 4,473,958 | $ 500,297 | $ 347,137 | $1,843,747 | $1,253,543 | $ 28,696,199 |
| **Total** | **$40,454,607** | **$29,735,531** | **$16,055,921** | **$1,460,313** | **$1,309,457** | **$8,381,441** | **$4,445,717** | **$101,842,987** |

# III Savings and generation tables[40,41,42]

## A. Savings and generation by fuel

| | Q4 savings/generation | Total annual savings/generation | Annual goal | Percent achieved YTD |
|---|---|---|---|---|
| **Electric savings** | 18.9 aMW | 44.0 aMW | 47.4 aMW | 93% |
| **Natural gas savings** | 2,784,860 therms | 7,095,988 therms | 6,118,162 therms | 116% |
| **Electric generation** | 1.29 aMW | 5.43 aMW | 3.54 aMW | 153% |

## B. Progress toward annual efficiency goals by utility

| | Q4 savings | Total annual savings | Annual goal | Percent achieved YTD | Annual IRP target | Percent achieved YTD |
|---|---|---|---|---|---|---|
| **Portland General Electric** | 11.7 aMW | 24.2 aMW | 26.3 aMW | 92% | 29.5 aMW | 82% |
| **Pacific Power** | 7.1 aMW | 19.8 aMW | 21.1 aMW | 94% | 18.1 aMW | 109% |
| **NW Natural** | 2,473,906 therms | 6,162,453 therms | 5,092,126 therms | 121% | 6,030,655 therms | 102% |
| **Cascade Natural Gas** | 160,359 therms | 525,372 therms | 572,759 therms | 92% | 563,298 therms | 93% |
| **Avista** | 150,595 therms | 408,163 therms | 453,277 therms | 90% | 437,805 therms | 93% |

## C. Electric savings by sector and program

| | | Q4 savings aMW | Total annual savings aMW | Annual goal aMW | Percent achieved YTD |
|---|---|---|---|---|---|
| Commercial | Existing Buildings | 5.8 | 15.3 | 16.7 | 92% |
| | New Buildings | 1.2 | 3.8 | 4.4 | 86% |
| | NEEA Commercial | 0.7 | 1.1 | 1.2 | 94% |
| | **Commercial total** | **7.8** | **20.2** | **22.3** | **91%** |
| Industrial | Production Efficiency | 7.6 | 14.4 | 16.8 | 86% |
| | NEEA Industrial | 0.4 | 0.7 | 0.7 | 98% |
| | **Industrial total** | **8.0** | **15.1** | **17.5** | **86%** |
| Residential | Residential | 1.8 | 6.4 | 5.5 | 115% |
| | NEEA Residential | 1.3 | 2.3 | 2.1 | 110% |
| | **Residential total** | **3.1** | **8.7** | **7.6** | **114%** |
| | **Total electric savings** | **18.9** | **44.0** | **47.4** | **93%** |

[40] Columns may not total due to rounding.
[41] Electric savings include transmission and distribution savings.
[42] The gas savings do not include results for NW Natural in Washington.

## D. Natural gas savings by sector and program

| | | Q4 savings therms | Total annual savings therms | Annual goal therms | Percent achieved YTD |
|---|---|---|---|---|---|
| Commercial | Existing Buildings | 1,091,369 | 2,725,965 | 2,072,244 | 132% |
| | New Buildings | 68,556 | 364,076 | 363,531 | 100% |
| | NEEA Commercial | 366 | 486 | 609 | 80% |
| | **Commercial total** | **1,160,291** | **3,090,526** | **2,436,384** | **127%** |
| Industrial | Production Efficiency | 825,808 | 1,301,748 | 1,362,290 | 96% |
| | NEEA Industrial | - | - | - | - |
| | **Industrial total** | **825,808** | **1,301,748** | **1,362,290** | **96%** |
| Residential | Residential | 797,063 | 2,701,451 | 2,317,348 | 117% |
| | NEEA Residential | 1,698 | 2,262 | 2,140 | 106% |
| | **Residential total** | **798,761** | **2,703,713** | **2,319,488** | **117%** |
| | **Total natural gas savings** | **2,784,860** | **7,095,988** | **6,118,162** | **116%** |

## E. Renewable energy generation by utility

| | Q4 generation aMW | Total annual generation aMW | Annual goal aMW | Percent achieved YTD |
|---|---|---|---|---|
| Portland General Electric | 0.66 | 3.13 | 2.25 | 139% |
| Pacific Power | 0.63 | 2.30 | 1.29 | 178% |
| **Total** | **1.29** | **5.43** | **3.54** | **153%** |

## F. Renewable energy generation by program

| | Q4 generation aMW | Total annual generation aMW | Annual goal aMW | achieved YTD |
|---|---|---|---|---|
| Solar | 1.29 | 4.94 | 2.94 | 168% |
| Other Renewables | - | 0.49 | 0.60 | 82% |
| **Total generation** | **1.29** | **5.43** | **3.54** | **153%** |

## G. Incremental utility SB 838 expenditures[43]

| Utility | Q4 SB 838 Expenditures | Total Annual SB 838 Expenditures |
|---|---|---|
| Portland General Electric | $ 127,024 | $ 675,978 |
| Pacific Power | $ 376,858 | $ 1,317,395 |
| **Total** | **$ 503,881** | **$ 1,993,373** |

[43] 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.